FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS

FOR

NORTH SACRAMENTO STREAMS, SACRAMENTO RIVER EAST LEVEE, LOWER AMERICAN RIVER, AND RELATED FLOOD IMPROVEMENTS PROJECT

I. INTRODUCTION

The Sacramento Area Flood Control Agency (SAFCA), as lead agency under the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., has prepared the Draft and Final Environmental Impact Reports, hereafter referred to as the “EIR” on the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements (“project” or “proposed project”) (State Clearinghouse No. 2014052038). The EIR is a project-level EIR pursuant to California Code of Regulations (CCR) Section 15161 of the State CEQA Guidelines (14 CCR Section 15000 et seq.). The Final EIR consists of the March 2015 Draft EIR on the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements volume, and the June 2015 Final EIR on the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements volume.

In determining whether to approve the project, which is described in Section II, below, SAFCA makes and adopts the following findings of fact and statement of overriding considerations, and adopts and incorporates into the project the mitigation measures identified in the Final EIR, all based on substantial evidence in the record. Pursuant to State CEQA Guidelines CCR Section 15096(a), the Final EIR was presented to SAFCA, and SAFCA reviewed and considered the information contained in the Final EIR prior to making the findings in Sections II through XV, below. The conclusions presented in these findings are based on the Draft and Final EIRs and other evidence in the CEQA administrative record.

II. PROJECT DESCRIPTION

As fully described in Section 3 of the Draft EIR, the project consists of the following elements: North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and the Natomas East Main Drainage Canal (NEMDC)/Steelhead Creek Corridor Management Plan (CMP). The project sites are divided into three geographic study areas for purpose of analysis: North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, and American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal. The project includes a creek corridor plan (NEMDC/Steelhead Creek CMP) and mitigation and conservation strategy to protect, avoid, minimize, reduce, and mitigate impacts on sensitive habitats and special-status species that may be temporarily or permanently affected by the levee accreditation improvements, once implemented. These study area designations are also used to identify the mitigation measures applicable in these study areas.
The levee accreditation improvements, creek corridor management plan, and a mitigation and conservation strategy would be implemented during the next 5 to 7 years, following receipt of all required environmental permits, authorizations, and permissions from other agencies. The project includes flood management system improvements that would be implemented as part of an ongoing Federal-State-local effort to improve the flood management system in the Sacramento area that was initiated in the aftermath of recurring flood events (post-1986, post-1997, and post-Katrina periods). These flood events and resulting flood risk reduction efforts occurring over the past 25 years provide the context in which the project has been formulated. Under its new policies, the U.S. Army Corps of Engineers (USACE) has notified the City and County of Sacramento that any prior USACE determinations affirming the adequacy of the levees along the Lower American and Sacramento Rivers to meet National Flood Insurance Program (NFIP) standards are no longer valid. In addition, through the Central Valley Flood Protection Board’s (CVFPB’s) adoption of the Central Valley Flood Protection Plan (CVFPP) in June 2012, the California Department of Water Resources (DWR) has established new State standards for the design of levees protecting urban areas in the Central Valley. The purpose of the project is to bring the levees in the project area into compliance with these Federal and State standards. Compliance with Federal and State standards will be documented through local accreditation of the levees by the City and County of Sacramento. The project is focused on levees outside of the Natomas Basin along the American River, the east side of NEMDC/Steelhead Creek, Arcade Creek, Dry Creek North Levee, Robla Creek South Levee, the Lower Sacramento River from the mouth of the American River to the community of Freeport, and the Beach Lake Levee. The project also includes a conservation strategy (Conservation Strategy) which is designed to avoid, minimize, reduce, and mitigate impacts on sensitive habitats and special-status species caused by the project in a manner that optimally protects the natural environment, especially riparian habitat and stream channels suitable for native plants, wildlife habitat, and public recreation.

III. ENVIRONMENTAL REVIEW PROCESS

On May 15, 2014, SAFCA issued a Notice of Preparation (NOP) for the EIR. The NOP concluded that the project may have potentially significant impacts related to aesthetics; agriculture and forestry resources; air quality; biological resources (aquatic, terrestrial, vegetation); cultural resources; geology, soils, and paleontological resources; greenhouse gas emissions (GHG); hazards and hazardous materials; hydrology, hydraulics, and water quality; land use and planning; mineral resources; noise; population, housing, and employment; public services; recreation; transportation and traffic; and utilities and service systems. The NOP informed agencies, interested organizations, and the public that an EIR was being prepared and invited comments on the scope and content of the document and participation at a public scoping meeting. The NOP was published by the State Clearinghouse and was mailed to State agencies. It was also posted on SAFCA’s website. The NOP was circulated for 30 days, as required by CEQA. The public comment period for the NOP ended on June 15, 2014.

SAFCA held a public scoping meeting to solicit input from public agencies, and the public on the scope and content of the EIR, including input to the development and evaluation of project alternatives. The meeting was held on May 28, 2014 at 3 p.m. in the Sacramento County Administration Building, 700 H Street, Hearing Room #1, Sacramento, CA 95814. Notice of the scoping meeting was provided in the NOP, which was distributed in accordance with the State
The Draft EIR was circulated for a 45-day public review period on March 18, 2015. SAFCA held five public meetings in Sacramento during the public comment period, at which it received comments from public agencies and the public on the Draft EIR. Notice of the meetings was provided in the Sacramento Bee and the County Recorders for Sacramento and Yolo Counties, and notices were sent via postcard to nearby property owners, including all property owners within 500 feet of the Sacramento River East Levee and North Sacramento Streams Levee Improvement areas. The meetings were held at the following locations in Sacramento, California:

- Wednesday, April 8, 5:00 to 7:00 p.m., Joe Mims Jr. Community Center, 3270 Marysville Boulevard;
- Thursday, April 9, 5:00 to 7:00 p.m., Sacramento Elks Lodge #6, 6446 Riverside Boulevard;
- Wednesday, April 15, 3:30 to 5:30 p.m., Tsakopoulos Library Galleria, 828 I Street;
- Thursday, April 16, 3:00 p.m., Sacramento County Administration Building, 700 H Street, Room #1; and
- Friday, April 17, 5:00 to 7:00 p.m., Arden-Dimick Library, 891 Watt Avenue.

These meetings were held jointly with USACE, and included information on both the proposed project, and also on USACE’s American River Common Features General Reevaluation (GRR) project. The public comment period on the Draft EIR closed on May 1, 2015.

On June 5, 2015, SAFCA published the Final EIR. The Final EIR was presented to the Board on July 16, 2015. The Board has reviewed the Final EIR, which contains comments received on the Draft EIR, responses to comments received on the Draft EIR, and minor modifications, clarifications, and corrections to the Draft EIR. The Draft EIR and Final EIR constitute the “EIR.” The analysis and conclusions contained in the EIR reflect the independent judgment of SAFCA. Based on all of the information and evidence in the record, the Board hereby makes the following Findings with respect to the project.

IV. FINDINGS

These findings summarize the environmental determinations of the EIR about project impacts before and after mitigation, and do not attempt to repeat the full analysis of each environmental impact contained in the EIR. Instead, these findings provide a summary description of and basis for each impact conclusion identified in the EIR, describe the applicable mitigation measures identified in the EIR, and state SAFCA’s findings and rationale about the significance of each impact following the adoption of mitigation measures. A full explanation of these environmental findings and conclusions can be found in the EIR, and these findings hereby
incorporate by reference the discussion and analysis in the EIR supporting the EIR’s determinations regarding mitigation measures and the project’s impacts.

In adopting mitigation measures below, SAFCA intends to adopt each of the mitigation measures identified in the EIR. Accordingly, in the event a mitigation measure identified in the EIR has been inadvertently omitted from these findings, such mitigation measure is hereby adopted and incorporated into the project in the findings below by reference. In addition, in the event the language of a mitigation measure set forth below fails to accurately reflect the mitigation measure in the EIR due to a clerical error, the language of the mitigation measure as set forth in the EIR shall control unless the language of the mitigation measure has been specifically and expressly modified by these findings.

Sections V through X, below, provide brief descriptions of the impacts that the EIR identifies as either significant and unavoidable or less than significant with adopted mitigation. These descriptions also reproduce the full text of the mitigation measures identified in the EIR for each significant impact.

V. **SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS**

The EIR identifies the following significant and potentially significant unavoidable environmental impacts of the project, some of which can be reduced, although not to a less-than-significant level, through implementation of mitigation measures identified in the EIR. Notwithstanding the disclosure of these impacts, SAFCA elects to approve the project and has hereby determined that these significant and unavoidable adverse impacts are acceptable for the reasons specified in Section XI, “Statement of Overriding Considerations,” below. As explained in Section XI, below, the findings in this Section V are based on the Draft and Final EIRs, which constitute the “EIR”, the discussion and analysis of which is hereby incorporated in full by this reference.

A. **Impact AES-1: Damage to Scenic Resources within State- or County-Designated Scenic Highways**

Sacramento River Levee East Levee Improvements

The removal of trees along SR 160 (River Road), which is a State- and Sacramento County-designated scenic highway, would reduce the visual quality and would adversely affect the existing scenic views. Therefore, this impact would be significant for the Sacramento River East Levee Improvements area.

No feasible mitigation is available that would fully reduce the significant impact associated with long-term permanent loss of mature shade trees along the west side of River Road to a less-than-significant level. Riparian vegetation that would be planted on the approximately 75-acre parcel north of Stone Lakes would occur within the viewshed of southbound motorists on River Road, and would therefore partially compensate for the loss of trees associated with the vegetation management activities. However, to provide for continued levee stability and flood protection, vegetation cannot be replanted on the west side of the road and thus any mature shade trees removed from the west side of River Road cannot be replaced.
Property on the east side of River Road is privately owned, and therefore SAFCA cannot plant new trees on the east side. Therefore, this impact would remain significant and unavoidable.

No feasible mitigation is available to reduce the significant impact associated with adverse changes to scenic resources within State- or Sacramento County-designated scenic highways in the Sacramento River East Levee Improvements area to reduce impacts to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

B. Impact AES-2: Changes in Scenic Vistas and Existing Visual Character

Sacramento River East Levee Improvements

Short-term changes in scenic vistas and existing visual character during construction would be temporary in nature and would only occur for short periods of time as construction crews and equipment move along the levees and other proposed work areas. This impact would be less than significant throughout the project study area. Because project levees, staging areas, and borrow sites would be returned to their original preproject condition and reseeded with native vegetation; and because encroachment activities would remove human elements that tend to reduce the visual quality, these proposed project elements would have less-than-significant impacts throughout the project study area. However, placement of rock revetment and rock stability berms on the waterside of the Sacramento River East Levee would not be consistent with the existing visual character, and would stand out in the landscape as a visually detracting element for recreationists on the Sacramento River and on the adjacent levee crowns in the short term. Furthermore, removal of high-hazard trees along the Sacramento River Parkway would reduce the visual quality and would adversely affect the existing scenic views. Therefore, these proposed project elements would result in significant impacts for the Sacramento River East Levee Improvements area. Once the vegetative plantings associated with the erosion control berms along the Sacramento River East Levee become full grown, this project element would result in a less-than-significant long-term impact.

No feasible mitigation is available to reduce the significant impact associated with adverse changes to visual quality and scenic vistas from removal of trees as a result of vegetation management or to reduce short-term adverse changes from placement of rock revetment in the Sacramento River East Levee Improvements area to reduce impacts to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Short-term changes in scenic vistas and existing visual character during construction would be temporary in nature and would only occur for short periods of time as construction crews and equipment move along the levees and other proposed work areas. This impact would be less than significant throughout the project study area. Because project levees, staging areas, and borrow sites would be returned to their original preproject condition and reseeded with native vegetation; and because encroachment activities would remove human elements that tend to reduce the visual quality, these proposed project elements would have less-than-significant impacts throughout the project study area. However, removal of high-hazard trees along the
American River Parkway would reduce the visual quality and would adversely affect the existing scenic views. Therefore, these proposed project elements would result in significant impacts for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

No feasible mitigation is available to reduce the significant impact associated with adverse changes to visual quality and scenic vistas from removal of high-hazard trees along the American River Parkway to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

C. **Impact AG-1: Conversion of Agricultural Land, including Important Farmland, to Nonagricultural Uses**

**North Sacramento Streams Levee Improvements**

There are no active agricultural land uses within or in the vicinity of areas where proposed levee improvements and associated borrow and staging activities, encroachment removal, vegetation management, or NEMDC/Steelhead Creek CMP activities would occur. Furthermore, proposed project activities would not conflict with Sacramento County, Sutter County, or City of Sacramento zoning codes. Therefore, this impact would be less than significant throughout the project study area. However, implementing riparian plantings as part of the Conservation Strategy in the North Sacramento Streams and Sacramento River East Levee Improvements areas could potentially temporarily disrupt existing agricultural operations, remove land from agricultural production, and result in a temporary loss in agricultural productivity. In addition, woodland mitigation would be preserved as habitat in perpetuity, permanently affecting long-term agricultural productivity at the Riego North site and the Important Farmland designations of the Novak parcel, Riego North site, the Stone Lakes National Wildlife Refuge site. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas.

Mitigation Measure AG-1, which is hereby adopted and incorporated into the project, would reduce this impact, but not to a less-than-significant level because no new farmland would be made available and the productivity of existing farmland would not be improved. Consequently, full compensation for loss of Important Farmland would not be achieved and a net loss of Important Farmland would still occur as a result of conversion of the Riego North site for a mitigation planting site in the North Sacramento Streams Improvements area. Therefore, this impact would remain significant and unavoidable.
Mitigation

Mitigation Measure AG-1: Avoid Disruption of Existing Agricultural Operations During Construction Activities and Minimize Important Farmland Conversion to the Extent Feasible.

SAFCA shall implement the measures listed below with regard to Prime Farmland to minimize construction-related impacts on these lands:

- Construction activities shall be undertaken in an expedient fashion, and associated construction equipment storage and staging areas shall be located outside of the agricultural fields to the extent possible.

- If it is necessary to locate staging areas on active farmland, the construction contractor shall coordinate with the agricultural landowners in the areas that will be temporarily disturbed to determine a location and time where construction could occur to minimize damage to agricultural operations.

- If damage or destruction does occur to active farmland, these areas shall be returned to preconstruction conditions. This could include activities such as soil preparation, regrading, and reseeding.

- To the extent practicable and feasible, when Conservation Strategy activities occur on agricultural land, the most productive topsoil shall be salvaged and redistributed to less-productive areas that may benefit from introduction of good-quality soil. By agreement between the implementing agencies or landowners of affected properties and the recipient(s) of the topsoil, the recipient(s) shall be required to use the topsoil for agricultural purposes. SAFCA shall implement all terms and conditions of agreements.

- By agreement between SAFCA and Sacramento County for woodland planting sites within unincorporated Sacramento County and the TNBC for the Riego North site, acquire agricultural conservation easements at a 1:1 ratio (i.e., 1 acre on which easements are acquired to 1 acre of Important Farmland removed from agricultural use) that provide in-kind or similar resource value protection. These lands will be held by land trusts or local governments who will be responsible for maintaining these lands in agricultural use.

Sacramento River East Levee Improvements

There are no active agricultural land uses within or in the vicinity of areas where proposed levee improvements and associated borrow and staging activities, encroachment removal, vegetation management, or NEMDC/Steelhead Creek CMP activities would occur. Furthermore, proposed project activities would not conflict with Sacramento County, Sutter County, or City of Sacramento zoning codes. Therefore, this impact would be less than significant throughout the project study area. However, implementing riparian plantings as part of the Conservation Strategy in the North Sacramento Streams and Sacramento River East Levee Improvements areas could potentially temporarily disrupt existing agricultural operations,
remove land from agricultural production, and result in a temporary loss in agricultural productivity. In addition, woodland mitigation would be preserved as habitat in perpetuity, permanently affecting long-term agricultural productivity at the Riego North site and the Important Farmland designations of the Novak parcel, Riego North site, the Stone Lakes National Wildlife Refuge site. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas.

Mitigation Measure AG-1, which is hereby adopted and incorporated into the project, would reduce this impact, but not to a less-than-significant level because no new farmland would be made available and the productivity of existing farmland would not be improved. Consequently, full compensation for loss of Important Farmland would not be achieved and a net loss of Important Farmland would still occur. Therefore, this impact would remain significant and unavoidable.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure AG-1 (Avoid Disruption of Existing Agricultural Operations during Construction Activities and Minimize Important Farmland Conversion to the Extent Feasible).

**D. Impact CR-1: Damage to or Destruction of Known Historical Built Environment Resources**

Sacramento River East Levee Improvements

Encroachment removal and vegetation management activities in the Sacramento River East Levee Improvements area have the potential to alter the character-defining features or the integrity of the tree row (Victory Trees, along SR 160) should the trees be removed. This impact would be significant for the Sacramento River East Levee Improvements area. Mitigation Measure CR-1, which is hereby adopted and incorporated into the project, would reduce the significant impact associated with removal of the Victory Trees along SR 160 by conducting a historic landscape inventory and report and implementing treatment measures for retention and mitigation of the Victory Trees. However, because some of the Victory Trees may still be removed as part of the proposed project, the original tree row would be adversely affected and would result in the loss of integrity of design, materials, feeling, and association and would result in the tree row’s inability to clearly convey its historical significance. Therefore, implementing this mitigation measure would not fully reduce this impact and there are no other feasible mitigation measures available to reduce this impact to a less-than-significant level. Therefore, this impact would remain significant and unavoidable.

**Mitigation**

**Mitigation Measure CR-1: Conduct Landscape Inventory, Prepare Cultural Landscape Report, and Implement Treatment Measures.**

Prior to the removal of any Victory Trees along SR 160, SAFCA shall conduct a cultural landscape inventory, prepare a cultural landscape report, and implement the
recommended treatment measures. The inventory and report shall be prepared by an historical landscape architect to identify which of the trees along the tree row are original and to recommend treatment measures for the retention and for mitigating the effects of the historic landscape features.

E. **Impact NOI-1: Potential Exposure of Persons to or Generation of Noise Levels in Excess of Standards Established in the Local General Plan or Noise Ordinance, or in Other Applicable Local, State, or Federal Standards.**

**North Sacramento Streams Levee Improvements**

Project-related noise generated during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would increase noise levels above the City of Sacramento’s daytime limit of 55 dBA L_{eq} at the closest residential uses throughout the project study area. However, project-related construction would only occur during the exempt construction hours established by the City. Therefore, this impact would be less than significant. Project-generated traffic noise associated with levee reconstruction, encroachment removal, and vegetation management would only increase the traffic noise level above the applicable threshold in the North Sacramento Streams Improvements area. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant for the North Sacramento Streams Improvements.

Mitigation Measure NOI-1, which is hereby adopted and incorporated into the project, would reduce construction traffic noise levels and bring the residual traffic-related noise within the allowable noise work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However, the timing and site-specific conditions for the different improvements under the proposed project at the time of their implementation are currently unknown. Therefore, the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, it is not known whether construction-related noise impacts can in all cases be reduced to a less-than-significant level. The EIR identified a potentially significant and unavoidable impact, and this impact is conservatively found to remain significant and unavoidable.
Mitigation

Mitigation Measure NOI-1: Implement Measures to Reduce Construction Noise Effects.

SAFCA shall require that its primary contractors for engineering design and construction implement the following measures at each work site in any year of project construction to avoid and minimize construction traffic noise effects on sensitive receptors. These measures are consistent with SAFCA’s standard contract specifications for noise control.

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 for transportation noise sources by the applicable agencies (Sacramento County, and the 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:

- Prohibit the start-up of machines or equipment up 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;
- 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;
- Locate stationary construction equipment, such as compressors, away from nearby residential areas and provide acoustical shielding.
- Minimize idling times of equipment either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes.
- Locate and use equipment as far away as practical from noise-sensitive uses.
- Use electrically powered equipment instead of internal combustion equipment where practicable and feasible.
- Establish and enforce construction site and haul road speed limits.
- Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes.
- Equip all construction equipment with noise-reduction devices such as mufflers to minimize construction noise and operate all internal combustion engines with exhaust and intake silencers.
- Provide written notification to the potentially affected residents, identifying the type, duration, and frequency of construction activities within 1,000 feet of residences prior to construction. Notification materials shall also identify a mechanism for residents to register complaints with the appropriate jurisdiction if construction noise levels are overly intrusive or construction occurs outside the permitted hours.
• Locate fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes as far as feasible from noise-sensitive receptors.

• Use noise-attenuating buffers such as structures, truck trailers, or soil piles between noise generation sources and sensitive receptors, where feasible and particularly in locations subject to prolonged construction.

• Designate a disturbance coordinator and conspicuously post this person's number around the project sites, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.

F. Impact NOI-2: Potential Exposure of Persons to or Generation of Excessive Groundborne Vibration or Groundborne Noise Levels

North Sacramento Streams Levee Improvements

Implementation of the proposed project would expose people to excessive groundborne vibration or groundborne noise levels during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout at the project study area) at levels above the Federal Transit Administration’s (FTA’s) threshold of 72 vibration decibels (VdB) for human annoyance, at the closest residential uses throughout the project study area. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-2, which is hereby adopted and incorporated into the project, would reduce construction vibration levels to below FTA’s recommended standard of 0.2-in/sec PPV with respect to the prevention of structural damage for normal buildings. In addition, implementation of this measure would reduce construction vibration levels for residences and buildings where people normally sleep, and would bring project-related construction equipment operation within the allowable work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays.
Nevertheless, because, the timing and site-specific conditions for the different improvements under the proposed project at the time of their implementation are currently unknown, the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, it is not known whether construction-related vibration impacts can in all cases be reduced to a less-than-significant level. The EIR identified a potentially significant and unavoidable impact and this impact is conservatively found to be significant and unavoidable.

**Mitigation**

**Mitigation Measure NOI-2: Implement Measures to Reduce Construction Vibration Effects.**

SAFCA shall require that its primary contractors for engineering design and construction implement the following measures at each work site in any year of project construction to avoid and minimize construction-vibration effects on sensitive receptors. These measures are consistent with SAFCA’s standard contract specifications for vibration control.

To the extent feasible and practicable, the primary construction contractors shall employ vibration-reducing construction practices such that vibration from construction complies with applicable noise-level rules and regulations that apply to the work, including the vibration standards established for construction vibration-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 vibration shall include the following:

- Require project construction specifications to require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 VdB within 50 feet at any building.
- Prohibit the start-up of machines or equipment up 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.
- 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.
- Place stationary construction equipment, such as compressors, away from nearby residential areas.
- Operate earthmoving equipment on the construction lot as far away from vibration-sensitive sites as possible.
- Phase the demolition, earthmoving, and other project activities that entail ground disturbance so they do not occur in the same time period. Unlike noise, the total vibration level produced could be substantially less when each vibration source operates separately.
• Select demolition methods that involve minimal impact, where possible. For example, sawing bridge decks into sections that can be loaded onto trucks results in lower vibration levels than impact demolition by pavement breakers, and milling generates lower vibration levels than excavation using clam shell or chisel drops.

• Avoid vibratory rollers and packers near sensitive areas.

• Route heavily loaded trucks away from residential streets, if possible. Streets with the fewest homes if no alternatives are available shall be selected.

• A voluntary pre- and post-construction survey shall be conducted to assess potential architectural damage from levee construction vibration at each residence within 75 feet of construction. The survey shall include visual inspection of the structures that could be affected, documentation of structures by means of photographs and video. This documentation shall be reviewed with the individual owners prior to any construction activities. Postconstruction monitoring of structures shall be performed to identify (and repair, if necessary) damage, if any, from construction vibrations. Any damage shall be documented with photographs and video. This documentation shall be reviewed with the individual property owners.

• Place vibration monitoring equipment at the property line adjacent to large equipment and, with owner approval, at the back of the residential structures adjacent to the large equipment. Record measurements daily.

• Designate a disturbance coordinator and conspicuously post this person's number around the project site, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem. The disturbance coordinator shall have the authority to halt vibration-generating activity if necessary to protect public health and safety.

 Sacramento River East Levee Improvements

Implementation of the proposed project would expose people to excessive groundborne vibration or groundborne noise levels during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout at the project study area) at levels above the FTA’s threshold of 72 VdB for human annoyance (Table 4.15-2), at the closest residential uses throughout the project study area. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.
Mitigation Measure NOI-2, which is hereby adopted and incorporated into the project, would reduce construction vibration levels to below FTA’s recommended standard of 0.2-in/sec PPV with respect to the prevention of structural damage for normal buildings and the FTA maximum acceptable vibration standard of 72 VdB with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses. In addition, implementation of this measure would reduce construction vibration levels for residences and buildings where people normally sleep and would bring construction equipment operation within the allowable work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However, the timing and site-specific conditions for the different improvements under the proposed project at the time of their implementation are currently unknown. Therefore, the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, it is not known whether construction-related vibration impacts can in all cases be reduced to a less-than-significant level. The EIR identified a potentially significant and unavoidable impact and this impact is conservatively found to remain potentially significant and unavoidable.

Mitigation

Mitigation Measure: Implement Mitigation Measure NOI-2 (Implement Measures to Reduce Construction Vibration Effects).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Implementation of the proposed project would expose people to excessive groundborne vibration or groundborne noise levels during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout at the project study area) at levels above the FTA’s threshold of 72 VdB for human annoyance (Table 4.15-2), at the closest residential uses throughout the project study area. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-2, which is hereby adopted and incorporated into the project, would reduce construction vibration levels to below FTA’s recommended standard of 0.2-in/sec PPV with respect to the prevention of structural damage for normal buildings and the FTA
maximum acceptable vibration standard of 72 VdB with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses. In addition, implementation of this measure would reduce construction vibration levels for residences and buildings where people normally sleep and would bring construction equipment operation within the allowable work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However, the timing and site-specific conditions for the different improvements under the proposed project at the time of their implementation are currently unknown. Therefore, the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, it is not known whether construction-related vibration impacts can in all cases be reduced to a less-than-significant level, and the EIR identified a potentially significant and unavoidable impact. This impact is conservatively found to remain potentially significant and unavoidable.

Mitigation

Mitigation Measure: Implement Mitigation Measure NOI-2 (Implement Measures to Reduce Construction Vibration Effects)

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Implementation of the proposed project would expose people to excessive groundborne vibration or groundborne noise levels during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout at the project study area) at levels above the FTA’s threshold of 72 VdB for human annoyance (Table 4.15 2), at the closest residential uses throughout the project study area. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-2, which is hereby adopted and incorporated into the project, would reduce construction vibration levels to below FTA’s recommended standard of 0.2-in/sec PPV with respect to the prevention of structural damage for normal buildings and the FTA maximum acceptable vibration standard of 72 VdB with respect to human response for residential uses (i.e., annoyance) at vibration-sensitive land uses. In addition, implementation of this measure would reduce construction vibration levels for residences and buildings where people normally sleep and would bring construction equipment operation within the allowable
work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However, the timing and site-specific conditions for the different improvements under the proposed project at the time of their implementation are currently unknown. Therefore, the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, it is not known whether construction-related vibration impacts can in all cases be reduced to a less-than-significant level, and the EIR identified a potentially significant and unavoidable impact. This impact is conservatively found to remain potentially significant and unavoidable.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure NOI-2 (Implement Measures to Reduce Construction Vibration Effects).

G. Impact NOI-3: Potential for Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity above Levels Existing without the Project.

**North Sacramento Streams Levee Improvements**

Project-related construction noise levels from activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements); soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would result in an increase in ambient noise levels in the project study area above pre-project conditions at the closest residential uses. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-1, which is hereby adopted and incorporated into the project, would reduce construction equipment noise and would bring the construction equipment noise within the allowable noise work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise
ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However the timing and site-specific conditions for the different improvements under the project at the time of their implementation are currently unknown; the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, the EIR identified a potentially significant and unavoidable impact. This impact is conservatively found to remain significant and unavoidable.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure NOI-1 (Implement Measures to Reduce Construction Noise Effects).**

**Sacramento River East Levee Improvements**

Project-related construction noise levels from activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements); soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would result in an increase in ambient noise levels in the project study area above pre-project conditions at the closest residential uses. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-1, which is hereby adopted and incorporated into the project, would reduce construction equipment noise and would bring the construction equipment noise within the allowable noise work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However the timing and site-specific conditions for the different improvements under the project at the time of their implementation are currently unknown; the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, the EIR identified a potentially significant and unavoidable impact. This impact is conservatively found to remain significant and unavoidable.
Mitigation

Mitigation Measure: Implement Mitigation Measure NOI-1 (Implement Measures to Reduce Construction Noise Effects).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project-related construction noise levels from activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements); soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would result in an increase in ambient noise levels in the project study area above pre-project conditions at the closest residential uses. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-1, which is hereby adopted and incorporated into the project, would reduce construction equipment noise and would bring the construction equipment noise within the allowable noise work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However the timing and site-specific conditions for the different improvements under the project at the time of their implementation are currently unknown; the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, the EIR identified a potentially significant and unavoidable impact. This impact is conservatively found to remain significant and unavoidable.

Mitigation

Mitigation Measure: Implement Mitigation Measure NOI-1 (Implement Measures to Reduce Construction Noise Effects).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Project-related construction noise levels from activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements); soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/
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Steelhead Creek CMP (North Sacramento Streams Improvements area only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would result in an increase in ambient noise levels in the project study area above pre-project conditions at the closest residential uses. Therefore, the EIR identified a potentially significant impact. This impact is conservatively found to be significant throughout the project study area.

Mitigation Measure NOI-1, which is hereby adopted and incorporated into the project, would reduce construction equipment noise and would bring the construction equipment noise within the allowable noise work windows established in the noise ordinances adopted by the City and County of Sacramento. Section 8.68.80.D (Exemptions), of the City of Sacramento Noise Ordinance states that those noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and between 9 a.m. and 6 p.m. on Sunday, are exempt from the noise ordinance. Section 6.68.090(e) (Exemptions), of the Sacramento County Noise Ordinance exempts from the noise ordinance standards those noise sources due to the construction, repair, remodeling, demolition, paving, or grading of any real property between the hours of 6 a.m. and 8 p.m. on weekdays, and between 7 a.m. and 8 p.m. on Saturdays and Sundays. However the timing and site-specific conditions for the different improvements under the project at the time of their implementation are currently unknown; the feasibility of implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, the EIR identified a potentially significant and unavoidable impact. This impact is conservatively considered to remain significant and unavoidable.

Mitigation

Mitigation Measure: Implement Mitigation Measure NOI-1 (Implement Measures to Reduce Construction Noise Effects).

VI. SIGNIFICANT ADVERSE IMPACTS IDENTIFIED IN THE FINAL EIR THAT ARE REDUCED TO A LESS-THAN-SIGNIFICANT LEVEL BY MITIGATION MEASURES INCORPORATED INTO THE PROJECT

The EIR identifies the following significant and potentially significant impacts associated with the modifications to the project. These impacts are reduced to a less-than-significant level by mitigation measures identified in the EIR and incorporated into the project. It is hereby determined that the impacts addressed by these mitigation measures will be reduced to a less-than-significant level or avoided by incorporation of these mitigation measures into the project.

A. Impact AG-2: Conversion of Forestland to Nonforest Uses

North Sacramento Streams Levee Improvements

Encroachment removal throughout the project study area would not require removal of Fremont cottonwood forest of valley oak woodland. Thus, there would be no impact.
Implementation of the levee improvements in the North Sacramento and Sacramento River East Levee Improvements areas would result in the loss of existing forest land. This impact would be potentially significant. Mitigation Measure AG-2a, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because plantings would create new riparian forest to replace the less than approximately 2 acres of forestland that would be lost with implementation of this project element in the North Sacramento Streams Improvements area.

**Mitigation**

**Mitigation Measure AG-2a: Implement Conservation Strategy Enhancements of Arcade Creek Habitats.**

SAFCA shall plant native shade trees along the NEMDC/Steelhead Creek channel banks to mitigate for the habitat value of the approximately 0.65 acre of Fremont cottonwood forest and approximately 1.1 acres of valley oak woodland lost. The NEMDC/Steelhead Creek CMP revegetation plan will involve planting two parallel rows of large tree species, primarily valley oaks, on both banks of the low-flow channel in locations within NEMDC/Steelhead Creek where shallow ponds and mudflats of water primrose have been drained and shrub thickets of sandbar willow and red sesbania have been removed to reduce roughness.

**Sacramento River East Levee Improvements**

Encroachment removal throughout the project study area would not require removal of Fremont cottonwood forest of valley oak woodland. Thus, there would be no impact. Implementation of the levee improvements in the North Sacramento and Sacramento River East Levee Improvements areas would result in the loss of existing forest land. This impact would be potentially significant. Mitigation Measure AG-2b, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because plantings would increase existing patch size and add up to 10 acres of riparian habitat. This would reduce the impact of the loss of cottonwood forest and valley oak woodland to a less-than-significant level thereby creating additional habitat to replace the lost acreage of forestland. Implementation of the vegetation management element includes removal of approximately 588 native and nonnative high-hazard trees along Sacramento River East Levee. Native high-hazard tree species may include valley oak, Fremont cottonwood, black walnut, and willows, and most of the nonnative high-hazard trees are all likely interspersed with Fremont cottonwood forest and valley oak woodland. The removal of these high-hazard trees would result in an estimated loss of approximately 16.0 acres of tree canopy along Sacramento River East Levee, which, relative to the amount of woodland along the Sacramento River, represents a relatively small amount of loss of trees. In addition, high-hazard tree removal would not affect forestland that provides habitat for birds and other wildlife. In addition, the Conservation Strategy and the NEMDC/Steelhead Creek CMP include enhancement and creation of various riparian woodlands throughout the project study area that would provide an overall long-term improvement to forestry resources.
Mitigation

Mitigation Measure AG-2b: Implement Conservation Strategy Enhancements of Sacramento River Riparian Habitats.

SAFCA shall plant valley oaks and other native riparian trees and shrubs in close proximity to the Sacramento River in up to 10 acres of existing wild oat grassland which cause gaps in the woodland canopy on high benches between the waterside levee slope and the upper banks of the Sacramento River to mitigate for the loss of approximately 5.4 acres of Fremont cottonwood forest and valley oak woodland. SAFCA shall increase the overall patch size of existing, isolated riparian and oak woodland groves by enlarging the contiguous size of one or more groves, and by creating connecting woodland corridors across gaps between existing groves.

B. Impact AIR-1: Potential Conflict with Air Quality Plan or Contribute Substantially to Air Quality Violation

North Sacramento Streams Levee Improvements

The maximum daily construction emissions for levee reconstruction, encroachment removal, vegetation management, and the Conservation Strategy would exceed SMAQMD’s threshold of significance for NO\textsubscript{X}. Therefore, these proposed project elements would have a significant impact. Mitigation Measures AIR-1a, AIR-1b, AIR-1c, and AIR-1d, which are hereby adopted and incorporated into the project, would reduce fugitive PM dust and equipment exhaust emissions to a less-than-significant level. For fugitive PM dust emissions, SMAQMD considers projects that would not disturb more than 15 acres per day and implement Basic Construction Emission Control Practices to reduce any potential fugitive PM dust emissions to a less-than-significant level. Therefore, with implementation of Mitigation Measure AIR-1a and because the proposed project would not disturb more than 15 acres per day, fugitive PM dust emissions would be less than significant. However, exhaust-related NO\textsubscript{X} emissions would not be reduced to a less-than-significant level with implementation of Mitigation Measures AIR-1a, AIR-1b, and AIR-1c. Implementation of Mitigation Measure AIR-1d would reduce the remaining construction emissions resulting from construction of the levee reconstruction, encroachment removal, vegetation management, and Conservation Strategy elements to a less-than-significant level by contributing to SMAQMD’s off-site mitigation fee program.

Mitigation

Mitigation Measure AIR-1a: Implement Sacramento Metropolitan Air Quality Management District's Basic Construction Emission Control Practices.

SMAQMD requires that all projects, regardless of their significance, implement the following measures to minimize the generation of fugitive PM dust. The Basic Construction Emission Control Practices shall include measures to control fugitive PM dust pursuant to SMAQMD Rule 403, as well as measures to reduce construction-related exhaust emissions. SAFCA shall require its contractors to comply with the following
basic construction emission control practices for all construction-related activities occurring in SMAQMD jurisdiction.

- Water all exposed surfaces two times daily or more, as needed. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover, or suitably wet soils and other materials on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speed on unpaved roads to 15 mph.

- Complete pavement of all roadways, driveways, sidewalks, parking lots to be paved as soon as possible. In addition, lay building pads as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by California Code of Regulations, Title 13, Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.

- Maintain all construction equipment in proper working condition according to manufacturer’s specifications. Have the equipment checked by a certified mechanic and determined to be running in proper condition before it is operated.

**Mitigation Measure AIR-1b: Implement Sacramento Metropolitan Air Quality Management District Enhanced Fugitive PM Dust Control Practices.**

SMAQMD recommends that construction projects that would exceed or contribute to the concentration-based threshold for PM$_{10}$ to implement the Enhanced Fugitive PM Dust Control Practices as applicable to the project. Because the construction activities would involve substantial material movement activities and would be located in proximity of residential receptors, SAFCA shall require its construction contractors to implement the following Enhanced Fugitive PM Dust Control Practices to help reduce potential fugitive PM dust emissions.

**Soil Disturbance Areas:**

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
• Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.

• Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.

• Plant vegetative ground cover (fast germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.

Unpaved Roads (Entrained Road Dust):

• Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.

• Treat site accesses to a distance of 100 feet from the paved road with a 6- to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads.

• Post a publicly visible sign with the telephone number and person to contact at SAFCA regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of SMAQMD also will be visible to ensure compliance.

Table 4.4-4 shown above presents the proposed project’s mitigated construction emissions with inclusion of Mitigation Measures AIR-1a and AIR-1b.

**Mitigation Measure AIR-1c: Use SMAQMD’s Enhanced Exhaust Control Practices for Construction Equipment.**

As shown above in Table 4.4-4, the maximum daily construction-related NOX emissions would exceed SMAQMD’s construction threshold of significance. A majority of the construction-related NOX emissions are generated from off-road construction equipment. Therefore, Mitigation Measure AIR-1c requires that off-road construction equipment use SMAQMD’s Enhanced Exhaust Control Practices.

• The construction contractor shall submit to SAFCA and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.

• The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The construction contractor shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment. The SMAQMD Equipment List Form can be used to submit this information. The inventory shall be updated and submitted monthly.
throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

- The construction contractor shall provide a plan for approval by SAFCA and SMAQMD demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet-average 20 percent NO\textsubscript{X} reduction and 45 percent particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. This plan shall be submitted in conjunction with the equipment inventory. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.

- SMAQMD’s Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction. The construction contractor shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to SAFCA and SMAQMD monthly. A visual survey of all in-operation equipment shall be made at least weekly. A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.

**Mitigation Measure AIR-1d: Use Sacramento Metropolitan Air Quality Management District’s Off-Site Mitigation Fee to Reduce NO\textsubscript{X} Emissions.**

As shown in Table 4.4-4, even with inclusion of Mitigation Measures AIR-1a, AIR-1b, and AIR-1c, maximum daily construction emissions would continue to exceed SMAQMD’s threshold of significance. Therefore, if the projected construction-related emissions exceed the NO\textsubscript{X} threshold of significance based on the equipment inventory, SAFCA shall contribute to SMAQMD’s off-site mitigation fee program sufficiently to offset the amount by which the proposed project’s NO\textsubscript{X} emissions exceed the threshold of 85 lbs. per day. The determination of the final mitigation fee shall be conducted in coordination with SMAQMD before any ground disturbance occurs for any phase of project construction. All mitigation fees shall be paid prior to allowing SMAQMD to obtain emissions reductions for the proposed project. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), SAFCA shall work with SMAQMD to ensure emission calculations and fees are adjusted appropriately. Thus, as noted above, if construction activities associated with North Sacramento Streams Levee Improvement area were to extend into year 2017 and overlap with Sacramento River East Levee Improvements area construction activities, those potential changes in maximum daily emissions would be calculated and reflected in the off-site mitigation fee paid to SMAQMD.
Sacramento River East Levee Improvements

The maximum daily construction emissions for levee reconstruction, encroachment removal, vegetation management, and the Conservation Strategy would exceed SMAQMD’s threshold of significance for NOX. Therefore, these proposed project elements would have a significant impact. Mitigation Measures AIR-1a, AIR 1b, AIR 1c, and AIR-1d, which are hereby adopted and incorporated into the project, would reduce fugitive PM dust and equipment exhaust emissions to a less-than-significant level. For fugitive PM dust emissions, SMAQMD considers projects that would not disturb more than 15 acres per day and implement Basic Construction Emission Control Practices to reduce any potential fugitive PM dust emissions to a less-than-significant level. Therefore, with implementation of Mitigation Measure AIR-1a and because the project would not disturb more than 15 acres per day, fugitive PM dust emissions would be less than significant. However, exhaust-related NOX emissions would not be reduced to a less-than-significant level with implementation of Mitigation Measures AIR-1a, AIR-1b, and AIR-1c. Implementation of AIR-1d would reduce the remaining construction emissions resulting from construction of all of the Sacramento River East Levee Improvements area components (i.e., levee reconstruction, soil/bank erosion repair, encroachment removal, vegetation management, and Conservation Strategy) to a less-than-significant level by contributing to SMAQMD’s off-site mitigation fee program.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure AIR-1a (Implement Sacramento Metropolitan Air Quality Management District’s Basic Construction Emission Control Practices).**

**Mitigation Measure: Implement Mitigation Measure AIR-1b (Implement Sacramento Metropolitan Air Quality Management District’s Enhanced Fugitive PM Dust Control Practices).**

**Mitigation Measure: Implement Mitigation Measure AIR-1c (Use Tier 3 Construction Equipment for at Least 15 Percent of Equipment).**

**Mitigation Measure: Implement Mitigation Measure AIR-1d (Use Sacramento Metropolitan Air Quality Management District’s Off-site Mitigation Fee to Reduce NOX Emissions).**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

During construction of the proposed project, daily air quality emissions of NOX would likely exceed the applicable SMAQMD threshold of significance. SMAQMD-required emission control practices have not been incorporated into the project design. Therefore, project-generated fugitive dust (i.e., PM10 and PM2.5) and exhaust NOX emissions could conflict with or obstruct implementation of regional air quality planning efforts, or could violate or contribute substantially to an existing or projected air quality violation within the SVAB. Thus, this impact would be potentially significant for the entire project study area.
SMAQMD requires all projects, regardless of the level of emission, to implement Basic Construction Emission Control Practices. Therefore, although the proposed project elements would result in emissions less than the applicable thresholds of significance, without inclusion of SMAQMD’s Basic Construction Emission Control Practices, they would have a potentially significant impact. Mitigation Measure AIR-1a, which is hereby adopted and incorporated into the project, would reduce any potential construction-related impact to a less-than-significant level because SMAQMD’s basic construction emission control practices will be implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure AIR-1a (Implement Sacramento Metropolitan Air Quality Management District’s Basic Construction Emission Control Practices).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

During construction of the proposed project, daily air quality emissions of NO\textsubscript{X} would likely exceed the applicable SMAQMD threshold of significance. SMAQMD-required emission control practices have not been incorporated into the project design. Therefore, project-generated fugitive dust (i.e., PM\textsubscript{10} and PM\textsubscript{2.5}) and exhaust NO\textsubscript{X} emissions could conflict with or obstruct implementation of regional air quality planning efforts, or could violate or contribute substantially to an existing or projected air quality violation within the SVAB. Thus, this impact would be potentially significant for the entire project study area.

SMAQMD requires all projects, regardless of the level of emission, to implement Basic Construction Emission Control Practices. Therefore, although the proposed project elements would result in emissions less than the applicable thresholds of significance, without inclusion of SMAQMD’s Basic Construction Emission Control Practices, they would have a potentially significant impact. Mitigation Measure AIR-1a, which is hereby adopted and incorporated into the project, would reduce any potential construction-related impact to a less-than-significant level because SMAQMD’s basic construction emission control practices will be implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure AIR-1a (Implement Sacramento Metropolitan Air Quality Management District’s Basic Construction Emission Control Practices).

C. Impact BIO-F1: Modifications to Aquatic Shoreline Habitat Used by Special-Status Fish

Sacramento River East Levee Improvements

Implementation of levee improvements, encroachment removal, and vegetation management would alter shoreline habitat by removing existing riparian and aquatic vegetation, IWM, and bank material, which would modify habitat, reduce the quantity and function (quality) of SRA cover, and reduce IWM and other aquatic habitat values for fish throughout the project.
study area. Removal of these habitat elements would locally and temporarily reduce SRA habitat, aquatic cover (including IWM and aquatic vegetation), and sources of invertebrate production, thereby reducing the suitability of the shoreline habitat for foraging and rearing by juvenile special-status fishes. Furthermore, riparian vegetation could require more than 3 years to mature enough to provide SRA. Many features to replace or enhance shoreline habitat would be included within the levee improvement element during construction, such as IWM placement. These features would compensate for temporary and short-term loss or disturbance of habitat and would provide habitat quantity and quality equal to or better than the habitat modified during construction. Some habitat replacement or enhancement features would immediately provide habitat (e.g., IWM placement) whereas others would gradually provide habitat over the course of 3+ years (e.g., riparian revegetation). Additionally, the Conservation Strategy includes specific compensation actions to replace and/or enhance riparian habitats, including SRA. This temporary and short-term construction-related impact would be potentially significant for the Sacramento River East Levee.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the temporary, short-term potentially significant impact to a less-than-significant level. In-water construction will be limited to the period of time with the lowest probability for special-status fish occurrences, and as the fast-growing planted trees and plants mature, their canopies would extend over the water surface providing shade, cover, food sources for aquatic species, and submerged instream cover for juvenile salmonids at higher river stages during winter and spring. Vegetation management along with the enhancement and restoration elements of the Conservation Strategy would affect riparian habitat (SRA and IWM) over the long-term (3+ years) and would contribute to the recovery and sustainability of critical habitat for migrating adult and juvenile Central Valley steelhead, migrating adult and juvenile Central Valley spring-run and Sacramento River winter-run Chinook salmon, and EFH for migrating adult and juvenile Chinook salmon (all four ESUs present) within the Sacramento River. These measures, implemented as part of the Conservation Strategy, would expand and enhance designated critical habitat for spring-run and winter-run Chinook salmon and Central Valley steelhead, as well as habitat for juvenile Pacific and river lamprey by integrating on-site habitat features such as riparian and SRA habitat along the Sacramento River East Levee where existing conditions are absent of quality habitat, or by filling gaps in the riparian canopy. These measures, as part of the Conservation Strategy, would increase the quantity, diversity, quality, and connectivity of riverine, aquatic, and floodplain habitats (e.g., SRA, IWM) by increasing the linear extent and quality of habitat corridors available for special-status species, with an emphasis on streamside riparian corridors that contribute to crucial aquatic habitat for migrating and rearing salmonid populations.

Mitigation

**Mitigation Measure BIO-F1: Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors**

SAFCA shall implement the following measure, as part of the Conservation Strategy, to protect fishes and enhance streamside riparian corridors that contribute to aquatic habitat during and following project construction:
• **SSF-1: Conduct In-Water Construction Work within In-Water Work Windows (June-October).** In-water construction activities shall be conducted within in-water work windows to avoid impacts to critical salmonid life stages (juvenile rearing, and juvenile and adult passage), typically from June through October.

• **SSF-2: Avoid SRA Habitat to the Maximum Extent Practicable and Temporarily Fence and Designate SRA Habitat as Environmentally Sensitive.** Natural woody riparian and/or SRA habitat shall be avoided to the maximum extent practicable. Habitat to be avoided shall be temporarily fenced and designated as environmentally sensitive areas. These areas shall be avoided by all construction personnel.

• **SSF-3: Install Screens on Any Construction-Related Water Pump Intakes Located on Waterways with Salmonids.** Screens shall be installed on any construction-related water pump intakes located on waterways with salmonids in accordance with current salmonid screening specifications of NMFS and CDFW.

• **CM-10: Prepare and Implement a Storm Water Pollution Prevention Plan.** A SWPPP that identifies specific best management practices to avoid and minimize impacts on water quality during construction activities shall be prepared and implemented for each construction contract.

• **CM-11: Install, Monitor, and Maintain Erosion Control Measures that Minimize Soil or Sediment from Entering Waterways or Wetlands.** Erosion control measures that minimize soil or sediment from entering waterways and wetlands shall be installed, monitored for effectiveness, and maintained throughout construction operations.

• **CM-13: Avoid Use of Materials in Locations Where it Can Erode from Normal or Expected High Flows.** No material shall be placed in a manner or location where it can be eroded by normal or expected high flows.

• **CM-14: Implement Precautionary Measures to Minimize Turbidity/Siltation during Construction.** Precautions to minimize turbidity/siltation shall be implemented during construction. This may require placing barriers (e.g., silt curtains) to prevent silt and/or other deleterious materials from entering downstream reaches.

• **CM-15: Inspect Sediment and Turbidity Control Barriers Daily during Construction for Proper Function and Replace Immediately if Not Functioning Effectively.** Performance of sediment and turbidity control barriers shall be inspected at least once each day during construction to check that they are functioning properly. Should a control barrier not function effectively, it shall be immediately repaired or replaced. Additional controls shall be installed as necessary.
• **CM-16: Remove Sediment from Sediment Controls and Dispose of Properly.** Sediment shall be removed from sediment controls once the sediment has reached 1/3 of the exposed height of the control. Sediment collected in these devices shall be disposed of away from the collection site at designated upland disposal sites.

• **CM-17: Treat Water with Silt or Mud from Construction Activities to Prevent it from Entering Live Waterways.** Water containing mud or silt from construction activities shall be treated by filtration, or retention in a settling pond, adequate to prevent muddy water from entering live waterways.

• **CM-18: Treat All Disturbed Soils with Appropriate Erosion Control.** All disturbed soils shall undergo appropriate erosion control treatment (e.g., sterile straw mulching, seeding, planting) prior to the end of the construction season, or prior to November 1, whichever comes first.

• **CM-22: Use Safer Alternative Products to Protect Streams and Other Waters.** Every reasonable precaution shall be exercised to protect streams and other waters from pollution with fuels, oils, and other harmful materials. Safer alternative products (such as biodegradable hydraulic fluids) shall be used where feasible.

• **CM-23: Prevent Any Contaminated Construction By-Products from Entering Flowing Waters; Collect and Transport Such By-Products to An Authorized Disposal Area.** Petroleum products, chemicals, fresh cement, and construction by-products containing, or water contaminated by, any such materials shall not be allowed to enter flowing waters and shall be collected and transported to an authorized upland disposal area.

• **CM-24: Prevent Hazardous Petroleum or Other Substances Hazardous to Aquatic Life from Contaminating the Soil or Entering Waters of the State or U.S.** Gas, oil, other petroleum products, or any other substances that could be hazardous to aquatic life and resulting from project-related activities, shall be prevented from contaminating the soil and/or entering waters of the State and/or waters of the U.S.

• **CM-25: Prepare and Implement a Spill Prevention and Control Plan.** A written spill prevention and control plan (SPCP) shall be prepared and implemented. The SPCP and all material necessary for its implementation shall be accessible on-site prior to initiation of project construction and throughout the construction period. The SPCP shall include a plan for the emergency cleanup of any spills of fuel or other material. Employees/construction workers shall be provided the necessary information from the SPCP to prevent or reduce the discharge of pollutants from construction activities to waters and to use the appropriate measures should a spill occur. In the event of a spill, work shall stop immediately and the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS),
Central Valley Regional Water Quality Control Board (RWQCB), and USACE shall be notified within 24 hours.

- **CM-26: Properly Maintain All Construction Vehicles and Equipment and Inspect Daily for Leaks; Remove and Repair Equipment/Vehicles with Leaks.** Construction vehicles and equipment shall be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Vehicles and equipment shall be checked daily for leaks. If leaks are found, the equipment shall be removed from the site and shall not be used until the leaks are repaired.

- **CM-27: Refuel and Service Equipment at Designated Refueling and Staging Areas.** Equipment shall be refueled and serviced at designated refueling and staging sites located on the crown or landside of the levee and at least 50 feet from active stream channels or other water bodies. All refueling, maintenance, and staging of equipment and vehicles shall be conducted in a location where a spill shall not drain directly toward aquatic habitat. Appropriate containment materials shall be installed to collect any discharge, and adequate materials for spill cleanup shall be maintained on-site throughout the construction period.

- **CM-28: Store Heavy Equipment, Vehicles, and Supplies at Designated Staging Areas.** All heavy equipment, vehicles, and supplies shall be stored at the designated staging areas at the end of each work period.

- **CM-29: Install an Impermeable Membrane Between the Ground and Any Hazardous Material in Construction Storage Areas.** Storage areas for construction material that contains hazardous or potentially toxic materials shall have an impermeable membrane between the ground and the hazardous material and shall be bermed as necessary to prevent the discharge of pollutants to groundwater and runoff water.

- **CM-30: Use Water Trucks to Control Fugitive Dust during Construction.** Water (e.g., trucks, portable pumps with hoses) shall be used to control fugitive dust during temporary access road construction.

- **CM-31: Use Only Nontoxic Materials and Materials with No Coatings or Treatments Deleterious to Aquatic Organisms For Placement in Any Waters.** All materials placed in streams, rivers, or other waters shall be nontoxic and shall not contain coatings or treatments or consist of substances deleterious to aquatic organisms that may leach into the surrounding environment in amounts harmful to aquatic organisms.

- **CM-32: Clean Construction Vehicles and Equipment Used within the Stream Channel before Arrival at the Project Construction Areas, and Inspect Vehicles/Equipment to Ensure They Are Free of Soil, Debris, and Nonnative Aquatic Species.** Construction vehicles and equipment operated within the channel margins (high water line) shall be cleaned of mud and other debris with a
scrub brush and dry, or pressure-washed with hot (>140 degrees Fahrenheit [°F]) water, before arrival at the project construction areas and prior to transporting the equipment to another stream or watershed. All equipment operated within the channel margins shall be carefully inspected for signs of aquatic invasive species, including mussels and plant materials, with special attention paid to shaded, sheltered, and protected areas which might contain standing water and areas that form ‘edges’ or ‘right angles,’ such as tracks, feet, and/or tires. If vehicles or equipment are found to be contaminated with non-native invasive species, vehicles and equipment shall be stored in a dry location for at least one week prior to transport to a different stream or watershed, or alternatively, will be pressure-washed with hot (>140°F) water after each use. All water shall be drained from watercraft, including motor cooling system and bilge, and allow to dry as thoroughly as possible prior to entering a new stream or watershed. Large vessels and barges transported via the stream channel shall be contracted from nearby locations or shall undergo similar hull-cleaning prior to use for the project. Watercraft transported from distant areas, including barges, shall not release bilge water into the project area, unless screened to prohibit fish, plant, or other animal transport.

In addition to the specific measures, the Conservation Strategy identifies several types of habitat improvements to be implemented. SAFCA shall implement improvements from the Conservation Strategy, including:

- To replace habitat loss due to tree removal required during levee improvements, native riparian trees shall be planted to fill gaps in the riparian woodland corridor in the Sacramento River East Levee area.
- To replace habitat loss following levee improvement construction and vegetation management tree removal, riparian trees and shrubs shall be planted on recontoured middle and upper bank slopes in natural soil, and low rock-lined benches with soil-filled trenches with native riparian trees, shrubs, and herbaceous species.
- To increase SRA habitat quality under low summer/fall river stage, tule and buttonbush would be planted along the shoreline.
- Following construction, native wetland vegetation (e.g., Santa Barbara sedge, Baltic rush) shall be planted along the banks of Arcade Creek, and two parallel rows of large riparian tree species (e.g., valley oak) shall be planted on both banks of the low-flow channel.
- To replace habitat loss due to high-hazard tree removal, native riparian trees shall be planted to fill existing gaps in the oak and riparian woodland corridor.
- To replace vegetation removed as part of the vegetation management element within the Beach Lake Levee, gaps within the riparian corridor shall be filled, or, in coordination with the SRCSD, an area within the nearby Upper Beach Lake
Wildlife Area shall be identified where riparian vegetation could be planted to mitigate for hazard tree removal along the Beach Lake Levee (see Exhibit 3-26 in Chapter 3, “Project Description”).

- To minimize water quality impairment at and downstream of construction sites: a storm water pollution prevention plan shall be developed; construction related erosion shall be controlled; precautions shall be taken to minimize turbidity/siltation during construction and from construction equipment; precautions shall be taken to protect streams and other waters from construction pollutants, including the use of safer alternative products (such as biodegradable hydraulic fluids).

**D. Impact BIO-F2: Potential Disturbance, Injury, or Mortality of Special-Status Fishes during Construction Activities**

**North Sacramento Streams Levee Improvements**

There would not be any disturbance, injury, or mortality of special-status fishes during vegetation management and encroachment removal, which do not result in in-water construction activities. Thus, there would be no impact from these project elements throughout the project study area. However, implementation of levee improvements could result in disturbance, displacement, injury, or death of special-status fishes in the North Sacramento Streams and the Sacramento River East Levee Improvements areas. The impact to special-status fishes would be direct, temporary, and potentially significant in the North Sacramento Streams Levee Improvements area, the Sacramento River East Levee Improvements area, and the NEMDC/Steelhead Creek CMP area.

Mitigation Measure BIO-F1, which was previously adopted and incorporated into the project, would reduce the potentially significant temporary, short-term impact to a less-than-significant level because in-water construction will be limited to the period of time when special-status fishes are not likely to be present. Within Arcade Creek, construction will be limited to the levee prism and will not occur in the wetted channel during periods of high-flow or between November and May, when Sacramento splittail or lamprey could be present. Levee improvements along NEMDC/Steelhead Creek will occur outside of the wetted channel. Subsequently, no special-status species would be present along NEMDC/Steelhead Creek or Arcade Creek during the levee improvements in-water construction.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).*

**Sacramento River East Levee Improvements**

There would not be any disturbance, injury, or mortality of special-status fishes during vegetation management and encroachment removal, which do not result in in-water construction activities. Thus, there would be no impact from these project elements throughout the project.
study area. However, implementation of levee improvements could result in disturbance, displacement, injury, or death of special-status fishes in the North Sacramento Streams and the Sacramento River East Levee Improvements areas. The impact to special-status fishes would be direct, temporary, and potentially significant in the North Sacramento Streams Levee Improvements area, the Sacramento River East Levee Improvements area, and the NEMDC/Steelhead Creek CMP area.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the temporary, potentially significant impact to a less-than-significant level because the in-water work window specified in the Conservation Strategy would avoid and minimize impacts on special-status fishes by limiting in-water construction to the period from June through October, when the fewest number of species and life stages (e.g., salmonid juvenile rearing, and juvenile and adult passage) are expected to occur. Special-status species that may be present during June through October include adults and juvenile green sturgeon (although adults are not expected along the shoreline), Delta smelt (although smelt have a low probability of occurrence), migrating adult and juvenile Pacific lamprey, juvenile river lamprey, adult and juvenile Central Valley steelhead, migrating adult Central Valley spring-run Chinook salmon, migrating adult Sacramento River winter-run Chinook salmon, migrating adult fall-and late-fall run Chinook salmon, and adult migrating Sacramento splittail (Table 4.5-2). A majority of these species would not be present during the entire June through October period. Common (non-special-status) fish species present at construction sites would be directly and indirectly affected by the implementation of levee construction activities, though the effect would be less than significant as common fishes are typically more abundant and resilient.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure BIO-F1: (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

There would not be any disturbance, injury, or mortality of special-status fishes during vegetation management and encroachment removal, which do not result in in-water construction activities. Thus, there would be no impact from these project elements throughout the project study area. Implementation of levee improvements could result in disturbance, displacement, injury, or death of special-status fishes in the North Sacramento Streams and the Sacramento River East Levee Improvements areas. The impact to special-status fishes would be direct, temporary, and potentially significant in the North Sacramento Streams Levee Improvements area, the Sacramento River East Levee Improvements area, and the NEMDC/Steelhead Creek CMP area.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the temporary, short-term potentially significant impact to a less-than-significant level because in-water construction will be limited to the period of time when special-status fishes are not likely to be present and habitat will be protected and/or enhanced with implementation of the Conservation Strategy.
Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).

E. Impact BIO-F3: Water Quality Degradation during and Following In-Water Construction Activities

North Sacramento Streams Levee Improvements

The proposed project would temporarily affect water quality in the North Sacramento Streams and the Sacramento River East Levee Improvements areas during in-water construction, which may affect special-status and non-special-status fishes. This temporary and short-term impact would be potentially significant in the North Sacramento Streams and Sacramento River East Levee Improvements areas and the NEMDC/Steelhead Creek CMP area.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the potentially significant temporary, short-term impact to a less-than-significant level because the in-water work window specified in the Conservation Strategy would avoid and minimize impacts on special-status fishes by limiting in-water construction to the period from June through October, when special-status species and life stages (e.g., salmonid juvenile rearing, and juvenile and adult passage, spawning splittail, and migrating lamprey) are unlikely. The avoidance and minimization measures are designed to control erosion and avoid spills or leaks of toxic materials and incorporate measures to avoid or reduce the effect of the project on water quality when special-status species are present. These measures would minimize impacts to water quality and ensure that water quality is maintained within suitable standards to support special-status species located in, or downstream of, the construction areas.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-F1: (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).

Sacramento River East Levee Improvements

The proposed project would temporarily affect water quality in the North Sacramento Streams and the Sacramento River East Levee Improvements areas during in-water construction, which may affect special-status and non-special-status fishes. This temporary and short-term impact would be potentially significant in the North Sacramento Streams and Sacramento River East Levee Improvements areas and the NEMDC/Steelhead Creek CMP area.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the potentially significant temporary, short-term impact to a less-than-significant level because the in-water work window specified in the Conservation Strategy would avoid and minimize impacts on special-status fishes by limiting in-water construction to the period from June through October, when the fewest number of species and life stages (e.g., salmonid juvenile rearing, and juvenile and adult passage) are expected to occur. Special-status species that may be
present during June through October include adults and juvenile green sturgeon (although adults are not expected along the shoreline), Delta smelt (although smelt have a low probability of occurrence), migrating adult and juvenile Pacific lamprey, juvenile river lamprey, adult and juvenile Central Valley steelhead, migrating adult Central Valley spring-run Chinook salmon, migrating adult Sacramento River winter-run Chinook salmon, migrating adult fall- and late-fall run Chinook salmon, and adult migrating Sacramento splittail. A majority of these species would not be present during the entire June through October period. Common (non-special-status) fish species present at construction sites would be directly and indirectly affected by the implementation of levee construction activities, though the effect would be less than significant as common fishes are typically more abundant and resilient. The avoidance and minimization measures are designed to control erosion and avoid spills or leaks of toxic materials and incorporate measures to avoid or reduce the effect of the project on water quality when special-status species are present. These measures would minimize impacts to water quality and ensure that water quality is maintained within suitable standards to support special-status species located in, or downstream of, the construction areas.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy: to Protect Fishes and Enhance Streamside Riparian Corridors).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

The proposed project would temporarily affect water quality in the North Sacramento Streams and the Sacramento River East Levee Improvements areas during in-water construction, which may affect special-status and non-special-status fishes. This temporary and short-term impact would be potentially significant in the North Sacramento Streams and Sacramento River East Levee Improvements areas and the NEMDC/Steelhead Creek CMP area.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the temporary impact to a less-than-significant level because the in-water work window specified in the Conservation Strategy would avoid and minimize impacts on special-status fishes by limiting in-water construction to the period from June through October, when special-status species and life stages (e.g., salmonid juvenile rearing, and juvenile and adult passage, spawning splittail, and migrating lamprey) are unlikely. The avoidance and minimization measures are designed to control erosion and avoid spills or leaks of toxic materials and incorporate measures to avoid or reduce the effect of the project on water quality when special-status species are present. These measures would minimize impacts to water quality and ensure that water quality is maintained within suitable standards to support special-status species located in, or downstream of, in-water work areas associated with the NEMDC/Steelhead Creek CMP.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).
F. Impact BIO-F4: Modifications to Stream Channels and Floodplain Habitats Used by Special-Status Fish

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Implementation of the NEMDC/Steelhead Creek CMP would alter stream channels and vegetation within stream channels, which would enhance the migratory corridor and improve water temperatures for native and special-status fishes. Construction activities include in-water work, which would disrupt habitat for fishes. The NEMDC/Steelhead Creek CMP would have a potentially significant impact.

Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would reduce the temporary, short-term potentially significant impact to a less-than-significant level. The in-water work window specified in the Conservation Strategy would avoid and minimize impacts on special-status fishes by limiting in-water construction to the period from June through October, when special-status species and life stages (e.g., salmonid juvenile rearing, and juvenile and adult passage, spawning splittail, and migrating lamprey) are unlikely. Fishes present in NEMDC/Steelhead Creek from June through October would generally be limited to common warm water fishes (e.g., nonnative sunfish and bass species). Implementation of the NEMDC/Steelhead Creek CMP would result in long-term habitat enhancements for special-status fishes as a result of riparian and aquatic habitat modification, including IWM and SRA. The NEMDC/Steelhead Creek CMP habitat and ecosystem enhancements would substantially expand, connect, and improve riparian and aquatic habitats in NEMDC/Steelhead Creek and its tributaries. Combined with the Conservation Strategy, these actions would contribute to the recovery of special-status fishes, including Central Valley steelhead, fall-run Chinook salmon, Sacramento splittail, and lamprey species, by improving habitat conditions within the stream channel, on the floodplains, and overhead cover (SRA), and by reducing barriers to fish migration, stranding potential, and invasive weed infestations. Additionally, elements of the Conservation Strategy also include cattle fencing, vegetation planting, and potential wetland restoration, as well as realignment of approximately 1,800 feet of the creek. A creekside wetland and natural floodplain habitat restoration element will be implemented, which includes grading along the banks and floodplain habitats to create adequate drainage.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).

G. Impact BIO-F5: Fish Entrapment at Floodplain Borrow Sites

North Sacramento Streams Levee Improvements

After construction is completed, borrow sites would be restored (e.g., filled with non-organic soil) to the extent necessary to eliminate the potential for water retention and fish stranding following flooding or high flow events. However, if a borrow site is overtopped with flood water during construction (i.e., prior to restoration), fish could become stranded and die, resulting in a short-term potentially significant impact. Mitigation Measure BIO-F2, which is
hereby adopted and incorporated into the project, would reduce the impact to a less-than-significant level because a fish rescue plan will be developed and implemented to avoid or minimize the loss of special-status fish.

**Mitigation**

Mitigation Measure BIO-F2: Develop and Implement an Approved Fish Rescue Plan to Capture and Relocate Stranded Fish.

To minimize fish mortality due to stranding, a fish rescue plan shall be prepared by SAFCA for approval by State and Federal fish agencies (i.e., CDFW, USFWS, and NMFS) and implemented during the period when borrow sites or other off-channel depressions contain water due to flooding or high-flow events. Development of the fish rescue plan shall include consideration of numerous sampling methods (i.e., seines, electrofishing, and traps) and events, as required by the fish agencies. Fish would be captured alive and transported to nearby suitable habitat for release. The fish rescue will occur under the direction of CDFW.

H. Impact BIO-1: Potential Loss of Special-status Plants and Loss and Degradation of Special-status Plant Habitat

North Sacramento Streams Levee Improvements

Implementation of encroachment removal throughout the project study area and the Conservation Strategy in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would not occur within areas of suitable habitat for special-status plants. Therefore, these elements would have no impact on special-status plants. Vegetation management along Arcade Creek would occur in few locations within the channel and disturbance would be very localized and unlikely to adversely affect special-status plants. Therefore, this impact would be less than significant for the North Sacramento Streams Levee Improvements area. However, implementation of levee improvements and the Conservation Strategy in the North Sacramento Streams Levee Improvements area could result in direct and indirect impacts on suitable habitat for special-status plants and possibly direct loss of individuals or populations, if present. Loss of a special-status plant population could have a substantial adverse effect on the larger local or regional population of that species. Therefore, this impact would be potentially significant. Mitigation Measure BIO-1, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because surveys, marking, and construction practices will be implemented to avoid, minimize, and, if necessary, compensate for direct impacts to and loss of special-status plants.
Mitigation

Mitigation Measure BIO-1: Implement Conservation Strategy Measures to Avoid, Minimize, Compensate, and Reduce Impacts and Offset Loss of Special-status Plants.

SAFCA shall implement the following measures to avoid, minimize, and, if necessary, compensate for direct impacts to and loss of special-status plants during project construction:

- **SSP-1**: Clean Construction Vehicles and Equipment Inside/Out at an Authorized Washing Facility before Arrival at the Project Construction Areas, and Inspect Vehicles/Equipment to Ensure They Are Free of Soil and Debris and Nonnative Plant Seeds, Roots, or Rhizomes. Construction vehicles and equipment shall be cleaned inside and out at an authorized washing facility before arrival at the project construction areas and shall be inspected in an attempt to ensure they are free of soil and debris that could harbor nonnative plant seeds, roots, or rhizomes. If invasive or noxious weeds are already present in portions of the project areas, vehicles shall be cleaned before moving from infested areas to areas that are weed free. Exterior cleaning shall consist of pressure washing vehicles and equipment, with close attention paid to the tracks, feet, and/or tires and on all elements of the undercarriage. Vehicle cabs shall be swept out, and refuse shall be disposed at an approved off-site location.

- **SSP-2**: Use Certified Weed-Free Vegetative Materials for All Imported Materials. All imported straw used in project activities shall be certified weed-free.

- **SSP-3**: Conduct Preconstruction Special-Status Surveys during the Blooming Period within 25 Feet of Areas of Project Disturbance within 5 Years of Ground-Disturbing Activities. Preconstruction special-status plant surveys shall be conducted by a qualified botanist in suitable habitat to determine the occurrence of special-status plant populations within 25 feet of areas of project disturbance. Surveys shall be conducted at an appropriate time of year during which the species are likely to be detected, generally during the blooming period. Surveys shall be conducted within 5 years prior to initial ground-disturbing activities.

- **SSP-4**: Mark Special-Status Plant Populations and Occupied Habitat in the Field for Avoidance during Construction Activities and Include a Habitat Buffer of a Minimum of 25 Feet. If special-status plant populations are detected and if those plants can be avoided during project implementation, a qualified botanist shall clearly mark the special-status plant populations and occupied habitat in the field for avoidance during construction activities. The avoidance area shall include a habitat buffer. The buffer width shall be determined by a qualified botanist based on site-specific conditions, but shall be a minimum of 25 feet.
If habitat occupied by special-status plants cannot be avoided during project construction, an appropriate and feasible mitigation plan to compensate for direct loss of special-status plants shall be developed and provided to CDFW for approval. The plan shall detail appropriate compensation measures determined through consultation with CDFW, methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures to be implemented if the initial mitigation fails. Implementation methods may include salvaging and transplanting individual plants, collecting the seeds of affected plants, and collecting and translocating seed- and rhizome-containing mud. Compensation also may include preserving in perpetuity other known populations of these species in the project vicinity at ratios of or greater than 1 to 1. The plan shall be developed in consultation with and approved by CDFW before construction activities begin in areas containing special-status plant species.

If it is determined that implementation of a project element would result in take of State-listed plant species, despite implementation of avoidance and minimization measures, authorization under CESA for said take shall be obtained. All measures developed through consultation with CDFW shall be implemented, to mitigate adverse effects.

Sacramento River East Levee Improvements

Implementation of encroachment removal throughout the project study area and the Conservation Strategy in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would not occur within areas of suitable habitat for special-status plants. Therefore, these elements would have no impact on special-status plants. However, implementation of levee improvements, vegetation management, and the Conservation Strategy in the Sacramento River East Levee Improvements area could result in direct and indirect impacts on suitable habitat for special-status plants and possibly direct loss of individuals or populations, if present. Loss of a special-status plant population could have a substantial adverse effect on the larger local or regional population of that species. Therefore, this impact would be potentially significant. Mitigation Measure BIO-1, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because surveys, marking, and construction practices will be implemented to avoid, minimize, and, if necessary, compensate for direct impacts to and loss of special-status plants.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-1 (Implement Conservation Strategy Measures to Avoid, Minimize, Compensate, and Reduce Impacts and Offset Loss of Special-status Plants).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Implementation of encroachment removal throughout the project study area and the Conservation Strategy in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would not occur within areas of suitable habitat for special-status plants. Therefore, these elements would have no impact on special-status plants.
However, implementation of vegetation management in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area could result in direct and indirect impacts on suitable habitat for special-status plants and possibly direct loss of individuals or populations, if present. Loss of a special-status plant population could have a substantial adverse effect on the larger local or regional population of that species. Therefore, this impact would be potentially significant. Mitigation Measure BIO-1, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because surveys, marking, and construction practices will be implemented to avoid, minimize, and, if necessary, compensate for direct impacts to and loss of special-status plants.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure BIO-1 (Implement Conservation Strategy Measures to Avoid, Minimize, Compensate, Reduce Impacts and Offset Loss of Special-status Plants).

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of encroachment removal throughout the project study area and the Conservation Strategy in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would not occur within areas of suitable habitat for special-status plants. Therefore, these elements would have no impact on special-status plants. However, implementation of the NEMDC/Steelhead Creek CMP could result in direct and indirect impacts on suitable habitat for special-status plants and possibly direct loss of individuals or populations, if present. Loss of a special-status plant population could have a substantial adverse effect on the larger local or regional population of that species. Therefore, this impact would be potentially significant. Mitigation Measure BIO-1, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because surveys, marking, and construction practices will be implemented to avoid, minimize, and, if necessary, compensate for direct impacts to and loss of special-status plants.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure BIO-1 (Implement Conservation Strategy Measures to Avoid, Minimize, Compensate, and Reduce Impacts and Offset Loss of Special-status Plants).

**I. Impact BIO-2: Effects on Special-status Vernal Pool Invertebrates**

**North Sacramento Streams Levee Improvements**

Vernal pools and other suitable seasonal wetland habitat are not present along Arcade Creek and in the vicinity of encroachment removal along Robla Creek. These areas do not support suitable habitat for vernal pool invertebrates. Therefore, encroachment removal and vegetation management in these areas would have no impact. However, implementation of levee improvements, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP in the North Sacramento Streams Levee Improvements area could result in degradation of potentially suitable
habitat for vernal pool invertebrates and potential loss of invertebrate populations if they are present in the affected habitats. Therefore, this indirect impact would be potentially significant. Mitigation Measure BIO-2, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of vernal pool habitat as appropriate.

**Mitigation**

**Mitigation Measure BIO-2: Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Direct and Indirect Effects to Habitat for Vernal Pool Invertebrates.**

SAFCA shall implement the following measures to avoid, minimize, and, if necessary, compensate for potential adverse effects on vernal pool invertebrates during project construction:

- **VPC-1: Provide Suitable Vernal Pool Crustacean Habitat with Protective Buffers, to the Extent Feasible, and Temporarily Fence and Designate the Buffers as Environmental Sensitive Areas.** Suitable habitat for vernal pool crustaceans shall be provided with protective buffers, to the extent feasible. The size and shape of the buffers shall depend on the local topography and potential for project activities to affect hydrology of the habitat. All buffers shall be temporarily fenced and designated as environmentally sensitive areas. These areas shall be avoided by all construction personnel.

- **VPC-2: Monitor All Construction Activities in Sensitive Biological Resources to Ensure that Avoidance and Minimization Measures Are Being Properly Implemented and Stop Construction Activities that Threaten Unauthorized Project Impacts.** A qualified biologist shall monitor all construction activities in sensitive biological resource areas to ensure that avoidance and minimization measures are being properly implemented and no unauthorized activities occur. The biological monitor shall be empowered to stop construction activities that threaten to cause unanticipated and/or unauthorized project impacts. Project activity shall not resume until the conflict has been resolved.

If suitable habitat for vernal pool invertebrates cannot be avoided during project construction, an appropriate and feasible mitigation plan shall be developed and provided to USFWS for approval. Compensation for direct impacts may include preserving, enhancing, and/or creating vernal pool habitat at an on- or off-site location. Appropriate mitigation ratios would be determined in coordination with USFWS; ratios typically required by USFWS include 3 acres of habitat preservation and 1 acre of habitat creation for each acre of habitat loss and 2 acres of habitat preservation and 1 acre of habitat creation for each acre of habitat that is indirectly affected. If habitat creation is proposed, the mitigation plan shall include methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures to be implemented if the initial mitigation fails. Alternatively, purchasing credits at a USFWS-approved mitigation bank may be identified as appropriate mitigation.
If it is determined that implementation of a project element would result in take of Federally listed vernal pool invertebrates, despite implementation of avoidance and minimization measures, authorization for take of vernal pool invertebrates under the Federal ESA shall be obtained. All measures developed through consultation with USFWS shall be implemented, to mitigate adverse effects.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of the NEMDC/Steelhead Creek CMP along Dry Creek could result in adverse effects on potentially suitable habitat for vernal pool invertebrates by indirectly affecting vernal pools through altered hydrology and degraded water quality. Although implementing the NEMDC/Steelhead Creek CMP would enhance wetland habitat along Dry/Robla Creeks, it is not known if this would be adequate to offset potential indirect effects to habitat of vernal pool invertebrates that may also occur from implementing the NEMDC/Steelhead Creek CMP. Therefore, this proposed project element would have a potentially significant impact. Mitigation Measure BIO-2, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of vernal pool habitat as appropriate.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure BIO-2 (Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Direct and Indirect Effects to Habitat for Vernal Pool Invertebrates).*

**J. Impact BIO-3: Effects on Valley Elderberry Longhorn Beetle**

**North Sacramento Streams Levee Improvements**

There are no documented occurrences of valley elderberry longhorn beetle in the North Sacramento Streams Levee Improvements area. Elderberry shrubs were not observed along Arcade Creek or NEMDC/Steelhead Creek during field surveys and are not expected to occur at Borrow Sites 2 and 3. Encroachment removal along Robla Creek would be limited to trimming back residential landscaping from a fence line and would have minimal potential for adverse impact to any elderberry shrubs, if present nearby. Therefore, implementation of encroachment removal, vegetation management, and levee improvements along Arcade Creek and NEMDC/Steelhead Creek would have no impact. However, elderberry shrubs could be present adjacent to potential woodland mitigation sites, including along Robla Creek and in previously planted portions of the Novak parcel. Although the Conservation Strategy would focus mitigation efforts on open grassland areas, elderberry shrubs that may be present nearby could be disturbed. Therefore, this proposed project element would have a potentially significant impact. Mitigation Measure BIO-3, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of elderberry shrubs.
Mitigation Measure BIO-3: Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Direct and Indirect Effects to Valley Elderberry Longhorn Beetle Habitat.

SAFCA shall implement the following measures to avoid, minimize, and, if necessary, compensate for potential adverse effects on valley elderberry longhorn beetle during project construction:

- **VELB-1: Temporarily Fence All Elderberry Shrubs Adjacent to Construction Areas and Designate the Area as Environmentally Sensitive.** All elderberry shrubs that are located adjacent to construction areas, but can be avoided, shall be temporarily fenced and designated as environmentally sensitive areas. These areas shall be avoided by all construction personnel. Fencing shall be placed at least 20 feet from the dripline of each shrub, unless otherwise approved by USFWS.

- **VELB-2: Prohibit Use of Pesticides or Chemicals within 100 Feet of Elderberry Shrubs.** No insecticides, herbicides, or other chemicals that might harm the beetle or its host plant shall be used within 100 feet of the elderberry shrubs.

- **VELB-3: Water At Least Twice a Day any Dirt Roadways and Disturbed Areas within 100 Feet of Elderberry Shrubs.** Dirt roadways and disturbed areas within 100 feet of elderberry shrubs shall be watered at least twice a day to minimize dust emissions.

- **VELB-4: Transplant Elderberry Shrubs Requiring Removal to Riparian Habitat Creation Areas, or Alternative Transplant Areas.** Elderberry shrubs that require removal shall be transplanted to the riparian habitat creation areas. If none of the areas of suitable habitat to be created as part of the proposed project would be available before the impact would occur, alternative transplant locations shall be identified. Transplant activities shall be conducted in accordance with USFWS guidelines.

- If impacts on elderberry shrubs cannot be avoided, develop an appropriate and feasible mitigation plan and provide to USFWS for approval. The plan would include transplanting shrubs that require removal to a conservation area and planting additional seedlings or cuttings at a ratio ranging from 1:1 to 1:6, depending on the number of stems greater than or equal to 1 inch in diameter and whether beetle exit holes are found on the shrubs on site (USFWS 1999). The mitigation plan shall specify how to manage the elderberry transplant area to ensure that the appropriate habitat conditions are provided. At a minimum, the plan shall describe requirements for transplanting shrubs; specify the number of replacement elderberry shrubs and associated native plants to be established and associated success criteria; specify remedial measures to be undertaken if survival
success criteria are not met; and describe short- and long-term maintenance and management.

- If it is determined that implementation of a project element would result in take of this Federally listed species, despite implementation of avoidance and minimization measures, consultation with USFWS shall be required and an incidental take authorization may be required. All measures developed through consultation with USFWS shall be implemented, to mitigate adverse effects.

Sacramento River East Levee Improvements

There are numerous documented occurrences of valley elderberry longhorn beetle along the Sacramento River and elderberry shrubs are known to occur along the Sacramento River East Levee. Encroachment removal along the Sacramento River would be limited to removing approximately 15 retaining walls and residential landscaping (at approximately 40 locations) from the landside of the levee and one area of residential landscaping from the waterside of the levee. All of these areas are associated with residences and would have minimum potential for adverse impact to any elderberry shrubs; therefore, this proposed project element would have no impact. Implementation of levee improvements, vegetation management, and the Conservation Strategy in the Sacramento River East Levee Improvements area could result in adverse effects on, and potential loss of, blue elderberry shrubs occupied by valley elderberry longhorn beetles. This impact would be potentially significant. Mitigation Measure BIO-3, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of elderberry shrubs as appropriate.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-3 (Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Direct and Indirect Effects to Valley Elderberry Longhorn Beetle Habitat).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

There are numerous documented occurrences of valley elderberry longhorn beetle and elderberry shrubs are known to occur throughout the American River Parkway. No proposed project elements would occur within designated critical habitat for this species; therefore, none would be adversely modified. Encroachment removal along the American River would be limited to removing retaining walls, a sprinkler system, and some residential landscaping from the landside of the levee. All of these areas are associated with residences and are not anticipated to adversely affect any elderberry shrubs; therefore, this proposed project element would have no impact. Implementation of vegetation management and the Conservation Strategy in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area could result in adverse effects on, and potential loss of, blue elderberry shrubs occupied by valley elderberry longhorn beetles. This impact would be potentially significant. Mitigation Measure BIO-3, which is hereby adopted and incorporated into the project, would...
reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of elderberry shrubs as appropriate.

**Mitigation**

**Mitigation Measure:** Implement Mitigation Measure BIO-3 (Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Direct and Indirect Effects to Valley Elderberry Longhorn Beetle Habitat).

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of the NEMDC/Steelhead Creek CMP could result in adverse effects on, and potential loss of, blue elderberry shrubs occupied by valley elderberry longhorn beetles. This impact would be potentially significant. Mitigation Measure BIO-3, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of elderberry shrubs as appropriate.

**Mitigation**

**Mitigation Measure:** Implement Mitigation Measure BIO-3 (Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Direct and Indirect Effects to Valley Elderberry Longhorn Beetle Habitat).

**K. Impact BIO-4: Potential Disturbance or Loss of Giant Garter Snakes and Their Habitat**

**North Sacramento Streams Levee Improvements**

Although implementation of encroachment removal, vegetation management, the Conservation Strategy, portions of the NEMDC/Steelhead Creek CMP, and some levee improvement elements in the North Sacramento Streams Levee Improvements area and along the Beach Lake Levee would disturb marginally suitable habitat for this species, the giant garter snake is not expected to occur in these areas; therefore, this impact would be less than significant. Borrow extraction and implementation of the NEMDC/Steelhead Creek CMP along NEMDC/Steelhead Creek north of Dry Creek would occur in areas that provide higher-quality habitat and are closer to known occurrences of the species. These activities could result in disturbance, displacement, injury, or death of giant garter snakes, if present. Although the NEMDC/Steelhead Creek CMP would result in the enhancement of potentially suitable habitat for the giant garter snake, the potential loss of individual snakes and temporary disturbance of suitable habitat would be a potentially significant impact in this portion of the North Sacramento Streams Levee Improvements area. Mitigation Measures BIO-4a, BIO-4b, and BIO-4c, which are hereby adopted and incorporated into the Project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of giant garter snake habitat as appropriate.
Mitigation

Mitigation Measure BIO-4a: Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Effects to Giant Garter Snake.

SAFCA shall implement the following measures to avoid, minimize, and, if necessary, compensate for potential adverse effects on giant garter snake during project construction.

- **GGS-1: Avoid Construction Activities within 200 Feet from the Banks of Suitable Giant Garter Snake Habitat and Confine Movement of Heavy Equipment to Existing Roadways, Where Feasible in These Areas.** To the extent possible, construction activities shall be avoided within 200 feet from the banks of suitable giant garter snake habitat. Movement of heavy equipment in these areas shall be confined to existing roadways, where feasible, to minimize habitat disturbance.

- **GGS-2: Temporarily Fence and Designate Suitable Giant Garter Snake Habitat to be Avoided as an Environmentally Sensitive Area.** Suitable giant garter snake habitat to be avoided within or adjacent to construction areas shall be temporarily fenced and designated as environmentally sensitive areas. These areas shall be avoided by all construction personnel.

- **GGS-3: Limit Ground Disturbance within 200 Feet of Suitable Giant Garter Snake Habitat and Conduct Activities between May 1 and October 1.** Unless Authorized by USFWS. Unless authorized by USFWS, construction and other ground-disturbing activities within 200 feet of suitable aquatic habitat for the giant garter snake shall not commence before May 1, with initial ground disturbance expected to correspond with the snake’s active season (as feasible in combination with minimizing disturbance of nesting Swainson’s hawks). Initial ground disturbance shall be completed by October 1.

- **GGS-4: Ensure that Suitable Giant Garter Snake Aquatic Habitat that is Dewatered Remains Dry for 15 Consecutive Days after April 15 and if Not Possible, Potential Snake Prey is Removed.** Any suitable giant garter snake aquatic habitat that is dewatered shall remain dry for at least 15 consecutive days after April 15 and before excavating or filling of the dewatered habitat. If complete dewatering is not possible, potential snake prey (e.g., fish and tadpoles) shall be removed so that snakes and other wildlife are not attracted to the construction area.

- **GGS-5: Conduct a Preconstruction Survey within 200 Feet of Suitable Giant Garter Snake Habitat Within 24 Hours Before Commencement of Ground-Disturbing Activities.** Within 24 hours before the commencement of ground-disturbing activities, areas within 200 feet of suitable giant garter snake habitat shall be surveyed for giant garter snakes by a qualified biologist. The biologist shall provide USFWS with written documentation of the monitoring efforts within
48 hours after the survey is completed. The project area shall be reinspected by a qualified biologist whenever a lapse in construction activity of 2 weeks or greater has occurred.

- **GGS-6: Allow Snakes to Leave the Construction Area on Their Own and Notify USFWS and CDFW Immediately if a Giant Garter Snake is Found On Site.** No snakes shall be harassed, harmed, or killed, and they shall be allowed to leave the construction area on their own volition. If any snake is observed retreating into an underground burrow within the project limits, a 50-foot radius nondisturbance buffer zone shall be established until a qualified biologist determines that the snake is not a giant garter snake or the snake has left the area. The biologist shall notify USFWS and CDFW immediately if a giant garter snake is found on-site, and shall submit a report, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake.

- **GGS-7: Restore All Suitable Giant Garter Snake Habitat Subject to Temporary Ground Disturbance to Preproject Conditions.** After construction activities are complete, all suitable giant garter snake habitat subject to temporary ground disturbances, including storage and staging areas and temporary roads, shall be restored to preproject conditions. These areas shall be recontoured, if appropriate, and revegetated with appropriate native plant species to promote restoration of the area to preproject conditions. Appropriate methods and plant species used to revegetate such areas shall be determined on a site-specific basis in consultation with USFWS and CDFW.

- **GGS-8: Maintain and Monitor Temporarily-Disturbed Areas of Suitable Giant Garter Snake Habitat Following Completion of Construction and Restoration Activities.** Temporarily-disturbed areas of suitable giant garter snake habitat shall be maintained and monitored for 1 year following the completion of construction and restoration activities. Monitoring reports documenting restoration of these areas shall be submitted to USFWS and CDFW upon the completion of the restoration implementation and 1 year after the restoration implementation.

**Mitigation Measure BIO-4b: Implement Exclusionary Fencing at Borrow Site 2K.**

At least 10 days prior to the commencement of ground disturbing activities and after May 1, exclusionary fencing will be erected around the perimeter of Borrow Site 2K. Prior to fencing installation, the fence line shall be mowed (with a minimum height of 6 inches) in order to conduct a surface survey of potential burrows. Fencing shall be installed with a minimum of 6 inches buried in the ground and a minimum of 24 inches above ground. Fence staking shall be installed on the inside of the exclusion area. One-way escape funnels shall be installed every 50 – 100 feet and sealed along the fence line, to provide an escape for any giant garter snake that may be within the exclusion area. The fencing shall enclose the entirety of the site, or additional exclusionary fencing can be extended 200 – 400 feet beyond the proposed entrance area. The fencing will be inspected before the start of each work day and maintained by the project.
proponents until completion of the project. The fencing will be removed only when project activities within Borrow Site 2K are completed.

**Timing:** Before and during construction.

**Responsibility:** Construction Contractor and Sacramento Area Flood Control Agency.

**Mitigation Measure BIO-4c: Biological Monitoring at Borrow Site 2K.**

A biological monitor shall be on-site during all ground-disturbing activities at Borrow Site 2K.

**Timing:** During construction.

**Responsibility:** Construction Contractor and Sacramento Area Flood Control Agency.

If potentially occupied habitat for giant garter snake cannot be avoided during project construction, an appropriate and feasible mitigation plan to compensate for potential disturbance, displacement, injury, or death individuals shall be developed and provided to USFWS and, as necessary, CDFW for approval. Compensation for direct impacts may include preserving, enhancing, and/or creating giant garter snake habitat at an on- or off-site location. Appropriate mitigation ratios would be determined in coordination with USFWS; ratios typically required by USFWS depend on the duration of the impact and may range from 1 to 3 acres of replacement habitat for every 1 acre of habitat affected. If habitat creation is proposed, the mitigation plan shall include methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures to be implemented if the initial mitigation fails. Alternatively, purchasing credits at a mitigation bank approved by both USFWS and CDFW may be identified as appropriate mitigation.

If it is determined that implementation of a project element would result in take of giant garter snake, despite implementation of avoidance and minimization measures, authorization for take of giant garter snake under the Federal ESA and possibly CESA shall be obtained if it is determined that implementation of a project element is likely to result in take under either regulation. All measures developed through consultation with USFWS and CDFW shall be implemented to mitigate adverse effects.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Although implementation of encroachment removal, vegetation management, the Conservation Strategy, portions of the NEMDC/Steelhead Creek CMP, and some levee improvement elements in the North Sacramento Streams Levee Improvements area and along the Beach Lake Levee would disturb marginally suitable habitat for this species, the giant garter snake is not expected to occur in these areas; therefore, this impact would be less than significant. Borrow extraction and implementation of the NEMDC/Steelhead Creek CMP along NEMDC/Steelhead Creek north of Dry Creek would occur in areas that provide higher-quality habitat and are closer to known occurrences of the species. These activities could result in disturbance, displacement, injury, or death of giant garter snakes, if present. Although the
EXHIBIT B

NEMDC/Steelhead Creek CMP would result in the enhancement of potentially suitable habitat for the giant garter snake, the potential loss of individual snakes and temporary disturbance of suitable habitat would be a potentially significant impact in this portion of the North Sacramento Streams Levee Improvements area. Mitigation Measure BIO-4a, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid, minimize, and, if necessary, provide compensation for loss of giant garter snake habitat as appropriate.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure BIO-4a (Implement Conservation Strategy Measures to Avoid, Minimize, and Compensate for Effects to Giant Garter Snake).*

L. **Impact BIO-5: Potential Disturbance or Loss of Northwestern Pond Turtles and their Habitat**

North Sacramento Streams Levee Improvements

Implementation of levee improvements, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP, as well as the remaining areas for vegetation management, could result in disturbance, displacement, injury, or death of northwestern pond turtles. If northwestern pond turtles are present, dewatering or grading of suitable aquatic or upland habitat could strand, crush, or smother pond turtles. In addition, vegetation management could result in loss of vegetation cover is used during hibernation. Although the NEMDC/Steelhead Creek CMP would likely result in enhancement of pond turtle habitat in the North Sacramento Streams Levee Improvements area, this impact would be potentially significant throughout the study area. Mitigation Measure BIO-5, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance to pond turtles and their habitat.

**Mitigation**

*Mitigation Measure BIO-5: Implement Conservation Strategy Measures to Avoid and Minimize Effects to Northwestern Pond Turtle.*

SAFCA shall implement the following measures to avoid and minimize potential adverse effects on northwestern pond turtle during project construction.

- **TURT-1: Avoid Potential Northwestern Pond Turtle Nesting Habitat during the Nesting Season (April–August), to the Extent Feasible.** Ground-disturbing activities in areas of potential pond turtle nesting habitat shall be avoided during the nesting season (April–August), to the extent feasible.

- **TURT-2: Conduct A Preconstruction Survey for Northwestern Pond Turtles with Aquatic Habitats and Adjacent Suitable Uplands within 24 Hours of Project Disturbance and Immediately After Dewatering.** A preconstruction survey for northwestern pond turtles within aquatic habitats and adjacent suitable
uplands to be disturbed by project activities shall be conducted by a qualified biologist. In aquatic habitats to be dewatered during project construction, surveys shall be conducted immediately after dewatering and before any subsequent disturbance. Elsewhere, surveys shall be conducted within 24 hours before project disturbance.

- **TURT-3: Move Northwestern Pond Turtles to the Nearest Suitable Habitat Outside the Area if Found On-Site, with CDFW Approval.** If pond turtles are found during preconstruction surveys, a qualified biologist, with approval from CDFW, shall move the turtles to the nearest suitable habitat outside the area subject to project disturbance. The construction area shall be reinspected whenever a lapse in construction activity of 2 weeks or more has occurred.

**Sacramento River East Levee Improvements**

Implementation of levee improvements, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP, as well as the remaining areas for vegetation management, could result in disturbance, displacement, injury, or death of northwestern pond turtles. If northwestern pond turtles are present, dewatering or grading of suitable aquatic or upland habitat could strand, crush, or smother pond turtles. In addition, vegetation management could result in loss of vegetation cover is used during hibernation. Although the NEMDC/Steelhead Creek CMP would likely result in enhancement of pond turtle habitat in the North Sacramento Streams Levee Improvements area, this impact would be potentially significant throughout the study area. Mitigation Measure AG-2b and BIO-5, which are hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance to pond turtles and their habitat.

**Mitigation**

- **Mitigation Measure: Implement Mitigation Measure AG-2b (Implement Conservation Strategy Enhancements of Sacramento River Riparian Habitats).**

- **Mitigation Measure: Implement Mitigation Measure BIO-5 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Northwestern Pond Turtle) and Implement Mitigation Measure AG-2b (Implement Conservation Strategy Enhancements of Sacramento River Riparian Habitats).**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Implementation of levee improvements, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP, as well as the remaining areas for vegetation management, could result in disturbance, displacement, injury, or death of northwestern pond turtles. If northwestern pond turtles are present, dewatering or grading of suitable aquatic or upland habitat could strand, crush, or smother pond turtles. In addition, vegetation management could result in loss of vegetation cover is used during hibernation. Although the NEMDC/Steelhead Creek CMP would likely result in enhancement of pond turtle habitat in the North Sacramento Streams Levee
Improvements area, this impact would be potentially significant throughout the study area. Mitigation Measure BIO-5, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance to pond turtles and their habitat.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure BIO-5 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Northwestern Pond Turtle).**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of levee improvements, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP, as well as the remaining areas for vegetation management, could result in disturbance, displacement, injury, or death of northwestern pond turtles. If northwestern pond turtles are present, dewatering or grading of suitable aquatic or upland habitat could strand, crush, or smother pond turtles. In addition, vegetation management could result in loss of vegetation cover is used during hibernation. Although the NEMDC/Steelhead Creek CMP would likely result in enhancement of pond turtle habitat in the North Sacramento Streams Levee Improvements area, this impact would be potentially significant throughout the study area. Mitigation Measure BIO-5, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance to pond turtles and their habitat.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure BIO-5 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Northwestern Pond Turtle).**

M. **Impact BIO-6: Potential Loss of Burrowing Owl Individuals from Destruction of Occupied Burrows and Nest Disturbance**

**North Sacramento Streams Levee Improvements**

Implementation of levee improvements, vegetation management (except for the North Sacramento Streams Levee Improvements area), the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could result in temporary disturbance of potentially suitable habitat for burrowing owl. Ground-disturbing activities could destroy occupied burrows and result in injury or death of individuals. Construction activities also could disturb burrowing owls nesting nearby, potentially resulting in abandonment of active nest burrows. Therefore, impacts of implementing these elements would be potentially significant throughout the project study area. Mitigation Measure BIO-6, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance adjacent to occupied burrows and avoid direct or indirect loss of burrowing owls.
Mitigation

Mitigation Measure BIO-6: Implement Conservation Strategy Measures to Avoid and Minimize Effects to Burrowing Owl.

SAFCA shall implement the following measures to avoid and minimize potential adverse effects on burrowing owl during project construction.

- **OWL-1: Conduct an Assessment of Burrowing Owl Habitat Suitability in Areas Subject to Project-Related Disturbance and if Burrowing Owl Presence is Observed, Conduct a Focused Survey for Burrowing Owl.** A qualified biologist shall conduct an assessment of burrowing owl habitat suitability in areas subject to project-related disturbance. The assessment would evaluate the area subject to direct impact, as well as adjacent areas within up to 1,500 feet, depending on the potential extent of indirect impact. If suitable burrows or sign of burrowing owl presence are observed, a focused survey for burrowing owls would be conducted in areas of suitable habitat within the area of potential direct and indirect impact. The survey shall be conducted in accordance with Appendix D of the California Department of Fish and Game’s (CDFG [now CDFW]) Staff Report on Burrowing Owl Mitigation (CDFG 2012). A letter report documenting the survey methods and results shall be prepared and submitted to CDFW.

- **OWL-2: Consult with CDFW Regarding Best Approach to Avoid and Minimize Potential Impacts to Burrowing Owl if Active Burrows Are Observed and Implement Measures.** If any active burrows are observed, CDFW shall be consulted regarding the best approach to avoid and minimize potential impacts. Such measures may include implementation of protective buffers or passive relocation of owls during the non-breeding season, if it is infeasible to implement an adequate buffer. Passive relocation of owls shall be conducted in accordance with an exclusion and relocation plan developed in coordination with and approved by CDFW. The relocation plan shall describe methods for passive relocation of the owls, destruction of suitable burrows, and how the site shall be maintained to prevent owl reoccupation.

- **OWL-3: Provide a Protective Buffer for Occupied Burrows during the Breeding Seasons and Monitor Burrows to Ensure that Project Activities do Not Result in Adverse Effects on Nesting Burrowing Owls.** Burrows occupied during the breeding season (February 1 through August 31) shall be provided a protective buffer until a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg-laying or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer shall depend on distance from the nest to area of project disturbance, type and intensity of disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance. Monitoring shall be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting burrowing owls.
• **OWL-4: Instruct Construction Personnel of Potential Presence of Western Burrowing Owls and the Importance of Minimizing Impacts on Borrowing Owls and Their Habitat.** Before ground disturbance, all on-site construction personnel shall be instructed regarding the potential presence of western burrowing owls, identification of these owls and their habitat, and the importance of minimizing impacts on burrowing owls and their habitat.

### Sacramento River East Levee Improvements

Implementation of levee improvements, vegetation management (except for the North Sacramento Streams Levee Improvements area), the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could result in temporary disturbance of potentially suitable habitat for burrowing owl. Ground-damaging activities could destroy occupied burrows and result in injury or death of individuals. Construction activities also could disturb burrowing owls nesting nearby, potentially resulting in abandonment of active nest burrows. Therefore, impacts of implementing these elements would be potentially significant throughout the project study area. Mitigation Measure BIO-6, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance adjacent to occupied burrows and avoid direct or indirect loss of burrowing owls.

### Mitigation

**Mitigation Measure: Implement Mitigation Measure BIO-6 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Burrowing Owl).**

### American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Implementation of levee improvements, vegetation management (except for the North Sacramento Streams Levee Improvements area), the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could result in temporary disturbance of potentially suitable habitat for burrowing owl. Ground-damaging activities could destroy occupied burrows and result in injury or death of individuals. Construction activities also could disturb burrowing owls nesting nearby, potentially resulting in abandonment of active nest burrows. Therefore, impacts of implementing these elements would be potentially significant throughout the project study area. Mitigation Measure BIO-6, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance adjacent to occupied burrows and avoid direct or indirect loss of burrowing owls.
Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-6 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Burrowing Owl).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Implementation of levee improvements, vegetation management (except for the North Sacramento Streams Levee Improvements area), the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could result in temporary disturbance of potentially suitable habitat for burrowing owl. Ground-disturbing activities could destroy occupied burrows and result in injury or death of individuals. Construction activities also could disturb burrowing owls nesting nearby, potentially resulting in abandonment of active nest burrows. Therefore, impacts of implementing these elements would be potentially significant throughout the project study area. Mitigation Measure BIO-6, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize disturbance adjacent to occupied burrows and avoid direct or indirect loss of burrowing owls.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-6 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Burrowing Owl).

N. Impact BIO-7: Disturbance of Nesting Swainson’s Hawks, Potential Loss of Active Nests and Nest Trees, and Loss of Nesting and Foraging Habitat

North Sacramento Streams Levee Improvements

Levee improvements and vegetation management throughout the project study area would result in removal of suitable nest trees for Swainson’s hawk, potentially including active nests and nest trees. All project elements implemented in the project study area could result in disturbance of active nests, potentially resulting in nest failure. Therefore, these impacts would be potentially significant. Mitigation Measure BIO-7a, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.

Mitigation

Mitigation Measure BIO-7a: Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Swainson’s Hawks.

SAFCA shall implement the following measures to avoid and minimize potential adverse effects on nesting Swainson’s hawks during project construction.

- **SWH-1: Conduct Swainson’s Hawk Preconstruction Surveys in Suitable Nesting Habitat within 0.25-Mile of Project Disturbance within 14 Days of Project Activities.** Preconstruction surveys for active Swainson’s hawk nests shall be conducted by a qualified biologist in all areas of suitable nesting habitat.
within 0.25-mile of project disturbance. To the extent feasible, guidelines provided in Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in the Central Valley (Swainson’s Hawk Technical Advisory Committee 2000) will be followed. A minimum of one survey shall be conducted no more than 14 days before project activities commence. A letter report documenting the survey methods and results shall be prepared and submitted to CDFW.

- **SWH-2: Establish and Maintain Appropriate Buffers Around Active Swainson’s Hawk Nest Sites and Monitor Nest Site to Ensure that Project Activities are Not Adversely Affecting Nesting Birds or Their Young.** Appropriate buffers shall be established and maintained around active nest sites to avoid nest failure as a result of project activities. The appropriate size and shape of the buffers shall be determined by a qualified biologist, in coordination with CDFW, and may vary depending on the nest location, nest stage, and construction activity. The buffers may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. Monitoring shall be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence 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.

- **SBR-4: Conduct Vegetation Removal Between September 16 and January 31 to the Extent Feasible.** Vegetation removal, particularly tree removal, shall be conducted between September 16 and January 31, to the extent feasible, to minimize potential loss of active bird nests.

### Sacramento River East Levee Improvements

Within the Sacramento River East Levee Improvements area, up to approximately 75 acres of suitable foraging habitat at the potential mitigation site north of the Stone Lakes Wildlife Refuge could be converted to woodland. This could have a substantial adverse effect on Swainson’s hawk and would be a potentially significant impact. Levee improvements and vegetation management throughout the project study area would result in removal of suitable nest trees for Swainson’s hawk, potentially including active nests and nest trees. All project elements implemented in the project study area could result in disturbance of active nests, potentially resulting in nest failure. Therefore, these impacts would be potentially significant. Mitigation Measures BIO-7a, AG-2b, and BIO-7b, which are hereby adopted and incorporated into the Project, would reduce this impact to a less-than-significant level because the project would compensate for loss to nesting habitat, and because design of the woodland creation area will include ways to minimize effects on foraging habitat and additional compensation habitat would be preserved if necessary.

### Mitigation

**Mitigation Measure: Implement Mitigation Measure BIO-7a (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Swainson’s Hawks) and**
Implement Mitigation Measure AG-2b (Implement Conservation Strategy Enhancements of Sacramento River Riparian Habitats).

Mitigation Measure BIO-7b: Minimize Adverse Impact of Swainson’s Hawk Foraging Habitat Loss and Compensate for Substantial Loss.

SAFCA shall implement the following measures to minimize and compensate for potential substantial adverse effects from loss of Swainson’s hawk foraging habitat.

- If the potential woodland mitigation site north of Stone Lakes National Wildlife Refuge is used, design of the woodland creation area shall include ways to minimize effects on foraging habitat, such as focusing the planting area on the southern portion of the site, which is already surrounded by woodland on three sides, and on the western side in the northern portion of the area.

- Activities associated with the woodland planting shall be implemented between September 1 and April 1, when adverse effects of foraging habitat conversion would be minimized.

- CDFW shall be consulted regarding the woodland mitigation and potential adverse effects on Swainson’s hawk foraging opportunities. Through consultation, it may be determined that compensation is required to offset adverse effects of foraging habitat loss. If so, an appropriate and feasible mitigation plan will be developed and provided to CDFW, for approval. Compensation may include preserving and/or enhancing Swainson’s hawk foraging habitat at an on- or off-site location. Appropriate mitigation ratios would be determined in coordination with CDFW; ratios may vary depending on the proximity of lost habitat to active nests and the habitat protection and management mechanisms. If habitat creation is proposed, the mitigation plan shall include methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures to be implemented if the initial mitigation fails. Alternatively, participating in the Sacramento County Swainson’s Hawk Mitigation Program or purchasing credits at a CDFW-approved mitigation bank may be identified as appropriate mitigation.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Levee improvements and vegetation management throughout the project study area would result in removal of suitable nest trees for Swainson’s hawk, potentially including active nests and nest trees. All project elements implemented in the project study area could result in disturbance of active nests, potentially resulting in nest failure. Therefore, these impacts would be potentially significant. Mitigation Measure BIO-7a, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.
Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-7a (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Swainson’s Hawks).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Levee improvements and vegetation management throughout the project study area would result in removal of suitable nest trees for Swainson’s hawk, potentially including active nests and nest trees. All project elements implemented in the project study area could result in disturbance of active nests, potentially resulting in nest failure. Therefore, these impacts would be potentially significant. Mitigation Measure BIO-7a, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-7a (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Swainson’s Hawks).

O. Impact BIO-8: Disturbance of Nesting Special-status Birds and Common Raptor Species, Loss of Foraging Habitat, and Potential Loss of Active Nests

North Sacramento Streams Levee Improvements

Implementation of levee improvements and vegetation management throughout the project study area would result in removal of potentially suitable nesting habitat for special-status birds and nesting raptors, potentially including active nests and nest trees. The proposed project could also result in disturbance of active nests, potentially resulting in nest failure. Although woodland creation would result in conversion of grassland and agricultural foraging habitat, extensive areas of similar habitat are present in the vicinity of the project study area, and loss of this habitat would not substantially reduce foraging opportunities. Nonetheless, potential impacts on active nests would be potentially significant throughout the project study area. Mitigation Measure BIO-8, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.

Mitigation

Mitigation Measure BIO-8: Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Special-status Birds, Common Raptor Species, and Colonial-nesting Egrets and Herons.

SAFCA shall implement the following measures to avoid and minimize potential adverse effects on nesting special-status birds, common raptors, and colonial-nesting egrets and herons during project construction.
EXHIBIT B

- **SBR-4: Conduct Vegetation Removal between September 16 and January 31 to the Extent Feasible.** Vegetation removal, particularly tree removal, shall be conducted between September 16 and January 31, to the extent feasible, to minimize potential loss of active bird nests.

- **NBRD-1: Conduct Surveys for Active Bird Nests in Areas of Suitable Nest Vegetation Designated for Removal.** If vegetation removal must occur during the nesting season for common birds (March 1 through August 31), surveys for active bird nests shall be conducted by a qualified biologist in areas of suitable nesting vegetation designated for removal.

- **SSB-1: Conduct Preconstruction Surveys for Active Nests of Special-Status Birds, Common Raptor Species, and Colonial-nest Egrets and Herons in Areas of Suitable Habitat up to 1,000 Feet of Areas Subject to Project Disturbance within 14 Days before Commencement of Construction.** Preconstruction surveys for active nests of special-status birds, common raptor species, and colonial-nesting egrets and herons shall be conducted by a qualified biologist in all areas of suitable habitat. Surveys for raptor nests and colonies of special status-status birds (i.e., tricolored blackbird) and egrets/herons would include suitable habitat within up to 1,000 feet of areas subject to project disturbance, depending on the potential extent of indirect impact. Surveys for nests of solitary-nesting special-status birds would include suitable habitat within up to 200 feet of the disturbance areas. Surveys shall be conducted within 14 days before commencement of any construction activities that occur during the nesting season (February 1 to August 31) in a given area.

- **SSB-2 and NBRD-2: Establish Buffers Around Active Nest Sites to Avoid Nest Failure and Monitor Nest Sites to Confirm that Project Activities Are Not Adversely Affecting the Nesting Birds or Their Young.** If any active nests, or behaviors indicating active nests are present, are observed, appropriate buffers around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from project activities. The size of the buffer shall depend on the species, nest location, nest stage, and specific construction activities to be performed while the nest is active. The buffers may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. If buffers are adjusted, monitoring shall be conducted to confirm that project activity is not resulting in detectable adverse effects on nesting birds or their young. No project activity shall commence 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.

**Sacramento River East Levee Improvements**

Implementation of levee improvements and vegetation management throughout the project study area would result in removal of potentially suitable nesting habitat for special-status birds and nesting raptors, potentially including active nests and nest trees. The proposed project could also result in disturbance of active nests, potentially resulting in nest failure.
Although woodland creation would result in conversion of grassland and agricultural foraging habitat, extensive areas of similar habitat are present in the vicinity of the project study area, and loss of this habitat would not substantially reduce foraging opportunities. Nonetheless, potential impacts on active nests would be potentially significant throughout the project study area. Mitigation Measure BIO-8, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure BIO-8 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Special-status Birds, Common Raptor Species, and Colonial-nesting Egrets and Herons).**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Implementation of levee improvements and vegetation management throughout the project study area would result in removal of potentially suitable nesting habitat for special-status birds and nesting raptors, potentially including active nests and nest trees. The proposed project could also result in disturbance of active nests, potentially resulting in nest failure. Although woodland creation would result in conversion of grassland and agricultural foraging habitat, extensive areas of similar habitat are present in the vicinity of the project study area, and loss of this habitat would not substantially reduce foraging opportunities. Nonetheless, potential impacts on active nests would be potentially significant throughout the project study area. Mitigation Measure BIO-8, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure BIO-8 (Implement Conservation Strategy Measures to Avoid and Minimize Effects to Nesting Special-status Birds, Common Raptor Species, and Colonial-nesting Egrets and Herons).**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of levee improvements and vegetation management throughout the project study area would result in removal of potentially suitable nesting habitat for special-status birds and nesting raptors, potentially including active nests and nest trees. The proposed project could also result in disturbance of active nests, potentially resulting in nest failure. Although woodland creation would result in conversion of grassland and agricultural foraging habitat, extensive areas of similar habitat are present in the vicinity of the project study area, and loss of this habitat would not substantially reduce foraging opportunities. Nonetheless, potential impacts on active nests would be potentially significant throughout the project study area.
Mitigation Measure BIO-8, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will avoid and minimize nest disturbance and ensure no active nests are lost as a result of the project.

**Mitigation**


**P. Impact BIO-9: Potential Disturbance or Loss of Roosting Special-status Bats**

Sacramento River East Levee Improvements

Implementation of levee improvements and vegetation management along the Sacramento River East Levee Improvements area and vegetation management along the American River portion of the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would result in removal of many large riparian trees that could support roost sites of special-status bats. If maternity roosts of special-status bats are present in trees to be removed, mortality of a substantial number of individuals could occur. Therefore this impact would be potentially significant. Mitigation Measure BIO-9, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will minimize removal of potential maternity roost trees during the pupping season and avoid removal of active maternity roosts.

**Mitigation**

Mitigation Measure BIO-9: Avoid and Minimize Disturbance and Loss of Roosting Special-Status Bats.

SAFCA shall implement the following measures to avoid and minimize potential disturbance or loss of roosting special-status bats.

- **BAT-1: Conduct Bat Surveys for Active Maternity Roosts for Trees With Suitable Roost Cavities or Dense Cover Designated for Removal.** If removal of trees with suitable roost cavities and/or dense cover must occur during the bat pupping season (April 1 through July 31), surveys for active maternity roosts shall be conducted by a qualified biologist in trees designated for removal. A habitat assessment and daylight survey of suitable trees and structures shall be conducted to determine if there is evidence of suitable roost cavities. These surveys shall be followed up with nighttime emergence surveys, conducted from dusk until dawn, to detect presence.

- **BAT-2: Establish Appropriate Buffers around Roost Sites to Avoid Destruction or Abandonment and Prohibit all Construction Activity until the End of the Pupping Season.** If a special-status bat maternity roost is located, appropriate buffers around the roost sites shall be determined by a qualified
biologist and implemented to avoid destruction or abandonment of the roost resulting from tree removal or other project activities. The size of the buffer shall depend on the species, roost location, and specific construction activities to be performed in the vicinity. No project activity shall commence within the buffer areas until the end of the pupping season (August 1) or until a qualified biologist confirms the maternity roost is no longer active.

- **SBR-4: Conduct Vegetation Removal between September 16 and January 31 to the Extent Feasible.** Vegetation removal, particularly tree removal, shall be conducted between September 16 and January 31, to the extent feasible, to minimize potential loss of bat maternity roosts.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Implementation of levee improvements and vegetation management along the Sacramento River East Levee Improvements area and vegetation management along the American River portion of the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would result in removal of many large riparian trees that could support roost sites of special-status bats. If maternity roosts of special-status bats are present in trees to be removed, mortality of a substantial number of individuals could occur. Therefore this impact would be potentially significant. Mitigation Measure BIO-9, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will minimize removal of potential maternity roost trees during the pupping season and avoid removal of active maternity roosts.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure BIO-9 (Implement Conservation Strategy Measures to Avoid and Minimize Disturbance and Loss of Roosting Special-Status Bats).

**Q. Impact BIO-10: Disturbance and Loss of Sensitive Habitats, including Riparian Habitat, and Fill of Jurisdictional Waters of the U.S. and Waters of the State**

**North Sacramento Streams Levee Improvements**

Implementation of the levee improvements in the North Sacramento Streams Levee Improvements area, levee improvements and vegetation management in the Sacramento River East Levee Improvement area, vegetation management in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area, and the NEMDC/Steelhead Creek CMP could result in disturbance, degradation, or removal of sensitive habitats that are ranked as NCSC (including riparian habitats) and permanent fill of potentially jurisdictional Waters of the U.S. and waters of the State. Waterways and associated riparian habitats protected under California Fish and Game Code also would be removed or altered during implementation of these elements. Therefore, this impact would be potentially significant or significant, depending on where the proposed project elements occur. Mitigation Measure
BIO-10, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because direct and indirect impacts to sensitive habitats will be avoided, minimized, and mitigated for on a no-net-loss basis.

*Mitigation*

**Mitigation Measure BIO-10: Implement Conservation Strategy Measures to Avoid, Minimize, and Mitigate for Unavoidable Impacts on Sensitive Habitats on a No-Net-Loss Basis.**

SAFCA shall implement the following measures to avoid, minimize, and, if necessary, compensate for the direct fill of Waters of the U.S. and waters of the State and loss of riparian habitat and NCSC.

- **CM-1: Limit Ground Disturbance to Construction Areas and Avoid and Limit Disturbance to River and Creek Banks and Habitats when Feasible.** Ground disturbance shall be limited to construction areas, including necessary access routes and staging areas. The number of access routes, size of staging areas, and total area of the project activity shall be limited to the minimum necessary. When possible, existing access routes and points shall be used. All roads, staging areas, and other facilities shall be placed to avoid and limit disturbance to river and creek banks and habitat when feasible.

- **CM-10: Prepare and Implement a Storm Water Pollution Prevention Plan.** A Storm Water Pollution Prevention Plan that identifies specific best management practices to avoid and minimize impacts on water quality during construction activities shall be prepared and implemented. Best management practices may include:

  - **CM-11: Install, Monitor, and Maintain Erosion Control Measures that Minimize Soil or Sediment from Entering Waterways or Wetlands.** Erosion control measures that minimize soil or sediment from entering waterways and wetlands shall be installed, monitored for effectiveness, and maintained throughout construction operations.

  - **CM-14: Implement Precautionary Measures to Minimize Turbidity/Siltation during Construction.** Precautions to minimize turbidity/siltation shall be implemented during construction. This may require placing barriers (e.g., silt curtains) to prevent silt and/or other deleterious materials from entering downstream reaches.

  - **CM-23: Prevent Any Contaminated Construction By-Products from Entering Flowing Waters; Collect and Transport Such By-Products to An Authorized Disposal Area.** Petroleum products, chemicals, fresh cement, and construction by-products containing, or water contaminated by, any such materials shall not be allowed to enter flowing waters and shall be collected and transported to an authorized upland disposal area.
CM-25: Prepare and Implement a Spill Prevention and Control Plan. A written spill prevention and control plan (SPCP) shall be prepared and implemented. The SPCP and all material necessary for its implementation shall be accessible on-site prior to initiation of project construction and throughout the construction period. The SPCP shall include a plan for the emergency cleanup of any spills of fuel or other material. Employees/construction workers shall be provided the necessary information from the SPCP to prevent or reduce the discharge of pollutants from construction activities to waters and to use the appropriate measures should a spill occur. In the event of a spill, work shall stop immediately and CDFW, USFWS, National Marine Fisheries Service (NMFS), Central Valley RWQCB, and USACE shall be notified within 24 hours.

SBR-2: Erect High-Visibility Fencing to Protect Sensitive Biological Resource Areas, Inspect Fencing Daily, and Incorporate Sensitive Habitat Information into Bid Specifications. Before the commencement of construction activities, high-visibility fencing shall be erected to protect areas of sensitive biological resources that are located adjacent to construction areas, but can be avoided, from encroachment of personnel and equipment. The fencing shall be inspected before the start of each work day and shall be removed only when the construction within a given area is completed. Sensitive habitat information shall be incorporated into project bid specifications, along with a requirement for contractors to avoid these areas.

SBR-3: Monitor Construction Activities in Sensitive Biological Resource Areas and Stop Work if Unauthorized Project Impacts Occur. A qualified biologist shall monitor all construction activities in sensitive biological resource areas to ensure that avoidance and minimization measures are being properly implemented and no unauthorized activities occur. The biological monitor shall be empowered to stop construction activities that threaten to cause unanticipated and/or unauthorized project impacts. Project activity shall not resume until the conflict has been resolved.

If sensitive habitats cannot be avoided during project construction, an appropriate and feasible mitigation plan to compensate for loss of these habitats shall be developed and provided to the appropriate regulatory agencies for approval. The plan shall detail appropriate compensation measures determined through consultation with the respective regulatory agencies, methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures to be implemented if the initial mitigation fails. The plan shall be developed in consultation with and approved by the appropriate regulatory agencies before construction activities begin in areas containing sensitive habitats.

If it is determined that implementation of a project element would result in direct impacts to sensitive habitats, despite implementation of avoidance and minimization measures, compliance with the following regulatory permitting processes shall be obtained. All measures developed through consultation with the respective regulatory agencies shall be implemented, to mitigate adverse effects.
• **Section 404:** Before any ground-disturbing project activities begin in areas containing wetlands or waters, a qualified biologist shall conduct a formal delineation of Waters of the U.S. for CWA Section 404 permitting. The findings shall be documented in a detailed report and submitted to the USACE for verification as part of the formal Section 404 wetland delineation process.

For those Waters of the U.S. that cannot be avoided during project construction, the acreage and function of all wetlands and other waters that would be removed as a result of project implementation shall be replaced or restored on a “no-net-loss” basis. Authorization for fill of jurisdictional Waters of the U.S. shall be secured from USACE via the Section 404 permitting process before project implementation. Any mitigation measures determined necessary during the 404 permitting process shall be implemented during project construction.

• **Section 401:** Water quality certification pursuant to Section 401 of the CWA shall be obtained from the Central Valley RWQCB before starting project construction in any areas that may contain waters of the State. Any measures required as part of the issuance of water quality certification shall be implemented. A report of waste discharge shall be filed with the Central Valley RWQCB and all waste discharge requirements prescribed by the Central Valley RWQCB pursuant to the Porter-Cologne Act shall be complied with before starting construction in any areas containing waters of the State that are not also waters of United States.

A qualified wetland biologist shall develop and implement a conceptual wetland mitigation and monitoring plan (MMP) describing compensation for the loss of jurisdictional wetlands, including appropriate wetland replacement ratios to replace the loss of aquatic functions as determined by USACE, as well as loss of waters of the State disclaimed by USACE and as determined by Central Valley RWQCB. At a minimum, wetlands and other waters lost through implementation of the proposed project shall be replaced at a 1:1 ratio and implementing the plan shall be required to provide compensation resulting in no-net-loss of wetlands functions and values of waters of the State. The MMP shall quantify the total jurisdictional acreage lost and describe creation/replacement ratios for acres filled, annual success criteria, mitigation sites, and monitoring and maintenance requirements. Compensatory wetland mitigation for the proposed project could be provided within the project study area and/or another location, as a component of the proposed project’s Conservation Strategy element, pending approval from USACE and Central Valley RWQCB.

• **Section 1602:** A CDFW streambed alteration agreement shall be obtained under Section 1602 of the California Fish and Game Code for all work on the waterside of the levees. A riparian habitat mitigation plan resulting in no net loss of riparian functions and values shall be prepared to compensate for loss of riparian vegetation along the rivers and creeks in the project study area. In addition, the habitat mitigation plan shall include methods to compensate for loss of valley oak woodland that may not be covered under the streambed alteration agreement. Valley oak woodland removed as a result of project actions shall be replaced on a no-net-loss basis in the same manner as riparian habitats covered under Section
1602 of the California Fish and Game Code. Mitigation may be accomplished through replacement, enhancement of degraded habitat, or off-site mitigation at an established mitigation bank. The wetland mitigation plan developed for impacts on wetlands and other Waters of the U.S. may be suitable if it adequately covers project construction activities within CDFW-designated sensitive habitats or waterways under CDFW jurisdiction. Any conditions of issuance of the streambed alteration agreement, including minimization and compensation measure, shall be implemented as part of project implementation.

Sacramento River East Levee Improvements

Implementation of the levee improvements in the North Sacramento Streams Levee Improvements area, levee improvements and vegetation management in the Sacramento River East Levee Improvement area, vegetation management in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area, and the NEMDC/Steelhead CreekCMP could result in disturbance, degradation, or removal of sensitive habitats that are ranked as NCSC (including riparian habitats) and permanent fill of potentially jurisdictional Waters of the U.S. and waters of the State. Waterways and associated riparian habitats protected under California Fish and Game Code also would be removed or altered during implementation of these elements. Therefore, this impact would be potentially significant or significant, depending on where the proposed project elements occur. Mitigation Measure BIO-10, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because direct and indirect impacts to sensitive habitats will be avoided, minimized, and mitigated for on a no-net-loss basis.

Mitigation

Mitigation Measure: Implement Mitigation Measure BIO-10 (Implement Conservation Strategy Measures to Avoid, Minimize, and Mitigate for Unavoidable Impacts on Sensitive Habitats on a No-Net-Loss Basis).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Implementation of the levee improvements in the North Sacramento Streams Levee Improvements area, levee improvements and vegetation management in the Sacramento River East Levee Improvement area, vegetation management in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area, and the NEMDC/Steelhead CreekCMP could result in disturbance, degradation, or removal of sensitive habitats that are ranked as NCSC (including riparian habitats) and permanent fill of potentially jurisdictional Waters of the U.S. and waters of the State. Waterways and associated riparian habitats protected under California Fish and Game Code also would be removed or altered during implementation of these elements. Therefore, this impact would be potentially significant or significant, depending on where the proposed project elements occur. Mitigation Measure BIO-10, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because direct and indirect impacts to sensitive habitats will be avoided, minimized, and mitigated for on a no-net-loss basis.
**Mitigation**

Mitigation Measure: Implement Mitigation Measure BIO-10 (Implement Conservation Strategy Measures to Avoid, Minimize, and Mitigate for Unavoidable Impacts on Sensitive Habitats on a No-Net-Loss Basis).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Implementation of the levee improvements in the North Sacramento Streams Levee Improvements area, levee improvements and vegetation management in the Sacramento River East Levee Improvement area, vegetation management in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area, and the NEMDC/Steelhead Creek CMP could result in disturbance, degradation, or removal of sensitive habitats that are ranked as NCSC (including riparian habitats) and permanent fill of potentially jurisdictional Waters of the U.S. and waters of the State. Waterways and associated riparian habitats protected under California Fish and Game Code also would be removed or altered during implementation of these elements. Therefore, this impact would be potentially significant or significant, depending on where the proposed project elements occur. Mitigation Measure BIO-10, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because direct and indirect impacts to sensitive habitats will be avoided, minimized, and mitigated for on a no-net-loss basis.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure BIO-10 (Implement Conservation Strategy Measures to Avoid, Minimize, and Mitigate for Unavoidable Impacts on Sensitive Habitats on a No-Net-Loss Basis).

R. Impact BIO-11: Interference with Terrestrial Wildlife Movement, Migration Corridors, and Nursery Sites

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Movement of terrestrial wildlife through corridors that are disrupted during implementation of the NEMDC/Steelhead Creek CMP is not anticipated to be substantially affected. However, the Dry Creek/Robla Creek corridor has been known to support nesting/nursery colonies of egrets and herons. Therefore, impacts from implementation of the NEMDC/Steelhead Creek CMP would be potentially significant. Mitigation Measure BIO-8, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because the project will minimize colony disturbance and ensure abandonment of active nest colonies does not result from project activities.

**Mitigation**

S. Impact BIO-12: Conflict with Tree Preservation Policies or Ordinances during Construction

North Sacramento Streams Levee Improvements

Implementation of levee improvements and vegetation management throughout the project study area could result in removal of trees protected under the Sacramento County General Plan, Sacramento County Tree Preservation and Protection Ordinance, and the City of Sacramento Tree Ordinances. While the Conservation Strategy includes woodland replacement to compensate for removal of trees in the project study area, the details of this habitat creation have not been developed; therefore, this impact would be potentially significant. Mitigation Measure BIO-12, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because trees will be avoided and any trees that will be removed will be compensated for either on- or off-site.

Mitigation

Mitigation Measure BIO-12: Implement Conservation Strategy Measures to Avoid and Mitigate for Adverse Effects on Protected Trees.

SAFCA shall implement the following measure to avoid and, if necessary, mitigate for adverse impacts associated with the removal of protected trees because of implementation of project elements:

- TREE-1: Avoid Trees Protected Under Local Policies and Ordinances, to the Extent Feasible. Trees that qualify for protection under local policies and ordinances shall be avoided during construction, to the extent feasible. A qualified botanist shall clearly mark tree(s) to be avoided if such trees are located outside of areas of sensitive biological resources that have been temporarily fenced for avoidance.

If protected trees cannot be avoided during project construction, an appropriate and feasible mitigation plan to compensate for loss of these trees shall be developed and provided to the City and County for approval. The mitigation plan may include replacement with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed; this would likely be achieved through implementation of the Conservation Strategy. This effort may require consultation with Sacramento County and the City of Sacramento to determine what type of approval or permit may be required for tree removal. If further mitigation is required, off-site mitigation may be considered that preserves, enhances, and maintains a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity.

Sacramento River East Levee Improvements

Implementation of levee improvements and vegetation management throughout the project study area could result in removal of trees protected under the Sacramento County
General Plan, Sacramento County Tree Preservation and Protection Ordinance, and the City of Sacramento Tree Ordinances. While the Conservation Strategy includes woodland replacement to compensate for removal of trees in the project study area, the details of this habitat creation have not been developed; therefore, this impact would be potentially significant. Mitigation Measure BIO-12, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because trees will be avoided and any trees that will be removed will be compensated for either on- or off-site.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure BIO-12 (Implement Conservation Strategy Measures to Avoid and Mitigate for Adverse Effects on Protected Trees).*

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Implementation of levee improvements and vegetation management throughout the project study area could result in removal of trees protected under the Sacramento County General Plan, Sacramento County Tree Preservation and Protection Ordinance, and the City of Sacramento Tree Ordinances. While the Conservation Strategy includes woodland replacement to compensate for removal of trees in the project study area, the details of this habitat creation have not been developed; therefore, this impact would be potentially significant. Mitigation Measure BIO-12, which is hereby adopted and incorporated into the project, would reduce this impact to a less-than-significant level because trees will be avoided and any trees that will be removed will be compensated for either on- or off-site.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure BIO-12 (Implement Conservation Strategy Measures to Avoid and Mitigate for Adverse Effects on Protected Trees).*

**T. Impact CR-2: Damage to or Destruction of Known Archaeological Sites**

**Sacramento River East Levee Improvements**

It is possible that previously unrecorded archaeological sites could be unearthed and damaged or destroyed in the Sacramento River East Levee Improvements and American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas, where project-related earthmoving activities would occur. Therefore, this impact would be potentially significant. Mitigation Measure CR-2a, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with sites 34-000057/CA-SAC-30, and 34-000069/CA-SAC-42, 34-000070/CA-SAC-43, and CA-P-34-619/CA-SAC-505-H to a less-than-significant level because the measure requires that monitoring be implemented, and if cultural materials (including human remains) are encountered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented. These measures will be implemented all in consultation with a professional archaeologist and in accordance with State
CEQA Guidelines Section CCR 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. If the discovery is potentially human remains, compliance with California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. would be required.

**Mitigation**

**Mitigation Measure CR-2a: Conduct Archaeological Monitoring during Ground Disturbance within 100 feet of Known Archaeological Resources and Prepare and Implement a Monitoring Plan.**

- SAFCA shall retain the services of a professional archaeologist to prepare and implement a monitoring plan. The archaeologist and SAFCA shall seek the input of Native American tribes that are traditionally and culturally affiliated with the geographic area. The plan shall contain, at a minimum, the following elements:
  - background context;
  - relevant project components that may impact anticipated archaeological resources;
  - definition of the construction footprint, including the use of a buffer around the construction footprint;
  - archaeological sensitivity of the construction footprint;
  - archaeological monitor qualifications;
  - monitoring procedures;
  - the activities to be monitored;
  - chain of command;
  - procedures for discoveries during construction;
  - procedures for discovery of human remains;
  - laboratory and analysis methodologies;
  - daily monitoring documentation requirements; and
  - final monitoring report requirements.

- SAFCA shall retain the services of a professional prehistoric archaeologist and a Native American monitor during on-site earthwork within 100 feet of the recorded site boundaries of P-34-219/CA-SAC-192, P-34-66/CA-SAC-39, 34-000069/CA-SAC-42, 34-000057/CA-SAC-30, and 34-000070/CA-SAC-43. In
addition, a professional historical archaeologist shall monitor ground-disturbing activities adjacent to and within the site boundary of P-34-749/SAC-574H and P-34-858/SAC-657H.

If cultural materials (e.g., unusual amounts of shell, animal bone, historic-era glass, metal, or ceramics, human remains) are encountered during project-related construction activities, SAFCA, in consultation with the qualified archaeologist, shall develop additional appropriate protection measures. If the cultural material is Native American in origin, SAFCA shall seek the input of Native American tribes that are traditionally and culturally affiliated with the geographic area. Measures shall comply with State CEQA Guidelines CCR Section 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. Additional protection measures may include, but are not necessarily limited to, additional documentary research, subsurface testing, excavation, and preservation in-place.

If the discovery could potentially be human remains, work shall stop and the appropriate procedures described in California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. shall be implemented. Protection measures may include, but are not necessarily limited to, redesign of the project to avoid archaeological resources, capping the site with a layer of fill, excavation and removal of the burial under the direction of a qualified archaeologist, reburial of the discovery according to the wishes of the designated Most Likely Descendant (MLD), preservation in place, or other protection measures that are mutually acceptable to the SAFCA and to the Native American representative/s.

Project personnel shall not collect archaeological/cultural resource material found on the project site.

Native American representative/s shall be provided with hard copies and digital copies of any reports documenting inadvertent discovery of cultural resources on site and shall be consulted regarding the need for additional excavation and further laboratory analysis.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

It is possible that previously unrecorded archaeological sites could be unearthed and damaged or destroyed in the Sacramento River East Levee Improvements and American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas, where project-related earthmoving activities would occur. Therefore, this impact would be potentially significant. Mitigation Measure CR-2a and CR-2b, which are hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with sites P-34-219/CA-SAC-192, P-34-749/CA-SAC-574H, P-34-66/CA-SAC-39, and P-34-858/CA-SAC-657H to a less-than-significant level because SAFCA will conduct monitoring, prepare and implement a monitoring plan, and require that the project be designed to avoid the two cultural sites at the Woodlake riparian planting location if cultural materials (including human remains) are encountered during project-related construction activities. Disturbances in the area
Mitigation

Mitigation Measure: Implement Mitigation Measure CR-2a (Conduct Archaeological Monitoring during Ground Disturbance within 100 feet of Known Archaeological Resources and Prepare and Implement a Monitoring Plan).

Mitigation Measure CR-2b: Avoid Archaeological Sites P-34-66/CA-SAC-39 and P-34-858/CA-SAC-657H.

- SAFCA shall locate the approximately 5-acre Woodlake planting site and all associated staging areas in a location that is at least 100 feet away from the recorded boundaries of sites P-34-66/CA-SAC-39 and P-34-858/CA-SAC-657H.

- SAFCA shall use temporary fencing around the recorded boundaries of sites P-34-66/CA-SAC-39 and P-34-858/CA-SAC-657H to avoid encroaching on the archaeological sites during project-related activities.

U. Impact CR-3: Damage to or Destruction of Previously Undiscovered Archaeological Sites

North Sacramento Streams Levee Improvements

It is possible that previously unknown archaeological sites could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, NEMDC/Steelhead Creek CMP areas. Mitigation Measure CR-3, which is hereby adopted and incorporated into the project, would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of presently undocumented cultural resources to a less-than-significant level because it requires that if cultural materials (including human remains) are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, all in consultation with a professional archaeologist and in accordance with State CEQA Guidelines CCR Section 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. If the discovery could potentially be human remains, compliance with California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. would be required.
Mitigation

Mitigation Measure CR-3: Implement Procedures for Inadvertent Discovery of Cultural Resources.

SAFCA shall retain the services of a professional archaeologist to perform monitoring during on-site earthwork, with appropriate actions if potential cultural resources are discovered, as described below.

- If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, human remains, bottle glass, ceramics, building remains) is made at any other time during project-related construction activities, SAFCA, in consultation with the qualified archaeologist, shall develop additional appropriate protection measures. If the cultural material is Native American in origin, SAFCA shall seek the input of Native American tribes that are traditionally and culturally affiliated with the geographic area. Measures shall comply with State CEQA Guidelines CCR Section 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. Additional protection measures may include, but are not necessarily limited to, additional documentary research, subsurface testing, excavation, and preservation in place.

- If the discovery could potentially be human remains, work shall stop and the appropriate procedures described in California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. shall be implemented. Protection measures may include, but are not necessarily limited to, redesign of the project to avoid archaeological resources, capping the site with a layer of fill, excavation, removal of the burial under the direction of a qualified archaeologist, reburial of the discovery according to the wishes of the designated MLD, preservation in place, or other protection measures that are mutually acceptable to SAFCA and to the Native American representative(s).

- Project personnel shall not collect archaeological material found on the project site.

- Native American representative/s shall be provided with hard copies and digital copies of any reports documenting inadvertent discovery of cultural resources on site and shall be consulted regarding the need for additional excavation and further laboratory analysis.

Sacramento River East Levee Improvements

It is possible that previously unknown archaeological sites could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, NEMDC/Steelhead Creek CMP areas. Mitigation
Mitigation Measure CR-3, which is hereby adopted and incorporated into the project, would reduce the potential for a significant impact resulting from inadvertent damage or destruction of presently undocumented cultural resources to a less-than-significant level because it requires if cultural materials (including human remains) are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, all in consultation with a professional archaeologist and in accordance with State CEQA Guidelines CCR Section 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. If the discovery could potentially be human remains, compliance with California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. would be required.

Mitigation

Mitigation Measure: Implement Mitigation Measure CR-3 (Implement Procedures for Inadvertent Discovery of Cultural Resources).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

It is possible that previously unknown archaeological sites could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, NEMDC/Steelhead Creek CMP areas. Mitigation Measure CR-3, which is hereby adopted and incorporated into the project, would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of presently undocumented cultural resources to a less-than-significant level because it requires that if cultural materials (including human remains) are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, all in consultation with a professional archaeologist and in accordance with State CEQA Guidelines CCR Section 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. If the discovery could potentially be human remains, compliance with California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. would be required.

Mitigation

Mitigation Measure: Implement Mitigation Measure CR-3 (Implement Procedures for Inadvertent Discovery of Cultural Resources).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

It is possible that previously unknown archaeological sites could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East
Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, NEMDC/Steelhead Creek CMP areas. Mitigation Measure CR-3, which is hereby adopted and incorporated into the project, would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of presently undocumented cultural resources to a less-than-significant level because it requires that if cultural materials (including human remains) are discovered during project-related construction activities, disturbances in the area of the find must be halted and appropriate treatment and protection measures must be implemented, all in consultation with a professional archaeologist and in accordance with State CEQA Guidelines CCR Section 15126.4 if the resource is an historic resource of an archaeological nature and/or with CEQA Section 21083.2 if the resource is a unique archaeological resource. If the discovery could potentially be human remains, compliance with California Health and Safety Code Section 7050 et seq. and California PRC Section 5097.9 et seq. would be required.

Mitigation

Mitigation Measure: Implement Mitigation Measure CR-3 (Implement Procedures for Inadvertent Discovery of Cultural Resources).

V. Impact CR-4: Discovery of Human Remains during Construction

North Sacramento Streams Levee Improvements

Prehistoric human remains have been found at several known prehistoric sites in Sacramento County. It is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas. Mitigation Measures CR-4a and CR-4b, which are hereby adopted and incorporated into the project, would reduce the potential for a significant impact from damage to or destruction of presently unknown human remains to a less-than-significant level, because they will require preparation of a Burial Treatment Plan and require compliance with the procedures in the California Health and Safety Code outlined above. These procedures are specifically designed to reduce the adverse effect of project implementation related to human remains by requiring that the human remains are treated in an appropriate and respectful manner and in accordance with applicable laws and regulations.

Mitigation

Mitigation Measure CR-4a: Prepare and Implement a Native American Burial Discovery and Treatment Plan

SAFCA shall retain the services of a professional archaeologist to prepare a Native American Burial Discovery and Treatment Plan (Burial Plan) prior to commencement of ground-disturbing project-related activities (other than soil boring and test pits and other minor preliminary work) at the project locations addressed by the environmental impact report. The Burial Plan shall be prepared and implemented to effectively, appropriately,
and respectfully implement the requirements of the California Native American Historic Resources Protection Act and its implementing regulations (California Public Resources Code Section 5097) which established procedures for the treatment of human remains of Native American origin and associated grave items in California on non-Federal land.

The purpose of the Burial Plan is to specify appropriate and respectful procedures and guidelines to be followed upon discovery of Native American burials, burial objects, burial materials, objects of cultural patrimony, and sacred objects that may be encountered during project construction and project-related activities under the jurisdiction of SAFCA.

Although SAFCA shall be responsible for the preparation and implementation of the Burial Plan, the contents of the plan shall be prepared in cooperation and consultation with affected interested Native Americans. USACE, Sacramento District, as the Federal agency responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA), shall be invited to review and comment upon the Burial Plan prior to its finalization to ensure that no provisions of the Burial Plan are in conflict with the regulations implementing the NHPA or its implementing regulations (36 Code of Federal Regulations [CFR] Part 800 and 33 CFR Part 325 Appendix C). The implementation of the Burial Plan, should Native American human remains and associated grave items and materials be discovered, shall be accomplished in cooperation and consultation between SAFCA and the Most Likely Descendant (MLD), who will be identified by the California Native American Heritage Commission. The Burial Plan shall contain, at a minimum, the following elements:

- definitions of burial, burial associated, burial objects and materials, and other key terms used in the Burial Plan;

- conditions under which construction work shall be halted and conditions under which construction may resume;

- procedures for notification of Native Americans and agencies in the event of a discovery of objects, materials, or locations addressed by the Burial Plan;

- procedures for avoidance and preservation when determined to be feasible;

- monitoring requirements;

- procedures for archaeological exploration and delineation of the subject area including both horizontal and vertical dimensions;

- requirements for respectful behavior in the immediate vicinity of a burial or sacred location and identification of prohibited actions and behaviors at locations where Native American burial remains are visible, and the process for determining the geographic extend of prohibited actions;
• procedures for the respectful recovery of burials and associated items and materials;

• procedures for respectful temporary storage of burials and associated items and materials until the MLD can determine the appropriate final disposition of the items;

• qualifications of individuals who may excavate or otherwise treat Native American burials and associated items and materials;

• roles, responsibilities, and authority of key participants;

• procedures and timeframe for reinterment (under direction of the MLD);

• procedures for dispute resolution; and

• requirements for documentation, reporting, and work logs.

Mitigation Measure CR-4b: Implement Procedures for Inadvertent Discovery of Human Remains.

• In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, SAFCA shall immediately halt potentially damaging excavation in the area of the burial and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). After the coroner’s findings have been made, the archaeologist and the NAHC-designated MLD shall determine the ultimate treatment and disposition of the remains. The responsibilities of SAFCA for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.

• Upon the discovery of Native American remains, SAFCA shall require that all construction work must stop within 100 feet of the discovery until consultation with the MLD has taken place. The MLD shall have 48 hours to complete a site inspection and make recommendations after being granted access to the site. A range of possible treatments for the remains, including nondestructive removal and analysis, preservation in place, relinquishment of the remains and associated items to the descendants, or other culturally appropriate treatment may be discussed. California PRC Section 5097.98(b)(2) suggests that the concerned parties may mutually agree to extend discussions beyond the initial 48 hours to allow for the discovery of additional remains. The following is a list of site protection measures that SAFCA shall employ:
(1) Record the site with the NAHC or the appropriate Information Center.

(2) Record a document with the county in which the property is located.

- SAFCA or SAFCA’s authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance if the NAHC is unable to identify a MLD, or if the MLD fails to make a recommendation within 48 hours after being granted access to the site. SAFCA or SAFCA’s authorized representative may also reinter the remains in a location not subject to further disturbance if he or she rejects the recommendation of the MLD and mediation by the NAHC fails to provide measures acceptable to SAFCA. SAFCA shall implement mitigation for the protection of the burial remains. Construction work in the vicinity of the burials shall not resume until the mitigation is completed.

Sacramento River East Levee Improvements

Prehistoric human remains have been found at several known prehistoric sites in Sacramento County. It is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas. Mitigation Measure CR-4a and CR-4b, which are hereby adopted and incorporated into the project, would reduce the potential for a significant impact from damage to or destruction of presently unknown human remains to a less-than-significant level, because they will require preparation of a Burial Treatment Plan and require compliance with the procedures in the California Health and Safety Code outlined above. These procedures are specifically designed to reduce the adverse effect of project implementation related to human remains by requiring that the human remains are treated in an appropriate and respectful manner and in accordance with applicable laws and regulations.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure CR-4a (Prepare and Implement a Native American Burial Discovery and Treatment Plan) and CR-4b (Implement Procedures for Inadvertent Discovery of Human Remains).**

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Prehistoric human remains have been found at several known prehistoric sites in Sacramento County. It is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas.
Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas. Mitigation Measure CR-4a and CR-4b, which are hereby adopted and incorporated into the project, would reduce the potential for a significant impact from damage to or destruction of presently unknown human remains to a less-than-significant level, because they will require preparation of a Burial Treatment Plan and require compliance with the procedures in the California Health and Safety Code outlined above. These procedures are specifically designed to reduce the adverse effect of project implementation related to human remains by requiring that the human remains are treated in an appropriate and respectful manner and in accordance with applicable laws and regulations.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure CR-4a (Prepare and Implement a Native American Burial Discovery and Treatment Plan) and CR-4b (Implement Procedures for Inadvertent Discovery of Human Remains).

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**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Prehistoric human remains have been found at several known prehistoric sites in Sacramento County. It is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during excavation activities. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements, Sacramento River East Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas. Mitigation Measure CR-4a and CR-4b, which are hereby adopted and incorporated into the project, would reduce the potential for a significant impact from damage to or destruction of presently unknown human remains to a less-than-significant level, because they will require preparation of a Burial Treatment Plan and require compliance with the procedures in the California Health and Safety Code outlined above. These procedures are specifically designed to reduce the adverse effect of project implementation related to human remains by requiring that the human remains are treated in an appropriate and respectful manner and in accordance with applicable laws and regulations.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure CR-4a (Prepare and Implement a Native American Burial Discovery and Treatment Plan) and CR-4b (Implement Procedures for Inadvertent Discovery of Human Remains).

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**W. Impact GEO-1: Potential Temporary, Short-term Construction-Related Erosion**

**North Sacramento Streams Levee Improvements**

Project-related earthmoving activities could result in substantial soil erosion and loss of topsoil. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1, which is hereby adopted and incorporated into the project, would
reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and revegetation to reduce erosion and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**

**Mitigation Measure GEO-1: Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices.**

Prior to the start of earthmoving activities, SAFCA shall obtain coverage under the SWRCB’s NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ), including preparation and submittal of a project-specific SWPPP at the time the NOI to discharge is filed. The SWPPP shall identify and specify:

- the use of an effective combination of robust erosion and sediment control BMPs and construction techniques for use in the project area at the time of construction, that shall reduce the potential for runoff and the release, mobilization, and exposure of pollutants, including legacy sources of mercury from project-related construction sites. These may include but would not be limited to temporary erosion control and soil stabilization measures, sedimentation ponds, inlet protection, perforated riser pipes, check dams, and silt fences;

- the implementation of approved local plans, nonstormwater management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities;

- the pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges, including fuels, lubricants, and other types of materials used for equipment operation;

- the means of waste disposal;

- spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;

- personnel training requirements and procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and

- the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.

Where applicable, BMPs identified in the SWPPP shall be in place throughout all site work and construction/demolition activities and shall be used in all subsequent site
development activities. BMPs may include, but are not limited to, such measures as those listed below.

- Implementing temporary erosion and sediment control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances, in compliance with State and local standards in effect at the time of construction. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation.

- Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration.

- Using drainage swales, ditches, and earth dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure.

A copy of the approved SWPPP shall be maintained and available at all times on the construction site.

Sacramento River East Levee Improvements

Project-related earthmoving activities could result in substantial soil erosion and loss of topsoil. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1, which is hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and revegetation to reduce erosion and maintain surface water quality conditions in adjacent receiving waters.

Mitigation


American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project-related earthmoving activities could result in substantial soil erosion and loss of topsoil. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1, which is hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with
appropriate BMPs such as source control and revegetation to reduce erosion and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**


**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Project-related earthmoving activities could result in substantial soil erosion and loss of topsoil. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1, which is hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and revegetation to reduce erosion and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**


X. **Impact GEO-2: Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site**

**North Sacramento Streams Levee Improvements**

Project-related earthmoving activities would occur in the Riverbank Formation, which is paleontologically sensitive. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure GEO-2, which is hereby adopted and incorporated into the project, would reduce potentially significant impacts related to potential damage or destruction of unique paleontological resources to a less-than-significant level because construction workers will be alerted to the possibility of encountering paleontological resources and, in the event that resources were discovered, work will stop immediately and fossil specimens will be recovered and recorded and will undergo appropriate curation.

**Mitigation**

Mitigation Measure GEO-2: Conduct Construction Personnel Education, Stop Work if Paleontological Resources are Discovered, Assess the Significance of the Find, and Prepare and Implement a Recovery Plan, as Required.

To minimize the potential for destruction of or damage to potentially unique, scientifically important paleontological resources during project-related earthmoving
activities, SAFCA shall require the following measures to be implemented to minimize accidental damage to or destruction of unique paleontological resources:

- Before the start of any earthmoving activities in the North Sacramento Streams Levee Improvements area and Sacramento River East Levee Improvements area, the SAFCA shall retain a qualified paleontologist to train all construction personnel involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction, and proper notification procedures should fossils be encountered.

- If paleontological resources are discovered during earthmoving activities, the construction crew shall notify SAFCA and shall immediately cease work in the vicinity of the find. SAFCA shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines (1996). The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the SAFCA to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

**Sacramento River East Levee Improvements**

Project-related earthmoving activities would occur in the Riverbank Formation, which is paleontologically sensitive. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure GEO-2, which is hereby adopted and incorporated into the project, would reduce potentially significant impacts related to potential damage or destruction of unique paleontological resources to a less-than-significant level because construction workers will be alerted to the possibility of encountering paleontological resources and, in the event that resources were discovered, work will stop immediately and fossil specimens will be recovered and recorded and will undergo appropriate curation.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure GEO-2 (Conduct Construction Personnel Education, Stop Work if Paleontological Resources are Discovered, Assess the Significance of the Find, and Prepare and Implement a Recovery Plan, as Required).

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Project-related earthmoving activities would occur in the Riverbank Formation, which is paleontologically sensitive. Therefore, this impact would be potentially significant for the North
Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure GEO-2, which is hereby adopted and incorporated into the project, would reduce potentially significant impacts related to potential damage or destruction of unique paleontological resources to a less-than-significant level because construction workers will be alerted to the possibility of encountering paleontological resources and, in the event that resources were discovered, work will stop immediately and fossil specimens will be recovered and recorded and will undergo appropriate curation.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure GEO-2 (Conduct Construction Personnel Education, Stop Work if Paleontological Resources are Discovered, Assess the Significance of the Find, and Prepare and Implement a Recovery Plan, as Required).

Y. **Impact GM-1: Potential Temporary and Short-term Erosion during Construction**

North Sacramento Streams Levee Improvements

Ground-disturbing activities associated with levee reconstruction, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could expose slopes that are susceptible to erosion. Excessive erosion could decrease levee stability and cause sediment deposition in lower energy portions of the channel, which could affect flow patterns in the river. Therefore, this temporary and short-term impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1 and GM-1, which is hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs to reduce erosion, and by requiring implementation of other measures such as revegetation to reduce sediment transport and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**


SAFCA shall implement the following measures as part of the Conservation Strategy to reduce erosion and sediment transport:

- **CM-1: Limit Ground Disturbance to Construction Areas and Avoid and Limit Disturbance to River and Creek Banks and Habitats when Feasible.**
  Ground disturbance shall be limited to construction areas, including necessary access routes and staging areas. The number of access routes, size of staging areas, and total area of the project activity shall be limited to the minimum
necessary. When possible, existing access routes and points shall be used. All roads, staging areas, and other facilities shall be placed to avoid and limit disturbance to river and creek banks and habitat when feasible.

- **CM-2: Clearly Mark Project Construction Limits.** To minimize ground and vegetation disturbance during project construction, project limits shall be clearly marked, including the boundaries of designated equipment staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones.

- **CM-4: Avoid Disturbing or Exceeding the Minimum Vegetation Removal Necessary.** Disturbance or removal of vegetation by machinery shall not exceed the minimum necessary to complete project construction and operations.

- **CM-5: Replant or Reseed with Native Species and Monitor and Maintain Growth to Ensure Success for Areas Requiring Vegetation Removal.** When vegetation removal is required, the disturbed areas shall be replanted or reseeded with native species and monitored and maintained to ensure the revegetation effort is successful. If erosion control fabrics are used in revegetated areas, they shall be slit in appropriate locations as necessary to allow for plant root growth.

- **CM-6: Limit Rock Riprap for Erosion Protection.** The amount of rock riprap and other materials used for bank protection shall be commensurate to the amount needed for erosion protection and establishment of planting benches.

- **CM-11: Install, Monitor, and Maintain Erosion Control Measures that Minimize Soil or Sediment from Entering Waterways or Wetlands.** Erosion control measures that minimize soil or sediment from entering waterways and wetlands shall be installed, monitored for effectiveness, and maintained throughout construction operations.

- **CM-13: Avoid Use of Materials in Locations Where it Can Erode from Normal or Expected High Flows.** No material shall be placed in a manner or location where it can be eroded by normal or expected high flows. Jute netting or another non-monofilament erosion control fabric shall be used to cover soil that is placed over or mixed into riprap or other revetment materials.

- **CM-14: Implement Precautionary Measures to Minimize Turbidity/Siltation during Construction.** Precautions to minimize turbidity/siltation shall be implemented during construction. This may require placing barriers (e.g., silt curtains) to prevent silt and/or other deleterious materials from entering downstream reaches.

- **CM-15: Inspect Sediment and Turbidity Control Barriers Daily during Construction for Proper Function and Replace Immediately if Not Functioning Effectively.** Performance of sediment and turbidity control barriers shall be inspected at least once each day during construction to they are
functioning properly. Should a control barrier not function effectively, it shall be immediately repaired or replaced. Additional controls shall be installed as necessary.

- **CM-16: Remove Sediment from Sediments Controls and Dispose of Properly.** Sediment shall be removed from sediment controls once the sediment has reached 1/3 of the exposed height of the control. Sediment collected in these devices shall be disposed of away from the collection site at designated upland disposal sites.

- **CM-17: Treat Water with Silt or Mud from Construction Activities to Prevent it from Entering Live Waterways.** Water containing mud or silt from construction activities shall be treated by filtration, or retention in a settling pond, adequate to prevent muddy water from entering live waterways.

- **CM-18: Treat All Disturbed Soils with Appropriate Erosion Control.** All disturbed soils shall undergo appropriate erosion control treatment (e.g., sterile straw mulching, seeding, planting) prior to the end of the construction season, or prior to October 15, whichever comes first.

**Sacramento River East Levee Improvements**

Ground-disturbing activities associated with levee reconstruction, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could expose slopes that are susceptible to erosion. Excessive erosion could decrease levee stability and cause sediment deposition in lower energy portions of the channel, which could affect flow patterns in the river. Therefore, this temporary and short-term impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1 and GM-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs to reduce erosion, and by requiring implementation of other measures such as revegetation to reduce sediment transport and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**

- **Mitigation Measure: Implement Mitigation Measure GEO-1 (Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices).**

- **Mitigation Measure: Implement Mitigation Measure GM-1 (Implement Conservation Strategy Measures to Reduce Erosion and Sediment Transport).**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Ground-disturbing activities associated with levee reconstruction, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP
could expose slopes that are susceptible to erosion. Excessive erosion could decrease levee stability and cause sediment deposition in lower energy portions of the channel, which could affect flow patterns in the river. Therefore, this temporary and short-term impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1 and GM-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs to reduce erosion, and by requiring implementation of other measures such as revegetation to reduce sediment transport and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**


**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Ground-disturbing activities associated with levee reconstruction, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP could expose slopes that are susceptible to erosion. Excessive erosion could decrease levee stability and cause sediment deposition in lower energy portions of the channel, which could affect flow patterns in the river. Therefore, this temporary and short-term impact would be potentially significant throughout the project study area. Mitigation Measure GEO-1 and GM-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary, short-term construction-related erosion impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs to reduce erosion, and by requiring implementation of other measures such as revegetation to reduce sediment transport and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**


Z. **Impact GHG-1: Temporary, Short-Term Generation of Greenhouse Gas Emissions**

**North Sacramento Streams Levee Improvements**

Construction activities associated with levee improvements, encroachment removal, vegetation management, and the Conservation Strategy would generate annual GHG emissions that exceed the SMAQMD thresholds of significance. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Implementation of Mitigation Measures AIR-1a and AIR-1c, which are hereby adopted and incorporated into the project, would reduce construction-related GHG emissions through efficient operation of construction equipment engines, increased tier engines used during construction, and minimization of equipment idling when not in use; however, these measures would not reduce GHG emissions to a less-than-significant level. Implementation of Mitigation Measure GHG-1, which is hereby adopted and incorporated into the project, would reduce the remaining construction emissions resulting from construction of proposed project elements in the North Sacramento Streams Levee Improvements area to a less-than-significant level because SAFCA would contribute to an ARB- or SMAQMD-approved carbon offset program.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure AIR-1a (Implement Sacramento Metropolitan Air Quality Management District Basic Construction Emission Control Practices).

Mitigation Measure: Implement Mitigation Measure AIR-1c (Use Tier 3 Construction Equipment for at Least 15 Percent of Equipment).

Mitigation Measure GHG-1: Purchase Carbon Offset Credits (If Required).

SAFCA shall purchase carbon offset credits to offset the proposed project’s emissions. As determined in Table 4.10-1, the North Sacramento Streams Levee Improvements area would need to offset approximately 856 MT CO$_2$e, which would be verified by SMAQMD before carbon offsets are purchased. Thus, as noted above, if construction activities associated with the North Sacramento Streams Levee Improvement area were to extend into year 2017 and overlap with Sacramento River East Levee Improvements area construction activities, or any changes were to occur during the construction of the proposed project, those potential changes in annual emissions would be calculated and reflected in the amount of carbon offsets required. Carbon offset credits shall be purchased from programs that have been approved by ARB and/or SMAQMD. Carbon offset credits should be purchased to reduce annual construction emissions to 1,100 MT CO$_2$e/year or that would achieve a 21.7 percent reduction from business-as-usual emissions (i.e., unmitigated emissions without Mitigation Measure AIR-1).
Sacramento River East Levee Improvements

Construction activities associated with levee improvements, encroachment removal, vegetation management, and the Conservation Strategy would generate annual GHG emissions that exceed the SMAQMD thresholds of significance. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Implementation of Mitigation Measures AIR-1a and AIR-1c, which are hereby adopted and incorporated into the project, would reduce construction-related GHG emissions through efficient operation of construction equipment engines, increased tier engines used during construction, and minimization of equipment idling when not in use; however, these measures would not reduce GHG emissions to a less-than-significant level. Implementation of Mitigation Measure GHG-1, which is hereby adopted and incorporated into the project, would reduce the remaining construction emissions resulting from construction of proposed project elements in the North Sacramento Streams Levee Improvements area to a less-than-significant level because SAFCA would contribute to an ARB- or SMAQMD-approved carbon offset program.

Mitigation

Mitigation Measure: Implement Mitigation Measure AIR-1a (Implement Sacramento Metropolitan Air Quality Management District Basic Construction Emission Control Practices).

Mitigation Measure: Implement Mitigation Measure AIR-1c (Use Tier 3 Construction Equipment for At Least 15 Percent of Equipment).

Mitigation Measure: Implement Mitigation Measure GHG-1 (Purchase Carbon Offset Credits, [If Required]).

AA. Impact HAZ-1: Possible Accidental Spills of Hazardous Materials Used during Construction Activities

North Sacramento Streams Levee Improvements

Construction of the proposed improvements would involve the storage, use, and transport of hazardous materials such as fuels, oils, lubricants, and bentonite slurry during construction activities. Federal, State, and local hazardous materials regulations have been specifically designed to reduce the risk of accidental spills to the maximum extent practicable. However, there is the potential of a possible accidental spill of hazardous materials used during construction. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-1, which is hereby adopted and incorporated into the project, would reduce potentially significant construction-related hazmat impacts to a less-than-significant level by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials.
Mitigation

Mitigation Measure HAZ-1: Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities.

In addition to compliance with all applicable Federal, State, and local regulations, SAFCA shall implement the following measures as part of the Conservation Strategy to further reduce the risk of accidental spills and protect the environment:

- **Prepare and Implement a Spill Prevention and Control Plan.** A written spill prevention and control plan (SPCP) shall be prepared and implemented. The SPCP and all material necessary for its implementation shall be accessible on site prior to initiation of project construction and throughout the construction period. The SPCP shall include a plan for the emergency cleanup of any spills of fuel or other material. Employees/construction workers shall be provided the necessary information from the SPCP to prevent or reduce the discharge of pollutants from construction activities to waters and to use the appropriate measures should a spill occur. In the event of a spill, work shall stop immediately and the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Central Valley Regional Water Quality Control Board, and U.S. Army Corps of Engineers shall be notified within 24 hours.

- **Dispose Daily all Construction-related Materials and Equipment that Cannot be Secured at an Appropriate Disposal/Storage Site.** All litter, debris, unused materials, equipment, and supplies that cannot reasonably be secured shall be removed daily from the project work area and deposited at an appropriate disposal or storage site.

- **Remove Immediately All Construction-Related Pads/Debris from Work Sites Upon Completion.** All work pads and construction debris shall be removed from work sites immediately when work is completed at each site.

- **Use Safer Alternative Products to Protect Streams and Other Waters.** Every reasonable precaution shall be exercised to protect streams and other waters from pollution with fuels, oils, and other harmful materials. Safer alternative products (such as biodegradable hydraulic fluids) shall be used where feasible.

- **Prevent Any Contaminated Construction By-Products from Entering Flowing Waters; Collect and Transport Such By-Products to An Authorized Disposal Area.** Petroleum products, chemicals, fresh cement, and construction by-products containing, or water contaminated by, any such materials shall not be allowed to enter flowing waters and shall be collected and transported to an authorized upland disposal area.

- **Prevent Hazardous Petroleum or Other Hazardous Substances to Aquatic Life from Contaminating the Soil or Entering Waters of the State or U.S.**
Gas, oil, other petroleum products, or any other substances that could be hazardous to aquatic life and resulting from project-related activities, shall be prevented from contaminating the soil and/or entering waters of the State and/or waters of the U.S.

- **Properly Maintain All Construction Vehicles and Equipment and Inspect Daily for Leaks; Remove and Repair Equipment/Vehicles with Leaks.** Construction vehicles and equipment shall be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Vehicles and equipment shall be checked daily for leaks. If leaks are found, the equipment shall be removed from the site and shall not be used until the leaks are repaired.

- **Refuel and Service Equipment at Designated Refueling and Staging Areas.** Equipment shall be refueled and serviced at designated refueling and staging sites located on the crown or landside of the levee and at least 50 feet from active stream channels or other water bodies. All refueling, maintenance, and staging of equipment and vehicles shall be conducted in a location where a spill shall not drain directly toward aquatic habitat. Appropriate containment materials shall be installed to collect any discharge, and adequate materials for spill cleanup shall be maintained on-site throughout the construction period.

- **Store Heavy Equipment, Vehicles, and Supplies at Designated Staging Areas.** All heavy equipment, vehicles, and supplies shall be stored at the designated staging areas at the end of each work period.

- **Install an Impermeable Membrane Between the Ground and Any Hazardous Material in Construction Storage Areas.** Storage areas for construction material that contains hazardous or potentially toxic materials shall have an impermeable membrane between the ground and the hazardous material and shall be bermed as necessary to prevent the discharge of pollutants to groundwater and runoff water.

- **Use Water Trucks to Control Fugitive Dust during Construction.** Water (e.g., trucks, portable pumps with hoses) shall be used to control fugitive dust during temporary access road construction.

- **Use Only Nontoxic Materials and Materials Placed in Any Waters with No Coatings or Treatments Deleterious to Aquatic Organisms.** All materials placed in streams, rivers, or other waters shall be nontoxic and shall not contain coatings or treatments or consist of substances deleterious to aquatic organisms that may leach into the surrounding environment in amounts harmful to aquatic organisms.

**Sacramento River East Levee Improvements**

Construction of the proposed improvements would involve the storage, use, and transport of hazardous materials such as fuels, oils, lubricants, and bentonite slurry during construction.
activities. Federal, State, and local hazardous materials regulations have been specifically designed to reduce the risk of accidental spills to the maximum extent practicable. However, there is the potential of a possible accidental spill of hazardous materials used during construction. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-1, which is hereby adopted and incorporated into the project, would reduce potentially significant construction-related hazmat impacts to a less-than-significant level by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Construction of the proposed improvements would involve the storage, use, and transport of hazardous materials such as fuels, oils, lubricants, and bentonite slurry during construction activities. Federal, State, and local hazardous materials regulations have been specifically designed to reduce the risk of accidental spills to the maximum extent practicable. However, there is the potential of a possible accidental spill of hazardous materials used during construction. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-1, which is hereby adopted and incorporated into the project, would reduce potentially significant construction-related hazmat impacts to a less-than-significant level by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Construction of the proposed improvements would involve the storage, use, and transport of hazardous materials such as fuels, oils, lubricants, and bentonite slurry during construction activities. Federal, State, and local hazardous materials regulations have been specifically designed to reduce the risk of accidental spills to the maximum extent practicable. However, there is the potential of a possible accidental spill of hazardous materials used during construction. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-1, which is hereby adopted and incorporated into the project, would reduce potentially significant construction-related hazmat impacts to a less-than-
significant level by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials.

**Mitigation**

**Mitigation Measure:** Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).

**BB. Impact HAZ-3:** Possible Exposure of People and the Environment to Existing Hazardous Materials, Including Cortese-Listed Sites

**North Sacramento Streams Levee Improvements**

Project-related activities would occur in the vicinity of known hazardous material contamination sites and in the vicinity of underground pipelines carrying petroleum and natural gas, possibly exposing people and the environment to existing hazardous materials. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas and American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas. Mitigation Measures HAZ-3 and UTL-1, which are hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with possible exposure to hazardous materials to a less-than-significant level because SAFCA will halt work if evidence of contamination was encountered, remediation will be performed or work will be relocated, and SAFCA will coordinate with underground pipeline owners to locate and safely move utility infrastructure.

**Mitigation**

**Mitigation Measure HAZ-3:** Prepare a Worker Health and Safety Plan, and Implement Appropriate Measures to Minimize Potential Exposure to Hazardous Materials.

- SAFCA shall implement the following measures before and during construction to reduce potentially significant impacts associated with exposure to hazardous materials. Coordinate with PG&E regarding site cleanup activities to avoid construction worker exposure from potential mercury contamination, if Staging Area 1 is used.
- Prepare and implement a worker health and safety plan before the start of construction activities that identifies, at a minimum, the potential types of contaminants that could be encountered during construction activity; all appropriate worker, public health, and environmental protection equipment and procedures to be used during project activities; emergency response procedures; the most direct route to the nearest hospitals; and a Site Safety Officer. The plan shall describe actions to be taken should hazardous materials be encountered on-site, including the telephone numbers of local and state emergency hazmat response agencies.
If, during site preparation and construction activities, evidence of hazardous materials contamination is observed or suspected (e.g., stained or odorous soil or groundwater) cease immediately construction activities in the areas of the find. If contamination is observed or suspected, SAFCA shall retain a qualified hazardous materials specialist to assess the site and collect and analyze soil and/or water samples, as necessary. If contaminants are identified in the samples, SAFCA shall notify and consult with the appropriate Federal, State, and/or local agencies. Measures to remediate contamination and protect worker health and the environment shall be implemented in accordance with Federal, State, and local regulations before construction activities may resume at the site where contamination is encountered. Such measures could include, but are not limited to, preparation of a Phase I and/or Phase II Environmental Site Assessment, removal of contaminated soil, and pumping of groundwater into containment tanks. SAFCA may elect to implement cleanup measures, or to coordinate with the owner of the affected parcel to perform cleanup activities.

Mitigation Measure: Implement Mitigation Measure UTL-1 (Verify Utility Locations, Coordinate with Affected Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage).

Sacramento River East Levee Improvements

Project-related activities would occur in the vicinity of known hazardous material contamination sites and in the vicinity of underground pipelines carrying petroleum and natural gas, possibly exposing people and the environment to existing hazardous materials. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas and American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas. Mitigation Measure HAZ-3 and UTL-1, which are hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with possible exposure to hazardous materials to a less-than-significant level because SAFCA will halt work if evidence of contamination was encountered, remediation will be performed or work will be relocated, and SAFCA will coordinate with underground pipeline owners to locate and safely move utility infrastructure.

Mitigation


Mitigation Measure: Implement Mitigation Measure UTL-1 (Verify Utility Locations, Coordinate with Affected Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage).
American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project-related activities would occur in the vicinity of known hazardous material contamination sites and in the vicinity of underground pipelines carrying petroleum and natural gas, possibly exposing people and the environment to existing hazardous materials. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas and American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas. Mitigation Measure UTL-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with possible exposure to hazardous materials from pipeline rupture to a less-than-significant level because SAFCA will coordinate with underground pipeline owners to locate and safely move utility infrastructure.

Mitigation

Mitigation Measure: Implement Mitigation Measure UTL-1 (Verify Utility Locations, Coordinate with Affected Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage).

CC. Impact HAZ-4: Possible Creation of Safety Hazards, Including Birdstrike, in the Vicinity of a Public or Private Airport

North Sacramento Streams Levee Improvements

Reclamation of Borrow Site 3 could result in the creation of wetlands that could attract increased numbers of waterfowl, thereby resulting in an increased wildlife strike hazard at the Rio Linda Airport. Therefore, this impact would be potentially significant for the North Sacramento Streams Levee Improvements area. Mitigation Measure HAZ-4, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with possible increased wildlife strike hazards at Rio Linda Airport to a less-than-significant level because either wetlands will not be created at Borrow Site 3, or wetlands will be specifically designed to minimize attraction of waterfowl.

Mitigation

Mitigation Measure HAZ-4: Avoid Construction of Wetlands at Borrow Site 3, or Design Wetlands that Discourage Waterfowl.

To prevent an increase in birdstrike hazards at Rio Linda Airport, avoidance of created wetlands at Borrow Site 3 shall be considered by SAFCA.

If wetlands are created at this location as part of project-related reclamation plans, reclamation of Borrow Site 3 shall be implemented in a manner that does not increase, in comparison to existing conditions, attraction of birds that pose a moderate- to high-strike hazard (e.g., ducks, herons, and hawks) to aircraft that use Rio Linda Airport. A reclamation/restoration plan shall be developed and implemented by SAFCA that
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includes measures to minimize increase in attraction of hazardous wildlife, particularly waterfowl, in the site design. Such measures may include grading to create aquatic conditions that are not favored by waterfowl (e.g., relatively deep, steep-sided open water areas), minimizing the amount of open water habitat, and/or grading of the site to facilitate drainage after rain events.

DD. Impact HAZ-5: Possible Creation of Wildland Fire Hazards

North Sacramento Streams Levee Improvements

Construction activities could result in the ignition and spread of wildland fires from accidental discharge of sparks in vegetated areas. This impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-5, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with the possible creation of wildland fire hazards to a less-than-significant level because a fire prevention plan will be prepared and implemented.

Mitigation

Mitigation Measure HAZ-5: Prepare and Implement a Fire Prevention Plan.

A fire prevention plan shall be prepared and implemented 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 shall describe fire prevention and response methods, including fire precaution, 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 shall be available on the construction site. Training shall be provided to all construction personnel regarding fire safety, and all personnel shall be made familiar with the contents of the plan before the start of construction activities.

Sacramento River East Levee Improvements

Construction activities could result in the ignition and spread of wildland fires from accidental discharge of sparks in vegetated areas. This impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-5, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with the possible creation of wildland fire hazards to a less-than-significant level because a fire prevention plan will be prepared and implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure HAZ-5 (Prepare and Implement a Fire Prevention Plan).
American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Construction activities could result in the ignition and spread of wildland fires from accidental discharge of sparks in vegetated areas. This impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-5, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with the possible creation of wildland fire hazards to a less-than-significant level because a fire prevention plan will be prepared and implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure HAZ-5 (Prepare and Implement a Fire Prevention Plan).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Construction activities could result in the ignition and spread of wildland fires from accidental discharge of sparks in vegetated areas. This impact would be potentially significant throughout the project study area. Mitigation Measure HAZ-5, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with the possible creation of wildland fire hazards to a less-than-significant level because a fire prevention plan will be prepared and implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure HAZ-5 (Prepare and Implement a Fire Prevention Plan).

EE. Impact HH-3: Potential for Flooding Due to Possible Levee Failure during Construction

North Sacramento Streams Levee Improvements

Portions of the existing levees in the North Sacramento Streams and Sacramento River East Levee Improvements areas would be improved to meet embankment and foundation stability requirements. The construction of these improvements may exacerbate existing geotechnical problems leading to possible failure of the levee during construction. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Encroachments and vegetation would be removed from levees and this disturbance of the levee prism could contribute to levee instability. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HH-3, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact of potential levee failure during construction to a less-than-significant level because it would require SAFCA to prepare and implement a contingency plan containing measures to avoid prolonged exposure of the community to flood risks and monitor levee stability during construction.
Mitigation

Mitigation Measure HH-3: Prepare and Implement a Contingency Plan and Monitor Levee Stability during Construction.

SAFCA shall prepare and implement a contingency plan prior to the start of levee reconstruction activities to address the potential for levee destabilization during construction. The contingency plan shall conform to ULDC requirements and contain a summary of construction activities and environmental conditions. The contingency plan shall identify interim repairs needed to restore 10-year grade and dimensions to avoid prolonged exposure of the community during flood season, and shall identify how to inform the public of system damages and the level of interim protection to be provided.

A certified civil or geotechnical engineer shall monitor slope stability, water levels and their duration, and other adverse geotechnical conditions that could be exacerbated during construction.

Sacramento River East Levee Improvements

Portions of the existing levees in the North Sacramento Streams and Sacramento River East Levee Improvements areas would be improved to meet embankment and foundation stability requirements. The construction of these improvements may exacerbate existing geotechnical problems leading to possible failure of the levee during construction. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Encroachments and vegetation would be removed from levees and this disturbance of the levee prism could contribute to levee instability. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HH-3, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact of potential levee failure during construction to a less-than-significant level because it would require SAFCA to prepare and implement a contingency plan containing measures to avoid prolonged exposure of the community to flood risks and monitor levee stability during construction.

Mitigation

Mitigation Measure: Implement Mitigation Measure HH-3 (Prepare and Implement a Contingency Plan and Monitor Levee Stability during Construction).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Portions of the existing levees in the North Sacramento Streams and Sacramento River East Levee Improvements areas would be improved to meet embankment and foundation stability requirements. The construction of these improvements may exacerbate existing geotechnical problems leading to possible failure of the levee during construction. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Encroachments and vegetation would be removed from levees
and this disturbance of the levee prism could contribute to levee instability. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure HH-3, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact of potential levee failure during construction to a less-than-significant level because it would require SAFCA to prepare and implement a contingency plan containing measures to avoid prolonged exposure of the community to flood risks and monitor levee stability during construction.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure HH-3 (Prepare and Implement a Contingency Plan and Monitor Levee Stability during Construction).

**FF. Impact HH-4: Potential Damage to or Destruction of Existing Storm Drainage Facilities, Storm Drainage Pipelines, and Drainage Outfalls during Construction**

**North Sacramento Streams Levee Improvements**

Numerous storm drainage pipelines and drainage outfalls/gravity outlets penetrate project levees, and there is a potential for these drainage features to be inadvertently damaged or destroyed during construction. Such damage would disrupt the drainage of upstream or interior areas during storm events resulting in off-site flooding. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure HH-4, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact from inadvertent disruption of off-site drainage during project construction to a less-than-significant level because it will require modifications to the design and/or construction of the project to address the protection and continued operation of these drainage facilities.

**Mitigation**

Mitigation Measure HH-4: Limit Construction to the Dry Season and Low Water Periods, Work with Agencies to Reestablish Drainage Following Construction, Prepare Drainage Studies as Needed, and Address Pre- and Postproject Drainage Needs through Project Design.

SAFCA shall implement the following measures to avoid adverse effects associated with disruption of local drainage systems within levee footprint areas during construction, such as damage to outfall flap gates, temporary blockage of outfalls, and damage to buried drainage culverts or pipes.

- Construction shall occur during the dry season and low water periods of receiving streams to minimize the potential for adverse effects to occur to drainage infrastructure during heavy precipitation events, when discharges through drainage outfalls would be most prevalent, and during flood events, when high
water in a receiving stream may impose a backwater effect on these drainage facilities.

- During final project design, project engineers shall coordinate with the owners and operators of local drainage systems and landowners served by the systems to evaluate pre- and postproject drainage needs and to design project features that would minimize the potential for substantial drainage disruption, thereby minimizing the potential for flooding.

- If it is determined that substantial disruption of a local drainage system could result from project construction, a drainage study shall be prepared and implemented as part of the final project design. The study shall consider the design flows of any existing drainage facilities that would be affected by construction and develop appropriate plans for relocation or other modification of these facilities, and/or construction of new facilities as needed, to ensure equivalent functioning of the drainage system during and after construction.

- Features needed to reduce project-related drainage problems shall be installed as part of the project, depending on site-specific conditions.

Sacramento River East Levee Improvements

Numerous storm drainage pipelines and drainage outfalls/gravity outlets penetrate project levees, and there is a potential for these drainage features to be inadvertently damaged or destroyed during construction. Such damage would disrupt the drainage of upstream or interior areas during storm events resulting in off-site flooding. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure HH-4, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact from inadvertent disruption of off-site drainage during project construction to a less-than-significant level because it will require modifications to the design and/or construction of the project to address the protection and continued operation of these drainage facilities.

Mitigation

Mitigation Measure: Implement Mitigation Measure HH-4 (Limit Construction to the Dry Season and Low Water Periods, Work with Agencies to Reestablish Drainage Following Construction, Prepare Drainage Studies as Needed, and Address Pre- and Postproject Drainage Needs through Project Design).

GG. **Impact NOI-4: Possible Exposure of Construction Workers to Aircraft Noise during Construction Activities**

Sacramento River East Levee Improvements

The proposed would not result in the construction of housing or other buildings and therefore would not add any new permanent noise-sensitive receivers in the vicinity of existing
airports. However, project-related construction workers along the southern portion of the Sacramento River East Levee could be exposed to airport noise associated with the Borges-Clarksburg Airport. There are no noise contours available for the airport; however it is possible that construction workers could be exposed to aircraft noise and this impact would be potentially significant for the Sacramento River East Levee Improvements area. Mitigation Measure NOI-4, which is hereby adopted and incorporated into the project, would reduce possible exposure to aircraft noise to a less-than-significant level because the construction contractors will be required to hold safety meetings to discuss high noise levels and will be required to follow OSHA regulations to provide sufficient hearing protection to all workers. These measures are consistent with SAFCA’s standard contract specifications for noise control.

**Mitigation**

**Mitigation Measure NOI-4: Implement Measures to Reduce Noise Effects.**

SAFCA shall require that its primary contractors for engineering design and construction implement the following measures at each work site, as part of its overall safety program in any year of project construction to avoid and minimize aircraft noise effects on construction workers. These measures are consistent with SAFCA’s standard contract specifications for noise control for construction projects.

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 rules, and regulations that apply to the work, including the rules established through Occupational Safety and Health Administration (OSHA). Measures that shall be used to limit noise shall include the following:

- Plan for potential exposure before activities start.
- Hold daily safety meetings to discuss ways to limit high noise levels.
- Use hearing protection to supplement noise reduction.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

The proposed would not result in the construction of housing or other buildings and therefore would not add any new permanent noise-sensitive receivers in the vicinity of existing airports. However, encroachment removal and vegetation management activities along the Beach Lake Levee, and at the Upper Beach Lake riparian planting site (associated with the Conservation Strategy) could expose workers to airport noise associated with the Borges-Clarksburg Airport. There are no noise contours available for the airport; however it is possible that construction workers could be exposed to aircraft noise and this impact would be potentially significant. Mitigation Measure NOI-4, which is hereby adopted and incorporated into the project, would reduce possible exposure to aircraft noise to a less-than-significant level because the construction contractors will be required to hold safety meetings to discuss high noise levels and will be required to follow OSHA regulations to provide sufficient hearing protection to all workers. These measures are consistent with SAFCA’s standard contract specifications for noise control.
Mitigation

Mitigation Measure: Implement Mitigation Measure NOI-4 (Implement Measures to Reduce Noise Effects).

HH. Impact REC-1: Temporary and Short-term Changes in Recreational Opportunities during Project Construction Activities

North Sacramento Streams Levee Improvements

Implementation of levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP in the North Sacramento Streams and Sacramento River East Levee Improvements areas would result in temporary closure of bicycle trails during construction and result in temporary diminishment of recreational experiences at nearby parks during construction. Therefore, this impact would be significant. Mitigation Measure REC-1a and TR-3a, which are hereby adopted and incorporated into the project, would reduce temporary, short-term impacts on bicycle facilities resulting from temporary and short-term construction activities to a less-than-significant level by preparing and implementing a bicycle detour plan, providing public information regarding detours and alternative access routes to bicycle facilities, and repairing or reconstructing construction-related damage.

Mitigation

Mitigation Measure REC-1a: Prepare and Implement a Bicycle Detour Plan for all Bike Trails and On-Street Bicycle Routes, Provide Construction Period Information on Bicycle Facility Closures, and Coordinate with the City of Sacramento and/or Sacramento County Department of Parks and Recreation to Allow Repair of Damage to Bicycle Facilities.

SAFCA shall implement the following measures to reduce temporary, short-term construction impacts on bicycle facilities in the project study area:

- Prepare a bicycle detour plan for all bike trails, including the Ueda Parkway and Sacramento Northern Bike Trail, and on-street bicycle routes in consultation with the City of Sacramento and/or Sacramento County Bicycle and Pedestrian Coordinator at least 10 days before the start of construction activities, as applicable. The detour plan shall include posted signs at major entry points for bicycle trails clearly indicating closure routes, roadway markings to designate temporary bike lanes, information signs to notify motorists to share the road with bicyclists, and a contact number to call for questions or concerns. SAFCA shall maintain and implement the detour plan throughout the construction period and during all construction seasons. Provide public information through the media and on the SAFCA’s website regarding detours and alternative access routes to bicycle facilities affected by project construction. SAFCA shall coordinate with the City of Sacramento and/or Sacramento County Department of Parks and Recreation to make available information to the public regarding closure of bicycle facilities and detours at least 10 days before the start of construction.
activities. SAFCA shall continue to provide public information regarding closure of bicycle facilities and detours throughout the construction period.

- Upon completion of levee improvements, coordinate with the City of Sacramento and/or Sacramento County Department of Parks and Recreation for these agencies to restore access and repair any construction-related damage to bicycle facilities to preproject conditions.

**Mitigation Measure: Implement Mitigation Measure TR-3a (Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes).**

**Sacramento River East Levee Improvements**

Implementation of levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP in the North Sacramento Streams and Sacramento River East Levee Improvements areas would result in temporary closure of bicycle trails during construction and result in temporary diminishment of recreational experiences at nearby parks during construction. Therefore, this impact would be significant. Mitigation Measures REC-1a, REC-1b, REC-1c, and TR-3a, which are hereby adopted and incorporated into the project, would reduce temporary, short-term impacts on bicycle and recreational facilities resulting from construction activities to a less-than-significant level by preparing and implementing bicycle detour and recreation plans, providing public information regarding detours and alternative access routes to public recreational facilities, coordination with primary construction contractor(s) to avoid recreation facilities, and repairing or reconstructing construction-related damage to preproject conditions.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure REC-1a (Prepare and Implement a Bicycle Detour Plan for all Bike Trails and On-Street Bicycle Routes, Provide Construction Period Information on Bicycle Facility Closures, and Coordinate with the City of Sacramento and/or Sacramento County Department of Parks and Recreation to Allow Repair of Damage to Bicycle Facilities).**

**Mitigation Measure REC-1b: Prepare and Implement a Recreation Plan for all Recreation Facilities, Provide Construction Period Information on Recreation Facility Closures, and Coordinate with the City of Sacramento Department of Parks and Recreation and California Department of Parks and Recreation to Repair Damage to Recreational Facilities.**

SAFCA shall implement the following measures to reduce temporary, short-term construction impacts on recreation facilities in the project study area:

- Prepare a recreation plan for all recreation facilities in consultation with the City of Sacramento Department of Parks and Recreation. The recreation plan shall include posted signs at major entry points for parks and recreation facilities, boat launch ramps at Miller Park and Garcia Bend Park, and the Sacramento Marina clearly indicating closures and estimated duration of closures; information signs
to notify the public of alternate parks and recreation sites, boat launch ramps at Miller Park and Garcia Bend Park, and the Sacramento Marina; and a contact number to call for questions or concerns. SAFCA shall maintain and implement the recreation plan throughout the construction period and during all construction seasons.

- Coordinate with the City of Sacramento Department of Parks and Recreation at least 30 days before the start of construction activities to allow for the City to relocate activities that occur in affected parks and provide alternate access points to the Sacramento River. Upon completion of levee improvements, coordinate with the City of Sacramento Department of Parks and Recreation to restore access and repair any construction-related damage to parks and recreation facilities to preproject conditions.

- SAFCA shall notify and coordinate with the California Department of Parks and Recreation at least 30 days before the start of construction activities to allow for possible rerouting or rescheduling of the Excursion Train. Upon completion of levee improvements, coordinate with the California Department of Parks and Recreation to repair any construction-related damage to preproject conditions.

- Provide public information through the media and on the SAFCA’s website regarding parks and recreation facilities and boat launch ramps affected by project construction at least 30 days before the start of construction activities. SAFCA shall coordinate with the City of Sacramento Department of Parks and Recreation to make available information to the public regarding closure of parks and recreation facilities, boat launch ramps at Miller Park and Garcia Bend Park, and the Sacramento Marina and coordinate with the California Department of Parks and Recreation for closure of the Excursion Train. SAFCA shall continue to provide public information regarding closure of parks and recreation facilities, boat launch ramps, and the Excursion Train throughout the construction period.

**Mitigation Measure REC-1c: Coordinate with Primary Construction Contractor(s) to Avoid Simultaneous Closure of Parks and Locate Construction Staging Areas to Avoid Recreation Facilities where Feasible.**

SAFCA shall implement the following measures to reduce temporary, short-term construction impacts on recreation facilities in the project study area:

- Coordinate with its primary construction contractor(s) to conduct construction activities at intervals throughout the construction seasons to minimize the potential for simultaneous closure of parks and recreation facilities, including soccer fields, boat launch ramps, and marinas, to the extent feasible.

- Coordinate with its primary construction contractor(s) to require that staging areas in parks be located to avoid existing recreation facilities, to the extent feasible.
Mitigation Measure: Implement Mitigation Measure TR-3a (Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes).

American River and Beach Lake Leveses High-Hazard Levee Encroachment and Vegetation Removal

Implementation of vegetation management activities along the Lower American River would result in temporary closure of bicycle trails during construction. Therefore, this impact would be significant for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Mitigation Measure REC-1a and TR-3a, which are hereby adopted and incorporated into the project, would reduce temporary, short-term impacts on bicycle facilities resulting from construction activities to a less-than-significant level by preparing and implementing a bicycle detour plan, providing public information regarding detours and alternative access routes bicycle facilities, and repairing or reconstructing construction-related damage to preproject conditions.

Mitigation

Mitigation Measure: Implement Mitigation Measure REC-1a (Prepare and Implement a Bicycle Detour Plan for all Bike Trails and On-Street Bicycle Routes, Provide Construction Period Information on Bicycle Facility Closures, and Coordinate with the City of Sacramento and/or Sacramento County Department of Parks and Recreation to Allow Repair of Damage to Bicycle Facilities).

Mitigation Measure: Implement Mitigation Measure TR-3a (Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Implementation of levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP in the North Sacramento Streams and Sacramento River East Levee Improvements areas would result in temporary closure of bicycle trails during construction and result in temporary diminishment of recreational experiences at nearby parks during construction. Mitigation Measure REC-1a and TR-3a, which are hereby adopted and incorporated into the project, would reduce temporary, short-term impacts on bicycle facilities resulting from construction activities to a less-than-significant level by preparing and implementing a bicycle detour plan, providing public information regarding detours and alternative access routes bicycle facilities, and repairing or reconstructing construction-related damage to preproject conditions.

Mitigation

Mitigation Measure: Implement Mitigation Measure REC-1a (Prepare and Implement a Bicycle Detour Plan for all Bike Trails and On-Street Bicycle Routes, Provide Construction Period Information on Bicycle Facility Closures, and Coordinate with the City of Sacramento and/or Sacramento County Department of Parks and Recreation to Allow Repair of Damage to Bicycle Facilities).
Mitigation Measure: Implement Mitigation Measure TR-3a (Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes).

II. Impact TR-1: Increase in Traffic Volumes or Decrease in Capacity along Designated Roadways in the Project Study Area

North Sacramento Streams Levee Improvements

Project-related construction traffic generated during activities associated with levee improvements, encroachment removal, and vegetation management would increase the traffic volumes above the applicable thresholds on the surrounding roadway network, and would temporarily reduce capacity due to construction-related road closures. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure TR-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with increased traffic volumes and temporarily reduced capacity from project-related construction to a less-than-significant level because SAFCA will provide measures to reduce traffic congestion on affected roadways, as necessary.

Mitigation

Mitigation Measure TR-1: Prepare and Implement a Traffic Control and Road Maintenance Plan.

Before the start of project-related construction activities, SAFCA shall prepare and implement a plan to manage expected construction-related traffic to the extent feasible, and to avoid and minimize potential traffic congestion on local roadways during project-related construction. The traffic control plan shall outline the phasing of activities and the use of specific routes to and from the work site, staging area, and borrow site locations to minimize the daily amount of traffic on individual roadways. The items listed below shall be included as terms of the construction contracts.

- Provide a site-specific access plan specifying the roadways on which construction workers are allowed travel to access the staging areas, work sites, and borrow areas. Access to the staging areas, work sites, and borrow areas shall be obtained from the levee roadways rather than from surface streets, to the maximum extent feasible.

- Prohibit construction workers from accessing work sites, staging areas, or borrow sites from any locations other than those specified in the plan.

- Maintain two-way traffic flow on arterial roadways accessing active work areas to accommodate construction of project facilities, or unless otherwise allowed by the appropriate jurisdiction.

- Provide 72-hour advance notification if access to driveways or private roads would be affected. Limit effects on driveway and private roadway access to
working hours and provide uninterrupted access to driveways and private roads during non-work hours. If necessary, use steel plates, temporary backfill, or another accepted measure to provide access.

- Provide clearly marked pedestrian detours to address any sidewalk or pedestrian walkway closures.
- Provide clearly marked bicycle detours to address bicycle route closures or if bicyclist safety would be otherwise compromised.
- Provide crossing guards and/or flag persons as needed to avoid traffic conflicts and ensure pedestrian and bicyclist safety, particularly in the vicinity of schools.
- Queue trucks only in areas and at times allowed by the appropriate jurisdiction.
- Post warnings about the potential presence of slow-moving vehicles.
- Use traffic control personnel when appropriate.
- Comply with Caltrans requirements by submitting this plan to Caltrans for review to cover points of access from the State highway system (I-5 and U.S. 50) for haul trucks and other construction equipment.
- Assess and repair any damage to roadways that are used during construction, and repair all project-related potholes, fractures, or other damages.

**Sacramento River East Levee Improvements**

Project-related construction traffic generated during activities associated with levee improvements, encroachment removal, and vegetation management would increase the traffic volumes above the applicable thresholds on the surrounding roadway network. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure TR-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with an increase in traffic volumes along Front Street to a less-than-significant level because a traffic control plan will be prepared and implemented that includes measures to minimize traffic congestion and provide acceptable traffic flow to the maximum extent feasible.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure TR-1 (Prepare and Implement a Traffic Control and Road Maintenance Plan)*
J.J. **Impact TR-2: Potential for Increased Emergency Response Times or Inadequate Emergency Access.**

North Sacramento Streams Levee Improvements

Project-related activities would temporarily increase construction traffic levels, resulting in traffic delays that could substantially increase emergency response times or reduce emergency vehicle access. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure TR-1 and TR-2, which are hereby adopted and incorporated into the project, would reduce the potentially-significant impact of construction activities on emergency response times and emergency access to a less-than-significant level because SAFCA would provide methods of access and detours/routes around construction activities so that emergency access is maintained and emergency personnel are notified throughout the term of each construction season.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure TR-1 (Prepare and Implement a Traffic Control and Road Maintenance Plan).**

**Mitigation Measure TR-2: Provide Pre-Notification of Road Closures and Detours to Emergency Service Providers, and Maintain Emergency Access.**

SAFCA shall provide public notice by appropriate means, such as physical signage, Internet postings, letters, or telephone calls, to emergency service providers in the project study area at least 72 hours prior to road closures and detours. SAFCA shall provide clear emergency access to all existing buildings and facilities at all times.

Sacramento River East Levee Improvements

Project-related activities would temporarily increase construction traffic levels, resulting in traffic delays that could substantially increase emergency response times or reduce emergency vehicle access. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure TR-1 and TR-2, which are hereby adopted and incorporated into the project, would reduce the potentially-significant impact of construction activities on emergency response times and emergency access to a less-than-significant level because SAFCA would provide methods of access and detours/routes around construction activities so that emergency access is maintained and emergency personnel are notified throughout the term of each construction season.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure TR-1 (Prepare and Implement a Traffic Control and Road Maintenance Plan).**

**Mitigation Measure: Implement Mitigation Measure TR-2 (Provide Pre-Notification of Road Closures and Detours to Emergency Service Providers, and Maintain Emergency Access).**
KK. Impact TR-3: Decreased Performance or Safety of Alternative Modes of Transportation

North Sacramento Streams Levee Improvements

Construction traffic and construction crews and equipment along the levees would interfere with cyclists and pedestrians. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas, and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Mitigation Measure TR-3a, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with decreased performance or safety of alternative modes of transportation to a less-than-significant level because SAFCA will provide public notice in advance of closures and detours and will require the provision of detour signs indicating the location of alternate routes that could be used by bicyclists or pedestrians.

Mitigation

Mitigation Measure TR-3a: Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes.

SAFCA shall implement the following measures to improve access to and provide for the safety of pedestrian and bicycle facilities during construction.

- Coordinate with and provide notice to the appropriate City and/or County departments at least 10 days before the start of construction activities that would require closure and/or detours of pedestrian and bicycle routes.
- Provide clearly marked pedestrian detours to address any sidewalk or pedestrian walkway closures or if pedestrian safety would be otherwise compromised.
- Provide clearly marked bicycle detours to address bicycle route closure or if bicyclist safety would be otherwise compromised.
- Provide crossing guards and/or flag persons as needed to avoid traffic conflicts and ensure pedestrian and bicyclist safety.
- Locate all stationary equipment as far away as possible from areas used by vehicles, bicyclists, and pedestrians.
- Post alternative bicycle or pedestrian routes and facilities that can be used during construction activities showing when detours or route closures are required at least 10 days before the start of construction activities.
- Reconstruct pedestrian/bicycle trails and paths to preproject conditions at the completion of project-related construction activities.
Sacramento River East Levee Improvements

Construction traffic and construction crews and equipment along the levees would interfere with cyclists and pedestrians. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas, and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Mitigation Measure TR-3a and TR-3b, which are hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with decreased performance or safety of alternative modes of transportation to a less-than-significant level because SAFCA will provide public notice in advance of closures and detours and will require the provision of detour signs indicating the location of alternate routes that could be used by bicyclists or pedestrians. Implementation of Mitigation Measure TR-3b would further reduce the less-than-significant impact by placing warning signs and buoys upstream and downstream of all in-water construction sites to further reduce effects on the navigability in the Sacramento River.

Mitigation

Mitigation Measure: Implement Mitigation Measure TR-3a (Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes).

Mitigation Measure: TR-3b: Post Warning Signs and Buoys during In-Water Construction Work.

SAFCA shall post warning signs and buoys upstream of, and downstream of all construction equipment, sites, and activities to reduce the effect of project activities on the navigability in the Sacramento River.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Construction traffic and construction crews and equipment along the levees would interfere with cyclists and pedestrians. Therefore, this impact would be significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas, and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Mitigation Measure TR-3a, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with decreased performance or safety of alternative modes of transportation to a less-than-significant level because SAFCA will provide public notice in advance of closures and detours and will require the provision of detour signs indicating the location of alternate routes that could be used by bicyclists or pedestrians.

Mitigation

Mitigation Measure: Implement Mitigation Measure TR-3a (Provide Advance Notice of Bicycle and Pedestrian Facility Closures and Detour Routes).
I.I. Impact TR-4: Increased Hazards Due to a Design Feature or Incompatible Uses

North Sacramento Streams Levee Improvements

The presence and activity of heavy construction vehicles and equipment would substantially increase hazards on some roadways in the project study area, potentially affecting the safety of vehicular traffic. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas, and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas. Mitigation Measure TR-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with increased traffic volumes and temporarily reduced capacity from project-related construction to a less-than-significant level because a construction traffic control and road maintenance plan will be prepared and implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure TR-1 (Prepare and Implement a Traffic Control and Road Maintenance Plan).

Sacramento River East Levee Improvements

The presence and activity of heavy construction vehicles and equipment would substantially increase hazards on some roadways in the project study area, potentially affecting the safety of vehicular traffic. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas, and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas. Mitigation Measure TR-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with increased traffic volumes and temporarily reduced capacity from project-related construction to a less-than-significant level because a construction traffic control and road maintenance plan will be prepared and implemented.

Mitigation

Mitigation Measure: Implement Mitigation Measure TR-1 (Prepare and Implement a Traffic Control and Road Maintenance Plan).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

The presence and activity of heavy construction vehicles and equipment would substantially increase hazards on some roadways in the project study area, potentially affecting the safety of vehicular traffic. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas, and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas.
Removal areas. Mitigation Measure TR-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with increased traffic volumes and temporarily reduced capacity from project-related construction to a less-than-significant level because a construction traffic control and road maintenance plan will be prepared and implemented.

**Mitigation**

**Mitigation Measure: Implement Mitigation Measure TR-1 (Prepare and Implement a Traffic Control and Road Maintenance Plan).**

**MM. Impact UTL-1: Potential Disruption of Utility Service**

**North Sacramento Streams Levee Improvements**

Project-related activities would encroach upon multiple types of utility infrastructure and facilities in the North Sacramento Streams and Sacramento River East Levee Improvements areas. Although steps would be taken to minimize potential impacts to utilities, project construction activities could inadvertently damage identified and unidentified utility equipment and facilities. In addition, required relocation of existing utilities could result in interruptions in service. Furthermore, the extent and intensity of project construction activities could affect service providers’ abilities to quickly repair damage and/or restore interrupted service. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure UTL-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with disruption of utility service to a less-than-significant level because SAFCA will coordinate with utility service providers and consumers to minimize utility interruptions and inadvertent damage to unknown buried utilities to the maximum extent feasible, and a response plan to address service interruptions will be prepared and implemented.

**Mitigation**

**Mitigation Measure UTL-1: Verify Utility Locations, Coordinate with Affected Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage**

SAFCA shall require the following measures are implemented before construction begins to avoid and minimize potential damage to utilities, infrastructure, and service disruptions during construction:

- Coordinate with CVFPB and applicable utility and service providers to implement orderly relocation of utilities that need to be removed or relocated.
- Provide notification of any potential interruptions in service to the appropriate agencies and affected landowners.
- Verify through field surveys and the use of the Underground Service Alert services the locations of buried utilities in the project study area, including natural
gas, petroleum, and sewer pipelines. Any buried utility lines shall be clearly marked in the area of construction (e.g., in the field) and on the construction specifications in advance of any earthmoving activities.

- Prepare and implement a response plan that addresses potential accidental damage to a utility line. The plan shall identify chain-of-command rules for notification of authorities and appropriate actions and responsibilities regarding the safety of the public and workers. A component of the response plan will include worker education training in response to such situations.

- Stage utility relocations during construction to minimize interruptions in service.

**Sacramento River East Levee Improvements**

Project-related activities would encroach upon multiple types of utility infrastructure and facilities in the North Sacramento Streams and Sacramento River East Levee Improvements areas. Although steps would be taken to minimize potential impacts to utilities, project construction activities could inadvertently damage identified and unidentified utility equipment and facilities. In addition, required relocation of existing utilities could result in interruptions in service. Furthermore, the extent and intensity of project construction activities could affect service providers’ abilities to quickly repair damage and/or restore interrupted service. Therefore, this impact would be potentially significant for the North Sacramento Streams and Sacramento River East Levee Improvements areas. Mitigation Measure UTL-1, which is hereby adopted and incorporated into the project, would reduce the potentially significant impact associated with disruption of utility service to a less-than-significant level because SAFCA will coordinate with utility service providers and consumers to minimize utility interruptions and inadvertent damage to unknown buried utilities to the maximum extent feasible, and a response plan to address service interruptions will be prepared and implemented.

**Mitigation**

Mitigation Measure: Implement Mitigation Measure UTL-1 (Verify Utility Locations, Coordinate with Utility Providers, Prepare and Implement a Response Plan, and Conduct Worker Training with Respect to Accidental Utility Damage).

NN. **Impact WQ-1:** Possible Temporary and Short-term Impacts on Water Quality from Stormwater Runoff, Erosion, and Spills Associated with Construction

**North Sacramento Streams Levee Improvements**

Ground-disturbing activities associated with project construction could cause soil erosion and sedimentation of local drainages and waterways. Construction activities could also discharge waste petroleum products or other construction-related substances that could enter these waterways in runoff. Excavation, grading, and shaping of the project study area could increase turbidity, sedimentation, and contaminants above ambient levels identified in the Basin Plan for the Sacramento River. Therefore, this impact would be potentially significant throughout the...
project study area. Mitigation Measures GEO-1, GM-1, and HAZ-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary and short-term construction-related water quality impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and revegetation to reduce erosion and by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure GEO-1 (Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices).*

*Mitigation Measure: Implement Mitigation Measure GM-1 (Implement Conservation Strategy Measures to Reduce Erosion and Sediment Transport).*

*Mitigation Measure: Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).*

**Sacramento River East Levee Improvements**

Ground-disturbing activities associated with project construction could cause soil erosion and sedimentation of local drainages and waterways. Construction activities could also discharge waste petroleum products or other construction-related substances that could enter these waterways in runoff. Excavation, grading, and shaping of the project study area could increase turbidity, sedimentation, and contaminants above ambient levels identified in the Basin Plan for the Sacramento River. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measures GEO-1, GM-1, and HAZ-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary and short-term construction-related water quality impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and revegetation to reduce erosion and by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**

*Mitigation Measure: Implement Mitigation Measure GEO-1 (Acquire Appropriate Regulatory Permits and Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices).*

*Mitigation Measure: Implement Mitigation Measure GM-1 (Implement Conservation Strategy Measures to Reduce Erosion and Sediment Transport).*
Mitigation Measure: Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Ground-disturbing activities associated with project construction could cause soil erosion and sedimentation of local drainages and waterways. Construction activities could also discharge waste petroleum products or other construction-related substances that could enter these waterways in runoff. Excavation, grading, and shaping of the project study area could increase turbidity, sedimentation, and contaminants above ambient levels identified in the Basin Plan for the Sacramento River. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measures GEO-1, GM-1, and HAZ-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary and short-term construction-related water quality impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and revegetation to reduce erosion and by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials and maintain surface water quality conditions in adjacent receiving waters.

Mitigation


Mitigation Measure: Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Ground-disturbing activities associated with project construction could cause soil erosion and sedimentation of local drainages and waterways. Construction activities could also discharge waste petroleum products or other construction-related substances that could enter these waterways in runoff. Excavation, grading, and shaping of the project study area could increase turbidity, sedimentation, and contaminants above ambient levels identified in the Basin Plan for the Sacramento River. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measures GEO-1, GM-1, and HAZ-1, which are hereby adopted and incorporated into the project, would reduce potentially significant temporary and short-term construction-related water quality impacts to a less-than-significant level by requiring preparation and implementation of a SWPPP with appropriate BMPs such as source control and
revegetation to reduce erosion and by requiring preparation and implementation of a spill prevention and control plan along with other measures designed to prevent contamination of the environment from hazardous materials and maintain surface water quality conditions in adjacent receiving waters.

**Mitigation**


Mitigation Measure: Implement Mitigation Measure HAZ-1 (Implement Conservation Strategy Measures such as a Spill Prevention and Control Plan to Reduce the Potential for Environmental Contamination during Construction Activities).

**OO. Impact WQ-3: Possible Temporary Effects on Groundwater or Surface Water Quality Resulting from Contact with the Water Table during Construction.**

North Sacramento Streams Levee Improvements

Installation of relief wells, cutoff walls, and dewatering of the construction area and borrow sites (e.g., removing groundwater that may fill trenches dug for cutoff wall construction or initial dewatering of relief wells) could result in the release of contaminants to surface or groundwater. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure WQ-3, which is hereby adopted and incorporated into the project, would reduce the potential effects associated with the potential release of contaminants to surface or groundwater during construction to a less-than-significant level because implementation of dewatering provisions will decrease the potential for release of these contaminants, and will provide for cleanup should these releases occur.

**Mitigation**

Mitigation Measure WQ-3: Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering.

Before discharging any dewatered effluent to surface water, SAFCA shall obtain a Low Threat Discharge and Dewatering NPDES permit, or an Individual Permit from the Central Valley RWQCB if the dewatering is not covered under the RWQCB’s NPDES Construction General Permit. The dewatering permit includes extensive water quality monitoring to adhere to the strict effluent and receiving water quality criteria outlined in the permit. As part of the permit, the permittee shall design and implement measures as necessary to meet the discharge limits identified in the relevant permit. For example, if dewatering is needed during the construction of a cutoff wall, the dewatering permit would require treatment or proper disposal of the water prior to discharge if it is
contaminated. These measures shall be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable.

Implemented measures could include the retention of dewatering effluent until particulate matter has settled before it is discharged, use of infiltration areas, and other BMPs. Final selection of water quality control measures would be subject to approval by the Central Valley RWQCB. SAFCA shall verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. SAFCA or its authorized agent shall perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. SAFCA shall notify its contractors immediately if there is a non-compliance issue and shall require compliance.

Sacramento River East Levee Improvements

Installation of relief wells, cutoff walls, and dewatering of the construction area and borrow sites (e.g., removing groundwater that may fill trenches dug for cutoff wall construction or initial dewatering of relief wells) could result in the release of contaminants to surface or groundwater. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure WQ-3, which is hereby adopted and incorporated into the project, would reduce the potential effects associated with the potential release of contaminants to surface or groundwater during construction to a less-than-significant level because implementation of dewatering provisions will decrease the potential for release of these contaminants, and will provide for cleanup should these releases occur.

Mitigation

Mitigation Measure: Implement Mitigation Measure WQ-3 (Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering).

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Installation of relief wells, cutoff walls, and dewatering of the construction area and borrow sites (e.g., removing groundwater that may fill trenches dug for cutoff wall construction or initial dewatering of relief wells) could result in the release of contaminants to surface or groundwater. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure WQ-3, which is hereby adopted and incorporated into the project, would reduce the potential effects associated with the potential release of contaminants to surface or groundwater during construction to a less-than-significant level because implementation of dewatering provisions will decrease the potential for release of these contaminants, and will provide for cleanup should these releases occur.

Mitigation

Mitigation Measure: Implement Mitigation Measure WQ-3 (Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering).
Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Installation of relief wells, cutoff walls, and dewatering of the construction area and borrow sites (e.g., removing groundwater that may fill trenches dug for cutoff wall construction or initial dewatering of relief wells) could result in the release of contaminants to surface or groundwater. Therefore, this impact would be potentially significant throughout the project study area. Mitigation Measure WQ-3, which is hereby adopted and incorporated into the project, would reduce the potential effects associated with the potential release of contaminants to surface or groundwater during construction to a less-than-significant level because implementation of dewatering provisions will decrease the potential for release of these contaminants, and will provide for cleanup should these releases occur.

Mitigation

Mitigation Measure: Implement Mitigation Measure WQ-3 (Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering).

VII. LESS-THAN-SIGNIFICANT IMPACTS

The Final EIR identifies the following less-than-significant impacts. Mitigation to further reduce less-than-significant impacts is not required by CEQA.

A. Impact AES-1: Damage to Scenic Resources within State- or County-Designated Scenic Highways

North Sacramento Streams Levee Improvements

Project-related activities would not result in an adverse effect on views from Garden Highway, which is a Sacramento County-designated scenic highway. Therefore, this impact would be less-than-significant for the North Sacramento Streams Levee Improvements area.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

There are no State- or Sacramento County-designated scenic highways in the viewshed of the areas where trees would be removed along the American River or the Beach Lake Levee. Therefore, no impact would occur in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

There are no State- or Sacramento County-designated scenic highways in the viewshed of the areas where trees would be removed in the vicinity of the areas associated with the NEMDC/Steelhead Creek CMP. Therefore, no impact would occur in the NEMDC/Steelhead Creek CMP area.
B. Impact AES-2: Changes in Scenic Vistas and Existing Visual Character

North Sacramento Streams Levee Improvements

Short-term changes in scenic vistas and existing visual character during construction would be temporary in nature and would only occur for short periods of time as construction crews and equipment move along the levees and other proposed work areas. This impact would be less than significant throughout the project study area. Because project levees, staging areas, and borrow sites would be returned to their original preproject condition and reseeded with native vegetation; and because encroachment activities would remove human elements that tend to reduce the visual quality, these proposed project elements would have less-than-significant impacts throughout the project study area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Actions associated with the NEMDC/Steelhead Creek CMP would be consistent with the existing visual character. Therefore, this proposed project element would have a less-than-significant impact.

C. Impact AG-1: Conversion of Agricultural Land, including Important Farmland, to Nonagricultural Uses

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Removal of levee encroachments and high-hazard trees would occur at various locations along the Lower American River (most of which are located within the American River Parkway), and along the Beach Lake Levee. There is no land designated as Important Farmland in the vicinity of areas proposed for encroachment removal or vegetation management activities. Furthermore, proposed project activities would not conflict with Sacramento County, Sutter County, or City of Sacramento zoning codes. Therefore, these proposed project elements would have no impact. Land within the Woodlake site is designated as Farmland of Local Importance, Urban and Built-Up Land, and Other Land; land within the Camp Pollock site is designated as Other Land; and land within the Upper Beach Lake Wildlife Area site is designated as Farmland of Local Importance. The conversion of these lands would not be considered a significant impact under the State CEQA Guidelines. Therefore, this proposed project element would have no impact.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Because there are no agricultural land uses present within or in the vicinity of where NEMDC/Steelhead Creek CMP activities would occur, other changes in the physical environment that could result in the conversion of agricultural land, including Important Farmland, to nonagricultural uses would not occur. Furthermore, proposed project activities would not conflict with Sacramento County, Sutter County, or City of Sacramento zoning codes. Therefore, this proposed project element would have no impact.
D. Impact AG-2: Conversion of Forestland to Nonforest Uses

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Encroachment removal throughout the project study area would not require removal of Fremont cottonwood forest of valley oak woodland. Thus, there would be no impact. The amount of forestland that would be lost as a result of vegetation management activities throughout the project study area would be relatively small compared to the amount of existing forestland. Thus, this impact would be less than significant.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Encroachment removal throughout the project study area would not require removal of Fremont cottonwood forest of valley oak woodland. Thus, there would be no impact. The amount of forestland that would be lost as a result of vegetation management activities throughout the project study area would be relatively small compared to the amount of existing forestland. Thus, this impact would be less than significant. The Conservation Strategy and the NEMDC/Steelhead Creek CMP include enhancement and creation of various riparian woodlands throughout the project study area that would provide an overall long-term benefit to forestry resources. Therefore, this impact would be beneficial.

E. Impact AIR-2: Potentially Expose Sensitive Receptors to Substantial Pollutant Concentrations

North Sacramento Streams Levee Improvements

Project construction would contribute vehicle traffic on existing roadways and operate diesel-fueled construction equipment, both of which could generate localized pollutant concentrations impacting nearby receptors. However, the proposed project’s net contribution to existing and future roadway traffic would not cause an exceedance of the California 1- or 8-hour CO standard. In addition, the temporary and intermittent nature of construction activities would avoid exposing sensitive receptors to substantial TAC concentrations. Therefore, the proposed project’s construction-related activities would not expose sensitive receptors to substantial air pollutant concentrations through on-road vehicle traffic or diesel-fueled construction equipment. This impact would be less than significant for the entire project study area.

Sacramento River East Levee Improvements

Project construction would contribute vehicle traffic on existing roadways and operate diesel-fueled construction equipment, both of which could generate localized pollutant concentrations impacting nearby receptors. However, the proposed project’s net contribution to existing and future roadway traffic would not cause an exceedance of the California 1- or 8-hour CO standard. In addition, the temporary and intermittent nature of construction activities would avoid exposing sensitive receptors to substantial TAC concentrations. Therefore, the proposed project’s construction-related activities would not expose sensitive receptors to substantial air pollutant concentrations through on-road vehicle traffic or diesel-fueled construction equipment. This impact would be less than significant for the entire project study area.
pollutant concentrations through on-road vehicle traffic or diesel-fueled construction equipment. This impact would be less than significant for the entire project study area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Project construction would contribute vehicle traffic on existing roadways and operate diesel-fueled construction equipment, both of which could generate localized pollutant concentrations impacting nearby receptors. However, the proposed project’s net contribution to existing and future roadway traffic would not cause an exceedance of the California 1- or 8-hour CO standard. In addition, the temporary and intermittent nature of construction activities would avoid exposing sensitive receptors to substantial TAC concentrations. Therefore, the proposed project’s construction-related activities would not expose sensitive receptors to substantial air pollutant concentrations through on-road vehicle traffic or diesel-fueled construction equipment. This impact would be less than significant for the entire project study area.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Project construction would contribute vehicle traffic on existing roadways and operate diesel-fueled construction equipment, both of which could generate localized pollutant concentrations impacting nearby receptors. However, the proposed project’s net contribution to existing and future roadway traffic would not cause an exceedance of the California 1- or 8-hour CO standard. In addition, the temporary and intermittent nature of construction activities would avoid exposing sensitive receptors to substantial TAC concentrations. Therefore, the proposed project’s construction-related activities would not expose sensitive receptors to substantial air pollutant concentrations through on-road vehicle traffic or diesel-fueled construction equipment. This impact would be less than significant for the entire project study area.

**F. Impact AIR-3: Possible Exposure of Nearby Receptors to Temporary Intermittent Objectionable Odors**

**North Sacramento Streams Levee Improvements**

During construction of the proposed project, diesel PM emissions would be generated by heavy-duty construction equipment that could be a potential source of odors. However, diesel PM emissions would be temporary and intermittent in nature, would dissipate rapidly from the source, and would not create objectionable odors that would affect a substantial number of people. Therefore, this impact would be less than significant for the entire project study area.

**Sacramento River East Levee Improvements**

During construction of the proposed project, diesel PM emissions would be generated by heavy-duty construction equipment that could be a potential source of odors. However, diesel PM emissions would be temporary and intermittent in nature, would dissipate rapidly from the source, and would not create objectionable odors that would affect a substantial number of people. Therefore, this impact would be less than significant for the entire project study area.
American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

During construction of the proposed project, diesel PM emissions would be generated by heavy-duty construction equipment that could be a potential source of odors. However, diesel PM emissions would be temporary and intermittent in nature, would dissipate rapidly from the source, and would not create objectionable odors that would affect a substantial number of people. Therefore, this impact would be less than significant for the entire project study area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

During construction of the proposed project, diesel PM emissions would be generated by heavy-duty construction equipment that could be a potential source of odors. However, diesel PM emissions would be temporary and intermittent in nature, would dissipate rapidly from the source, and would not create objectionable odors that would affect a substantial number of people. Therefore, this impact would be less than significant for the entire project study area.

G. Impact BIO-F1: Modifications to Aquatic Shoreline Habitat Used by Special-Status Fish

North Sacramento Streams Levee Improvements

Implementation of levee improvements, encroachment removal, vegetation management would alter shoreline habitat by removing existing riparian and aquatic vegetation, IWM, and bank material, which would modify habitat, reduce the quantity and function (quality) of SRA cover, and reduce IWM and other aquatic habitat values for fish throughout the project study area. Removal of these habitat elements would locally and temporarily reduce SRA habitat, aquatic cover (including IWM and aquatic vegetation), and sources of invertebrate production, thereby reducing the suitability of the shoreline habitat for foraging and rearing by juvenile special-status fishes. Furthermore, riparian vegetation could require more than 3 years to mature enough to provide SRA. Many features to replace or enhance shoreline habitat would be included within the levee improvement element during construction, such as IWM placement. These features would compensate for temporary and short-term loss or disturbance of habitat and would provide habitat quantity and quality equal to or better than the habitat modified during construction. Some habitat replacement or enhancement features would immediately provide habitat (e.g., IWM placement) whereas others would gradually provide habitat over the course of 3+ years (e.g., riparian revegetation). Additionally, the Conservation Strategy includes specific compensation actions to replace and/or enhance riparian habitats, including SRA. There would be no impact for the North Sacramento Streams Levee Improvements. Although there is no impact, Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would enhance habitat.

Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).

With implementation of Mitigation Measure BIO-F1, these proposed project elements would have a long-term beneficial impact. The dense, high overhead canopy of the planted trees
as they mature would provide considerable shade to the low-flow channel and bank. The SRA habitat along the active channel would benefit water quality by keeping temperatures lower (cooler water retains higher levels of dissolved oxygen needed to sustain native fish and aquatic invertebrates), and provide leaf drop and other organic material to support aquatic food webs. Implementation of the Conservation Strategy and the NEMDC/Steelhead Creek CMP would expand and enhance EFH for fall-run Chinook salmon and designated critical habitat for Central Valley steelhead within NEMDC/Steelhead Creek and Dry Creek, as well as riparian habitat within Arcade and Robla Creeks, by integrating onsite habitat features such as riparian and SRA habitat along the streams where existing conditions are mostly devoid of quality habitat, or by filling gaps in the riparian canopy. Subsequently, the Conservation Strategy and the NEMDC/Steelhead Creek CMP would increase the quantity, diversity, quality, and connectivity of riverine, aquatic and floodplain habitats (e.g., SRA, IWM, wetlands, and frequently inundated floodplains) by increasing the linear extent and quality of habitat corridors available for special-status species, with an emphasis on streamside riparian corridors that contribute to aquatic habitat for migrating and rearing salmonid populations.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Implementation of levee improvements, encroachment removal, vegetation management would alter shoreline habitat by removing existing riparian and aquatic vegetation, IWM, and bank material, which would modify habitat, reduce the quantity and function (quality) of SRA cover, and reduce IWM and other aquatic habitat values for fish throughout the project study area. Removal of these habitat elements would locally and temporarily reduce SRA habitat, aquatic cover (including IWM and aquatic vegetation), and sources of invertebrate production, thereby reducing the suitability of the shoreline habitat for foraging and rearing by juvenile special-status fishes. Furthermore, riparian vegetation could require more than 3 years to mature enough to provide SRA. Many features to replace or enhance shoreline habitat would be included within the levee improvement element during construction, such as IWM placement. These features would compensate for temporary and short-term loss or disturbance of habitat and would provide habitat quantity and quality equal to or better than the habitat modified during construction. Some habitat replacement or enhancement features would immediately provide habitat (e.g., IWM placement) whereas others would gradually provide habitat over the course of 3+ years (e.g., riparian revegetation). Additionally, the Conservation Strategy includes specific compensation actions to replace and/or enhance riparian habitats, including SRA. This temporary and short-term construction-related impact would be less than significant for the American River and Beach Lake Levees High Hazard Levee Encroachment and Vegetation Removal. Although there is no significant impact, Mitigation Measure BIO-F1, which is hereby adopted and incorporated into the project, would enhance habitat.

Mitigation Measure: Implement Mitigation Measure BIO-F1 (Implement Conservation Strategy to Protect Fishes and Enhance Streamside Riparian Corridors).

With implementation of Mitigation Measure BIO-F1, these proposed project elements would have a long-term beneficial impact. Implementation of the Conservation Strategy measures would expand and enhance EFH for fall-run Chinook salmon and designated critical habitat for spring-run Chinook salmon and Central Valley steelhead, as well as habitat for
juvenile Pacific and river lamprey by integrating onsite habitat features such as riparian and SRA habitat along the streams where existing conditions are absent of quality habitat, or by filling gaps in the riparian canopy. Subsequently, the Conservation Strategy would increase the quantity, diversity, quality, and connectivity of riverine, aquatic and floodplain habitats (e.g., SRA, IWM) by increasing the linear extent and quality of habitat corridors available for special-status species, with an emphasis on streamside riparian corridors that contribute to crucial aquatic habitat for migrating and rearing salmonid populations.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Implementation of the NEMDC/Steelhead Creek CMP would expand and enhance EFH for fall-run Chinook salmon and designated critical habitat for Central Valley steelhead within NEMDC/Steelhead Creek and Dry Creek, as well as riparian habitat within Arcade and Robla Creeks, by integrating on-site habitat features such as riparian and SRA habitat along the streams where existing conditions are mostly devoid of quality habitat, or by filling gaps in the riparian canopy. The NEMDC/Steelhead Creek CMP would increase the quantity, diversity, quality, and connectivity of riverine, aquatic and floodplain habitats (e.g., SRA, IWM, wetlands, and frequently inundated floodplains) by increasing the linear extent and quality of habitat corridors available for special-status species, with an emphasis on streamside riparian corridors that contribute to aquatic habitat for migrating and rearing salmonid populations. Therefore, this proposed project element would have no impact in the short-term and a long-term beneficial impact.

H. Impact BIO-F2: Potential Disturbance, Injury, or Mortality of Special-Status Fishes during Construction Activities

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

There is no in-water work in the American River, and therefore no impact would occur in the American River.

I. Impact BIO-F3: Water Quality Degradation during and Following In-Water Construction Activities

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

There is no in-water construction proposed in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Thus, there would be no impact.
J. **Impact BIO-F4: Modifications to Stream Channels and Floodplain Habitats Used by Special-Status Fish**

**North Sacramento Streams Levee Improvements**

The levee improvements, encroachment removal, vegetation management, and riparian plantings associated with the Conservation Strategy would not entail channel or floodplain modification in the North Sacramento Streams Levee Improvements area. Therefore, these proposed project elements would have no impact.

**Sacramento River East Levee Improvements**

There is no channel or floodplain modification proposed in the Sacramento River East Levee Improvements area. Thus, there would be no impact.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

There is no channel or floodplain modification proposed in the American River and Beach Lake Levees High-Hazard and Vegetation Removal area. Thus, there would be no impact.

K. **Impact BIO-F5: Fish Entrapment at Floodplain Borrow Sites**

**Sacramento River East Levee Improvements**

There is no proposed borrow site or borrow site modification within a stream channel or floodplain in the Sacramento River East Levee Improvements area, and the proposed project elements would not result in an increased potential for fish stranding. Thus, there would be no impact.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

There is no proposed borrow site or borrow site modification within a stream channel or floodplain in the American River and Beach Lake Levees High-Hazard Encroachment and Vegetation Removal area, and the proposed encroachment removal, vegetation management, and Conservation Strategy elements would not result in an increased potential for fish stranding. Thus, there would be no impact.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of levee improvements in the North Sacramento Streams Levee Improvements area and the NEMDC/Steelhead Creek CMP would include restoration of borrow site 3 and would alter floodplain habitat within the North Sacramento Streams Levee Improvements area, including construction of Borrow Site 2, which could entrap fishes. The NEMDC/Steelhead Creek CMP would remove entrapment and stranding potential, enhancing habitat for native and special-status fishes in the North Sacramento Streams Levee Improvements.
area, and would improve habitat for native fishes. Therefore, this proposed project element would result in a long-term beneficial impact.

L. **Impact BIO-2: Effects on Special-status Vernal Pool Invertebrates**

**Sacramento River East Levee Improvements**

Vernal pools and other suitable seasonal wetland habitat are not present along the Sacramento River East Levee and there are no known occurrences of vernal pool invertebrates in this portion of the Sacramento River East Levee Improvements area or its vicinity, although formal surveys have not been conducted. Further, the potential woodland mitigation site north of the Stone Lakes National Wildlife Refuge does not support suitable habitat for vernal pool invertebrates. Therefore, these proposed project elements would have no impact.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Vernal pools and other suitable seasonal wetland habitat could be present in remnant grassland patches along the American River Parkway; however, there are no known occurrences of vernal pool invertebrates in this area. All of the encroachments to be removed and the vegetation management activities would occur in areas along the river that are dominated by riparian vegetation and or residential landscape and outside of grasslands, where potential suitable habitat may occur. In the few areas where grasslands may be near to locations where encroachment removal, vegetation management, and the Conservation Strategy would occur, the American River bike trail and levee crown roads are situated between the project element and grassland habitat. No suitable habitat for vernal pool invertebrates is anticipated to be present along the Beach Lake Levee. The Conservation Strategy would involve planting valley oaks and other native riparian trees and shrubs on approximately 12 acres at the Woodlake and Camp Pollock sites; the planting areas would avoid sensitive resources, including seasonal wetlands, and would occur in areas that are not suitable habitat for vernal pool invertebrates. There are vernal pools and other suitable seasonal wetland habitat known to support vernal pool invertebrates in the eastern portion of the Sacramento Regional WWTP Bufferlands. However, the area along the Beach Lake Levee where vegetation management would occur does not support suitable habitat for vernal pool invertebrates. Further, the potential woodland mitigation site at the Upper Beach Lake Wildlife Area does not support suitable habitat for vernal pool invertebrates. Therefore, these proposed project elements would have no impact.

M. **Impact BIO-4: Potential Disturbance or Loss of Giant Garter Snakes and Their Habitat**

**Sacramento River East Levee Improvements**

There are no known occurrences of giant garter snake in the Sacramento River East Levee Improvements area or its vicinity, although formal surveys have not been conducted. Wide rivers, such as the Sacramento River, are not suitable aquatic habitat for giant garter snakes. Most of this area along the river is dominated by riparian vegetation on the waterside and residential, commercial, and industrial developments on the landside, none of which are suitable...
upland habitat for this species (USFWS 2012). Therefore, this species is unlikely to occur in the Sacramento River East Levee Improvements area, and these proposed project elements would have no impact.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

There are no known occurrences of giant garter snake along the American River or its vicinity, although formal surveys have not been conducted. Wide rivers, such as the American River, are not suitable aquatic habitat for giant garter snakes. Most of this area along the river, and particularly the areas where encroachment removal and vegetation management would occur, is dominated by riparian vegetation or residential landscaping, which are not suitable upland habitats for this species (USFWS 2012). Therefore, this species is unlikely to occur along the American River levees, and implementation of the proposed project elements would have no impact. The intensity of disturbances from project activities is anticipated to be relatively low and unlikely to affect the ability of giant garter snakes to conduct essential life history functions, such as dispersal, movement, or foraging. Therefore, these proposed project elements would have a less-than-significant impact.

**N. Impact BIO-9: Potential Disturbance or Loss of Roosting Special-status Bats**

**North Sacramento Streams Levee Improvements**

Levee improvements and vegetation management in the North Sacramento Streams Levee Improvements area would occur in areas that are unlikely to be used by roosting bats. The NEMDC/Steelhead Creek CMP would occur in areas that may support roost sites, but activities associated with these project elements are not anticipated to result in removal of suitable maternity roosts or disturbance levels likely to result in roost abandonment; therefore, the impact of this would be less than significant.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Levee improvements and vegetation management in the North Sacramento Streams Levee Improvements area would occur in areas that are unlikely to be used by roosting bats. The NEMDC/Steelhead Creek CMP would occur in areas that may support roost sites, but activities associated with these project elements are not anticipated to result in removal of suitable maternity roosts or disturbance levels likely to result in roost abandonment; therefore, the impact of this would be less than significant.

**O. Impact BIO-11: Interference with Terrestrial Wildlife Movement, Migration Corridors, and Nursery Sites**

**North Sacramento Streams Levee Improvements**

Encroachment removal throughout the project study area would disturb small developed areas that do not function as wildlife migration corridors or nursery sites. Therefore, no impact would occur. Levee improvements and vegetation management would temporarily disturb areas
that are utilized as movement corridors by terrestrial wildlife, but this disturbance would be localized in the case of vegetation management and primarily limited to one side of the corridor in the case of levee improvements. Though constrained, wildlife movement through the corridors would be able to continue and implementation of these project elements is not anticipated to result in substantial interference with movement of native wildlife or use of nursery sites. Therefore, impacts from implementation of levee improvements, vegetation management, and the Conservation Strategy, would be less than significant throughout the study area.

**Sacramento River East Levee Improvements**

Encroachment removal throughout the project study area would disturb small developed areas that do not function as wildlife migration corridors or nursery sites. Therefore, no impact would occur. Levee improvements and vegetation management would temporarily disturb areas that are utilized as movement corridors by terrestrial wildlife, but this disturbance would be localized in the case of vegetation management and primarily limited to one side of the corridor in the case of levee improvements. Though constrained, wildlife movement through the corridors would be able to continue and implementation of these project elements is not anticipated to result in substantial interference with movement of native wildlife or use of nursery sites. Therefore, impacts from implementation of levee improvements, vegetation management, and the Conservation Strategy, would be less than significant throughout the study area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Encroachment removal throughout the project study area would disturb small developed areas that do not function as wildlife migration corridors or nursery sites. Therefore, no impact would occur. Levee improvements and vegetation management would temporarily disturb areas that are utilized as movement corridors by terrestrial wildlife, but this disturbance would be localized in the case of vegetation management and primarily limited to one side of the corridor in the case of levee improvements. Though constrained, wildlife movement through the corridors would be able to continue and implementation of these project elements is not anticipated to result in substantial interference with movement of native wildlife or use of nursery sites. Therefore, impacts from implementation of levee improvements, vegetation management, and the Conservation Strategy, would be less than significant throughout the study area.

**P. Impact BIO-12: Conflict with Tree Preservation Policies or Ordinances during Construction**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Implementation of encroachment removal, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would not result in adverse effects to protected trees. Therefore, no impact would occur.
Q. Impact BIO-13: Conflict with the Provisions of an Adopted HCP, Natural Community Conservation Plan, or other Approved Local, Regional, or State HCP

North Sacramento Streams Levee Improvements

Implementation of levee improvements in the North Sacramento Streams Levee Improvements area would occur within the NBHCP area, but would not conflict with provisions of the NBHCP or jeopardize attainment of the goals and objectives of the NBHCP. Implementation of the Conservation Strategy in the Sacramento River East Levee Improvements area may include conversion of Swainson’s hawk foraging habitat on an existing TNBC reserve to riparian woodland. However, alternative foraging habitat would be preserved, and implementation of this element would not conflict with provisions of the NBHCP or jeopardize attainment of the goals and objectives of the NBHCP. Therefore, these impacts would be less than significant.

Sacramento River East Levee Improvements

Implementation of levee improvements in the North Sacramento Streams Levee Improvements area would occur within the NBHCP area, but would not conflict with provisions of the NBHCP or jeopardize attainment of the goals and objectives of the NBHCP. Implementation of the Conservation Strategy in the Sacramento River East Levee Improvements area may include conversion of Swainson’s hawk foraging habitat on an existing TNBC reserve to riparian woodland. However, alternative foraging habitat would be preserved, and implementation of this element would not conflict with provisions of the NBHCP or jeopardize attainment of the goals and objectives of the NBHCP. Therefore, these impacts would be less than significant.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

There are no adopted HCPs, Natural Community Conservation Plans, or other approved local, regional, or State HCPs in or in the vicinity of the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area; thus, there would be no impact.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

There are no adopted HCPs, Natural Community Conservation Plans, or other approved local, regional, or State HCPs locations where NEMDC/Steelhead Creek CMP activities would occur. Therefore, this proposed project element would have no impact.
R. Impact CR-1: Damage to or Destruction of Known Historical Built Environment Resources

North Sacramento Streams Levee Improvements

Project-related activities would not result in substantial alterations to known historical built environment resources and would not adversely affect the characteristic defining features that convey the historical significance of these resources. Therefore, this impact would be less than significant for the North Sacramento Streams Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project-related activities would not result in substantial alterations to known historical built environment resources and would not adversely affect the characteristic defining features that convey the historical significance of these resources. Therefore, this impact would be less than significant for the North Sacramento Streams Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Project-related activities would not result in substantial alterations to known historical built environment resources and would not adversely affect the characteristic defining features that convey the historical significance of these resources. Therefore, this impact would be less than significant for the North Sacramento Streams Levee Improvements, American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal, and NEMDC/Steelhead Creek CMP areas.

S. Impact CR-2: Damage to or Destruction of Known Archaeological Sites.

North Sacramento Streams Levee Improvements

There are no known archaeological sites in the North Sacramento Streams Levee Improvements and NEMDC/Steelhead Creek CMP areas, and thus there would be no impact.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

There are no known archaeological sites in the North Sacramento Streams Levee Improvements and NEMDC/Steelhead Creek CMP areas, and thus there would be no impact.
T. Impact GEO-2: Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Impacts for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would be less than significant because earthmoving activities would only occur in rock formations of low paleontological sensitivity.

U. Impact GM-2: Potential Long-Term Increase in Channel Bed Incision and Bank Erosion Attributable to Project Design

North Sacramento Streams Levee Improvements

When confined between levees, stream energy has the potential to erode the banks and cause bed degradation or incision. However, the proposed project would not raise levee heights or water surface levels, and thus would not increase or intensify these geomorphic processes. Bank protection would be installed at summer water surface elevations, minimizing the potential to deflect erosion energy downstream at high flows. Therefore, this impact would be less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements.

Sacramento River East Levee Improvements

When confined between levees, stream energy has the potential to erode the banks and cause bed degradation or incision. However, the proposed project would not raise levee heights or water surface levels, and thus would not increase or intensify these geomorphic processes. Bank protection would be installed at summer water surface elevations, minimizing the potential to deflect erosion energy downstream at high flows. Therefore, this impact would be less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project activities could potentially increase channel bed incision or bank erosion. However, the project elements would not raise levee heights or water surface levels appreciably—and where they do would be localized and minor—thus they would not increase or intensify these geomorphic processes. Therefore, these proposed project elements would have a less-than-significant impact.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Increased conveyance and decreased sedimentation are both desired effects of the proposed project for both flood control and environmental purposes. Project activities that may cause a potential increase in sedimentation downstream would likely be temporary as the channel equilibrates to the new configuration. The proposed project would not change depositional
processes beyond what naturally occurs as a channel adjusts to flows and sediment transport. Therefore, this proposed project element would have a less-than-significant impact.

V. **Impact GM-3: Long-Term Potential for Levee Seepage**

**North Sacramento Streams Levee Improvements**

Encroachment removal, vegetation management, and the Conservation Strategy would not affect levee seepage. Therefore, these proposed project elements would have no impact. Through- and underseepage have the potential to weaken and potentially cause levee failures. The proposed project would decrease through- and underseepage, thus reducing the risk of levee failures. Therefore, the proposed result would result in a beneficial effect in the North Sacramento Streams and Sacramento River East Levee Improvement areas.

**Sacramento River East Levee Improvements**

Encroachment removal, vegetation management, and the Conservation Strategy would not affect levee seepage. Therefore, these proposed project elements would have no impact. Through- and underseepage have the potential to weaken and potentially cause levee failures. The proposed project would decrease through- and underseepage, thus reducing the risk of levee failures. Therefore, the proposed result would result in a beneficial effect in the North Sacramento Streams and Sacramento River East Levee Improvement areas.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

There would be no impact in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area because no levee improvements are proposed.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Activities associated with the NEMDC/Steelhead Creek CMP would not affect levee seepage. Therefore, this proposed project element would have no impact.

W. **Impact GHG-1: Temporary, Short-Term Generation of Greenhouse Gas Emissions**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

The GHG emissions generated by construction during the encroachment removal, vegetation management, and Conservation Strategy activities in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area would not exceed the SMAQMD thresholds of significance. Therefore, this impact would be less than significant.
Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Individually, the proposed project’s construction-related GHG emissions resulting from the NEMDC/Steelhead Creek CMP would not exceed SMAQMD’s construction threshold of significance. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that might have a significant impact on the environment. Therefore, this proposed project element would have a less-than-significant impact.

X. Impact GHG-2: Conflict with an Applicable GHG Emissions Reduction Plan

North Sacramento Streams Levee Improvements

The intent of the proposed project is to upgrade and improve existing flood protection infrastructure in Sacramento County, which would protect and prevent against potential adverse climate change impacts. This is consistent with the goals of the updated AB 32 Scoping Plan and 2009 California Statewide Adaptation Strategy to avoid detrimental impacts of climate change. Therefore, this impact would be less than significant for the entire project study area.

Sacramento River East Levee Improvements

The intent of the proposed project is to upgrade and improve existing flood protection infrastructure in Sacramento County, which would protect and prevent against potential adverse climate change impacts. This is consistent with the goals of the updated AB 32 Scoping Plan and 2009 California Statewide Adaptation Strategy to avoid detrimental impacts of climate change. Therefore, this impact would be less than significant for the entire project study area.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

The intent of the proposed project is to upgrade and improve existing flood protection infrastructure in Sacramento County, which would protect and prevent against potential adverse climate change impacts. This is consistent with the goals of the updated AB 32 Scoping Plan and 2009 California Statewide Adaptation Strategy to avoid detrimental impacts of climate change. Therefore, this impact would be less than significant for the entire project study area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

The intent of the proposed project is to upgrade and improve existing flood protection infrastructure in Sacramento County, which would protect and prevent against potential adverse climate change impacts. This is consistent with the goals of the updated AB 32 Scoping Plan and 2009 California Statewide Adaptation Strategy to avoid detrimental impacts of climate change. Therefore, this impact would be less than significant for the entire project study area.
Y. **HAZ-2: Handling of Hazardous Materials within 0.25 Mile of a School** 

**North Sacramento Streams Levee Improvements**

Project-related activities would entail the use of small quantities of hazards materials such as fuels, oils, and lubricants for construction equipment, as well as materials such as bentonite slurry for levee reconstruction. However, acutely hazardous materials would not be used, and the small quantities of materials used during construction would not represent a hazard to pupils or employees at schools in the project vicinity. Therefore, this impact would be less than significant throughout the project study area.

**Sacramento River East Levee Improvements**

Project-related activities would entail the use of small quantities of hazards materials such as fuels, oils, and lubricants for construction equipment, as well as materials such as bentonite slurry for levee reconstruction. However, acutely hazardous materials would not be used, and the small quantities of materials used during construction would not represent a hazard to pupils or employees at schools in the project vicinity. Therefore, this impact would be less than significant throughout the project study area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Project-related activities would entail the use of small quantities of hazards materials such as fuels, oils, and lubricants for construction equipment, as well as materials such as bentonite slurry for levee reconstruction. However, acutely hazardous materials would not be used, and the small quantities of materials used during construction would not represent a hazard to pupils or employees at schools in the project vicinity. Therefore, this impact would be less than significant throughout the project study area.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Project-related activities would entail the use of small quantities of hazards materials such as fuels, oils, and lubricants for construction equipment, as well as materials such as bentonite slurry for levee reconstruction. However, acutely hazardous materials would not be used, and the small quantities of materials used during construction would not represent a hazard to pupils or employees at schools in the project vicinity. Therefore, this impact would be less than significant throughout the project study area.

Z. **Impact HAZ-3: Possible Exposure of People and the Environment to Existing Hazardous Materials, Including Cortese-Listed Sites.**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Activities associated with the NEMDC/Steelhead Creek CMP are not expected to result in exposure of construction workers or the general public to health hazards associated with
hazardous materials, and this proposed project element would have a less-than-significant impact.

**AA. Impact HAZ-4: Possible Creation of Safety Hazards, Including Birdstrike, in the Vicinity of a Public or Private Airport**

**Sacramento River East Levee Improvements**

Although the Conservation Strategy would result in habitat improvements that could attract increased numbers of birds in the vicinity of the McClellan and Borges-Clarksburg Airports, existing water-dependent bird habitat is already present and a substantial increase in birdstrikes is not anticipated because existing standing water would be removed as part of the Conservation Strategy. Therefore, this impact would be less than significant for the Sacramento River East Levee Improvements area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

The FAA wildlife strike database contains no strike reports for the Borges-Clarksburg Airport for the 24-year period 1990–2014 (FAA 2014). Although the riparian planting site could increase the amount of available nesting habitat for certain types of bird species, such habitat is already present throughout the levees along the Sacramento River and in the vicinity of Laguna and Morrison Creeks, as well as Mungers and Greenhaven Lakes. A substantial increase in the number of bird species that could result in a birdstrike hazard for the Borges-Clarksburg Airport is not anticipated. Therefore, these proposed project elements would have a less-than-significant impact.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

The proposed NEMDC/Steelhead Creek CMP would not result in a substantial increase in hazardous wildlife in the form of birdstrikes near an airport, and this proposed project element would have a less-than-significant impact.

**BB. Impact HAZ-6: Create a Public Health Hazard from Increased Exposure to Mosquito-Borne Diseases by Substantially Increasing the Amount of Mosquito Habitat**

**North Sacramento Streams Levee Improvements**

Implementing the Conservation Strategy in the North Sacramento Streams Levee Improvements area would reduce the amount of mosquito-breeding habitat because the amount of standing water would be reduced as beaver dams are removed. This impact would be beneficial and less than significant for the North Sacramento Streams Levee Improvements area.
Sacramento River East Levee Improvements

There would be no impact in the Sacramento River East Levee Improvements area or the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area because there are no project-related activities that would affect mosquito habitat.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

There would be no impact in the Sacramento River East Levee Improvements area or the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area because there are no project-related activities that would affect mosquito habitat.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

The NEMDC/Steelhead Creek CMP would reduce the risk of mosquito-borne human diseases in the region, and this proposed project element would result in a beneficial, less-than-significant impact.

CC. Impact HH-1: Potential Increase in Flood Water Surface Elevations and Possible Long-Term and Direct Impacts on Flooding

North Sacramento Streams Levee Improvements

Changes in the waterside levee prism and/or floodway land surfaces may affect the conveyance capacity of leveed stream reaches and result in a change in flood water surface elevations. Because the levee geometry would not change substantially, and because of the isolated locations and low elevation of erosion repair efforts, impacts to flood water surface elevations are anticipated to be minor and localized. The removal of “high-hazard” levee vegetation and encroachments and the planting of vegetation as part of the Conservation Strategy may redirect flood flows both during and after construction; however, these conditions are anticipated to be localized and minor. Therefore, this impact would be less than significant throughout the project study area.

Sacramento River East Levee Improvements

Changes in the waterside levee prism and/or floodway land surfaces may affect the conveyance capacity of leveed stream reaches and result in a change in flood water surface elevations. Because the levee geometry would not change substantially, and because of the isolated locations and low elevation of erosion repair efforts, impacts to flood water surface elevations are anticipated to be minor and localized. The removal of “high-hazard” levee vegetation and encroachments and the planting of vegetation as part of the Conservation Strategy may redirect flood flows both during and after construction; however, these conditions are anticipated to be localized and minor. Therefore, this impact would be less than significant throughout the project study area.
American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Changes in the waterside levee prism and/or floodway land surfaces may affect the conveyance capacity of leveed stream reaches and result in a change in flood water surface elevations. Because the levee geometry would not change substantially, and because of the isolated locations and low elevation of erosion repair efforts, impacts to flood water surface elevations are anticipated to be minor and localized. The removal of “high-hazard” levee vegetation and encroachments and the planting of vegetation as part of the Conservation Strategy may redirect flood flows both during and after construction; however, these conditions are anticipated to be localized and minor. Therefore, this impact would be less than significant throughout the project study area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Changes in the waterside levee prism and/or floodway land surfaces may affect the conveyance capacity of leveed stream reaches and result in a change in flood water surface elevations. Because the levee geometry would not change substantially, and because of the isolated locations and low elevation of erosion repair efforts, impacts to flood water surface elevations are anticipated to be minor and localized. The removal of “high-hazard” levee vegetation and encroachments and the planting of vegetation as part of the Conservation Strategy may redirect flood flows both during and after construction; however, these conditions are anticipated to be localized and minor. Therefore, this impact would be less than significant throughout the project study area.

DD. Impact HH-2: Potential Short-Term Temporary Flooding Impacts from Upstream Dam Failure and Overtopping of Degraded Levees during Construction

North Sacramento Streams Levee Improvements

The centerline slurry cutoff wall construction technique would require degrading (lowering) a levee reach by approximately 1/3 the total height of the levee, as measured on the landside, to provide a work surface for equipment along the centerline trench. The concurrent failure or misoperation of upstream dam infrastructure could expose people or structures to a significant risk of loss, injury or death from overtopping and flooding; however, the estimated probability of occurrence of this event occurring during the construction season is less than 2 percent, based on extreme event statistics (Chow et al. 1988:420-423). Therefore, this impact would be less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements.

Sacramento River East Levee Improvements

The centerline slurry cutoff wall construction technique would require degrading (lowering) a levee reach by approximately 1/3 the total height of the levee, as measured on the landside, to provide a work surface for equipment along the centerline trench. The concurrent failure or misoperation of upstream dam infrastructure could expose people or structures to a
significant risk of loss, injury or death from overtopping and flooding; however, the estimated probability of occurrence of this event occurring during the construction season is less than 2 percent, based on extreme event statistics (Chow et al. 1988:420-423). Therefore, this impact would be less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Since encroachment removal, vegetation management, and Conservation Strategy activities would not entail work on the levee infrastructure, the proposed project would not increase the potential for overtopping of levees in the event of an upstream dam failure and thus there would be no impact in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Activities associated with the NEMDC/Steelhead Creek CMP would not increase the potential for flooding associated with upstream dam failure or overtopping of levees because these activities would not entail work on the levee infrastructure, and would not change the existing risk of upstream dam failure. Therefore, this proposed project element would have no impact.

**EE. Impact HH-3: Potential for Flooding Due to Possible Levee Failure during Construction.**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Activities associated with the NEMDC/Steelhead Creek CMP would not increase the potential for levee failure during construction because these activities would not occur within the levee footprint and would not be implemented in a manner that would increase erosion or result in undercutting of the levees. Therefore, this proposed project element would have no impact.

**FF. Impact HH-4: Potential Damage to or Destruction of Existing Storm Drainage Facilities, Storm Drainage Pipelines, and Drainage Outfalls during Construction**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Because no drainage structures or regrading of drainage systems are planned beyond the project footprints in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area, there would be no impact.
No additional drainage structures or regrading of drainage systems are planned beyond the project footprints for work associated with the NEMDC/Steelhead Creek CMP. Off-site construction areas would retain drainage on site during construction. Thus, there would be no temporary or long-term effects on landside drainage from implementation of the NEMDC/Steelhead Creek CMP, and this proposed project element would have no impact.

GG. **Impact LAND-1: Consistency with Adopted General Plan Policies, Land Use Designations, and Zoning Codes**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Activities associated with levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would increase levee resistance to erosion, provide better overall levee stability, provide additional flood protection for adjacent land uses, promote the preservation and restoration of contiguous areas of natural habitat, and would be consistent with adopted Sacramento County, Sutter County, and City of Sacramento General Plan policies, land use designations, and zoning. Therefore, this impact would be less than significant throughout the project study area.

**North Sacramento Streams Levee Improvements**

Activities associated with levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would increase levee resistance to erosion, provide better overall levee stability, provide additional flood protection for adjacent land uses, promote the preservation and restoration of contiguous areas of natural habitat, and would be consistent with adopted Sacramento County, Sutter County, and City of Sacramento General Plan policies, land use designations, and zoning. Therefore, this impact would be less than significant throughout the project study area.

**Sacramento River East Levee Improvements**

Activities associated with levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would increase levee resistance to erosion, provide better overall levee stability, provide additional flood protection for adjacent land uses, promote the preservation and restoration of contiguous areas of natural habitat, and would be consistent with adopted Sacramento County, Sutter County, and City of Sacramento General Plan policies, land use designations, and zoning. Therefore, this impact would be less than significant throughout the project study area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Activities associated with levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would increase levee resistance to erosion, provide better overall levee stability, provide additional flood protection for adjacent land uses, promote the preservation and restoration of contiguous areas of natural habitat, and would be consistent with adopted Sacramento County, Sutter County, and City of Sacramento General Plan policies, land use designations, and zoning. Therefore, this impact would be less than significant throughout the project study area.
EXHIBIT B

protection for adjacent land uses, promote the preservation and restoration of contiguous areas of natural habitat, and would be consistent with adopted Sacramento County, Sutter County, and City of Sacramento General Plan policies, land use designations, and zoning. Therefore, this impact would be less than significant throughout the project study area.

**HH. Impact LAND-2: Consistency with Adopted Parkway Plans**

**North Sacramento Streams Levee Improvements**

There would be no impact for the North Sacramento Streams Levee Improvements area because it does not fall within the boundaries of either the Sacramento River or American River Parkway Plans.

**Sacramento River East Levee Improvements**

Activities associated with the proposed levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would be consistent with policies contained in the adopted Sacramento River and American River Parkway Plans. Therefore, this impact would be less than significant for the Sacramento River East Levee Improvements area and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Activities associated with the proposed levee improvements, encroachment removal, vegetation management, the Conservation Strategy, and the NEMDC/Steelhead Creek CMP would be consistent with policies contained in the adopted Sacramento River and American River Parkway Plans. Therefore, this impact would be less than significant for the Sacramento River East Levee Improvements area and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

None of the activities associated with the NEMDC/Steelhead Creek CMP would occur within areas subject to either the American River or Sacramento River Parkway Plans. Therefore, this proposed project element would have no impact.

**II. Impact MIN-1: Loss of Availability of Regionally Important Mineral Resources**

**North Sacramento Streams Levee Improvements**

None of the levee improvement areas or borrow sites are located within a regionally designated important mineral resource extraction zone (i.e., an area classified by CGS as MRZ-2). Furthermore, the use of mineral resources for levee reconstruction and road base would be an appropriate use of any aggregate mineral resources that may be present. Therefore, this
impact would be less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements area.

**Sacramento River East Levee Improvements**

None of the levee improvement areas or borrow sites are located within a regionally designated important mineral resource extraction zone (i.e., an area classified by CGS as MRZ-2). Furthermore, the use of mineral resources for levee reconstruction and road base would be an appropriate use of any aggregate mineral resources that may be present. Therefore, this impact would be less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements area.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

Some of the proposed encroachment removal, vegetation management, and Conservation Strategy activities along the Lower American River would occur in areas classified by CGS as MRZ-2. However, these activities would be of short duration (e.g., 1–2 days), and there are no current mineral extraction operations in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Therefore, this impact would be less than significant for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

The NEMDC/Steelhead Creek CMP activities would not affect access to mineral resources because these activities would occur in small, localized, discrete areas for short periods of time. Furthermore, these activities would occur in areas classified by CGS as MRZ-1 and MRZ-3 (Dupras 1999: Plate 3). These classifications are not considered to be regionally important mineral resource extraction zones. Therefore, this proposed project element would have no impact.

**JJ. Impact MIN-2: Loss of Availability of Locally Important Mineral Resources**

**North Sacramento Streams Levee Improvements**

None of the levee improvement areas or borrow sites are located within a locally designated important mineral resource extraction zone. Furthermore, the use of mineral resources for levee reconstruction and road base would be an appropriate use of any aggregate mineral resources that may be present. Thus, there would be no impact for the North Sacramento Streams or Sacramento River East Levee Improvements areas.

**Sacramento River East Levee Improvements**

None of the levee improvement areas or borrow sites are located within a locally designated important mineral resource extraction zone. Furthermore, the use of mineral resources for levee reconstruction and road base would be an appropriate use of any aggregate mineral resources that may be present. Thus, there would be no impact for the North Sacramento Streams or Sacramento River East Levee Improvements areas.
resources that may be present. Thus, there would be no impact for the North Sacramento Streams or Sacramento River East Levee Improvements areas.

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

The Beach Lake Levee is not located in a locally designated important mineral resource extraction zone. Some of the proposed encroachment removal, vegetation management, and Conservation Strategy activities along the American River would occur in a locally designated important mineral resource extraction zone. However, these activities would be of short duration (e.g., 1–2 days) and there are no current mineral extraction operations in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Therefore, this impact would be less than significant for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

The NEMDC/Steelhead Creek CMP activities would not affect access to mineral resources because these activities would occur in small, localized, discrete areas for short periods of time. Furthermore, these activities would not occur within a locally designated important mineral resource recovery area (Sacramento County 2011:Figure 3). Therefore, this proposed project element would have no impact.

**KK. Impact NOI-1: Potential Exposure of Persons to or Generation of Noise Levels in Excess of Standards Established in the Local General Plan or Noise Ordinance, or in Other Applicable Local, State, or Federal Standards**

**Sacramento River East Levee Improvements**

Project-related noise generated during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Levee Improvements only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would increase noise levels above the City of Sacramento’s daytime limit of 55 dBA $L_{eq}$ at the closest residential uses throughout the project study area. However, project-related construction would only occur during the exempt construction hours established by the City. Therefore, this impact would be less than significant throughout the project study area. Project-generated traffic noise associated with levee reconstruction, encroachment removal, and vegetation management would only increase the traffic noise level above the applicable threshold in the North Sacramento Streams Improvements area. Therefore, this impact is less than significant for the Sacramento River East Levee Improvements area and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.
American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project-related noise generated during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Levee Improvements only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would increase noise levels above the City of Sacramento’s daytime limit of 55 dBA Leq at the closest residential uses throughout the project study area. However, project-related construction would only occur during the exempt construction hours established by the City. Therefore, this impact would be less than significant throughout the project study area. Project-generated traffic noise associated with levee reconstruction, encroachment removal, and vegetation management would only increase the traffic noise level above the applicable threshold in the North Sacramento Streams Improvements area. Therefore, this impact is less than significant for the Sacramento River East Levee Improvements area and the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Project-related noise generated during activities associated with levee reconstruction (North Sacramento Streams and Sacramento River East Levee Improvements), soil/bank erosion repairs (Sacramento River East Levee Improvements only); the NEMDC/Steelhead Creek CMP (North Sacramento Streams Levee Improvements only); and encroachment removal, vegetation management, and the Conservation Strategy (throughout the project study area) would increase noise levels above the City of Sacramento’s daytime limit of 55 dBA Leq at the closest residential uses throughout the project study area. However, project-related construction would only occur during the exempt construction hours established by the City. Therefore, this impact would be less than significant throughout the project study area. Project-generated traffic noise associated with levee reconstruction, encroachment removal, and vegetation management would only increase the traffic noise level above the applicable threshold in the North Sacramento Streams Improvements area. Traffic noise from NEMDC/Steelhead Creek CMP activities at the nearest sensitive receptors would be negligible, and this proposed project element would have a less-than-significant impact.

II. Impact NOI-4: Possible Exposure of Construction Workers to Aircraft Noise during Construction Activities

North Sacramento Streams Levee Improvements

Proposed project activities would be located well outside of the 65 dBA CNEL noise contours for the McClellan Airfield and Rio Linda Airport. Therefore, these proposed project elements would have a less-than-significant impact.
Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Proposed project activities would be located well outside of the 65 dBA CNEL noise contours for the McClellan Airfield and Rio Linda Airport. Therefore, these proposed project elements would have a less-than-significant impact.

**MM. Impact TR-1: Increase in Traffic Volumes or Decrease in Capacity along Designated Roadways in the Project Study Area**

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

The impact would be less than significant for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas and NEMDC/Steelhead Creek CMP because the level of traffic activity would not degrade traffic operations along the roadways used by project-related vehicles.

**NN. Impact TR-2: Potential for Increased Emergency Response Times or Inadequate Emergency Access**

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

The impact would be less than significant for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas and NEMDC/Steelhead Creek CMP because the level of traffic activity would not degrade traffic operations along the roadways used by project-related vehicles.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

The impact would be less than significant for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal areas and NEMDC/Steelhead Creek CMP because the level of traffic activity would not degrade traffic operations along the roadways used by project-related vehicles.
OO. **Impact TR-3: Decreased Performance or Safety of Alternative Modes of Transportation**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

This level of traffic activity would not cause temporary road closures in the area, and would not interfere with pedestrians and cyclists along these roads. Also, these project-related activities would not cause closure of pedestrian and bicycle trails along the NEMDC/Steelhead Creek. Therefore, this proposed project element would have a less-than-significant impact.

PP. **Impact TR-4: Increased Hazards Due to a Design Feature or Incompatible Uses**

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

The level of traffic activity would not cause potential damage to pavement and would not increase traffic hazards on local roadways during the activities associated with NEMDC/Steelhead Creek CMP. Therefore, this proposed project element would have a less-than-significant impact.

QQ. **Impact UTL-1: Potential Disruption of Utility Service**

**American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal**

There would be no impact for the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area because there are no project-related activities that would damage utility infrastructure and facilities or result in the need to relocate existing utilities.

**Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan**

Activities associated with the NEMDC/Steelhead Creek CMP would not affect utility infrastructure and facilities. Therefore, these proposed project elements would have no impact.

RR. **Impact UTL-2: Increase in Solid Waste Generation**

**North Sacramento Streams Levee Improvements**

Project operation would involve only periodic inspection and maintenance activities and would not result in short- or long-term solid waste generation. Temporary and short-term levee reconstruction activities, encroachment removal, and vegetation management activities would generate organic and non-organic solid waste. Waste material that is not suitable for disposal on-site or in the borrow areas would likely be disposed of in the Kiefer Landfill or the L and D Landfill. Both landfills have sufficient permitted capacity to accommodate the proposed project’s short- disposal needs; therefore, this impact would be less than significant throughout the project study area.
Sacramento River East Levee Improvements

Project operation would involve only periodic inspection and maintenance activities and would not result in short- or long-term solid waste generation. Temporary and short-term levee reconstruction activities, encroachment removal, and vegetation management activities would generate organic and non-organic solid waste. Waste material that is not suitable for disposal onsite or in the borrow areas would likely be disposed of in the Kiefer Landfill or the L and D Landfill. Both landfills have sufficient permitted capacity to accommodate the proposed project’s short- disposal needs; therefore, this impact would be less than significant throughout the project study area.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Project operation would involve only periodic inspection and maintenance activities and would not result in short- or long-term solid waste generation. Temporary and short-term levee reconstruction activities, encroachment removal, and vegetation management activities would generate organic and non-organic solid waste. Waste material that is not suitable for disposal onsite or in the borrow areas would likely be disposed of in the Kiefer Landfill or the L and D Landfill. Both landfills have sufficient permitted capacity to accommodate the proposed project’s short- disposal needs; therefore, this impact would be less than significant throughout the project study area.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

Project operation would involve only periodic inspection and maintenance activities and would not result in short- or long-term solid waste generation. Temporary and short-term levee reconstruction activities, encroachment removal, and vegetation management activities would generate organic and non-organic solid waste. Waste material that is not suitable for disposal onsite or in the borrow areas would likely be disposed of in the Kiefer Landfill or the L and D Landfill. Both landfills have sufficient permitted capacity to accommodate the proposed project’s short- disposal needs; therefore, this impact would be less than significant throughout the project study area.

SS. Impact WQ-2: Possible Long-Term Operational Effects on Groundwater Levels Resulting from Installation of Slurry Cutoff Walls

North Sacramento Streams Levee Improvements

The implementation of cutoff walls could restrict the movement of groundwater, potentially increasing or decreasing localized near-surface groundwater levels in the areas immediately adjacent to the cutoff walls. A substantial drop in groundwater levels could decrease the yield of nearby wells or increase pumping costs of those wells. However, because a substantial long-term decrease in groundwater levels or well yields or increase in pumping cost is not expected to be caused by the cutoff walls, this impact is considered less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements.
Sacramento River East Levee Improvements

The implementation of cutoff walls could restrict the movement of groundwater, potentially increasing or decreasing localized near-surface groundwater levels in the areas immediately adjacent to the cutoff walls. A substantial drop in groundwater levels could decrease the yield of nearby wells or increase pumping costs of those wells. However, because a substantial long-term decrease in groundwater levels or well yields or increase in pumping cost is not expected to be caused by the cutoff walls, this impact is considered less than significant for the North Sacramento Streams and Sacramento River East Levee Improvements.

American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal

Because no slurry cutoff walls would be installed in the in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area, there would be no impact.

Natomas East Main Drainage Canal/Steelhead Creek Corridor Management Plan

The activities associated with the NEMDC/Steelhead Creek CMP would not be related to the installation of levee cutoff walls. Therefore, this proposed project element would have no impact.

VIII. GROWTH-INDUCING

CEQA requires that an EIR evaluate the growth-inducing impacts of a proposed project (Section 21100[b][5]). Growth-inducing impacts are the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The proposed project consists of levee improvements along the NEMDC/Steelhead Creek East Levee, the Arcade Creek North and South Levees, and the Sacramento River East Levee; removal of facilities that are encroaching on these levees as well as the Beach Lake Levee, such as fencing, retaining walls, stairways, and residential landscaping; removal of high-hazard trees; and implementation of a Conservation Strategy throughout the project study area. The proposed project would also entail implementation of the NEMDC/Steelhead Creek CMP in the North Sacramento Streams Levee Improvements area. Because none of these project elements would involve construction of housing, the proposed project would not directly induce growth. Project-related construction activities would generate temporary and short-term employment, but these construction jobs are anticipated to be filled from the existing local employment pool, and would not indirectly result in a population increase or induce growth by creating permanent new jobs. Furthermore, the proposed project would not involve constructing businesses or extending roadways or other infrastructure and it would not indirectly induce population growth. Consequently, the proposed project would not induce growth leading to changes in land use patterns, population densities, or related impacts on environmental resources.

Levee improvements, encroachment removal, and vegetation management activities would benefit areas identified for future growth anticipated in the vicinity of the Arcade Creek
North and South Levees and the Sacramento River East Levee in the City of Sacramento. As discussed in Section 4.13, “Land Use and Planning, Population, Housing, and Employment,” in the EIR, local land use decisions are within the jurisdiction of the City of Sacramento, which has adopted a general plan consistent with State law. The City of Sacramento 2030 General Plan (City of Sacramento 2009) provides an overall framework for growth and development in the City.

The City of Sacramento 2013–2021 Housing Element (City of Sacramento 2013) of the City General Plan identifies vacant parcels zoned for multifamily dwelling units at the intersection of Rio Linda Boulevard and Arcade Boulevard and vacant parcels zoned for single-family dwelling units along Arcade Boulevard and in the vicinity of the Arcade Creek North and South Levees in the North Sacramento Streams Levee Improvements Project. Within the Sacramento River East Levee Improvements area, vacant parcels zoned for multifamily dwelling units are located in the vicinity of Riverside Boulevard and 43rd Avenue and vacant parcels zoned for single-family dwelling units are located within the Pocket and Little Pocket areas in the vicinity of Pocket Road (City of Sacramento 2013). Therefore, levee improvements, encroachment removal, and vegetation management activities would increase the levee’s resistance to erosion, provide better overall levee stability and reliability, and provide additional flood protection for growth anticipated in the City’s General Plan. Growth throughout the project study area has already been planned for as part of the City of Sacramento 2030 General Plan (City of Sacramento 2009). The proposed project would not allow additional growth to occur other than what has already been planned, nor would it change the locations where this growth is planned to occur. Consequently, implementation of these proposed project elements would not affect current and/or projected population growth patterns within the City of Sacramento as already evaluated and planned for in the City General Plan, and therefore would not be growth-inducing.

IX. CUMULATIVE IMPACTS

An EIR is required to discuss the cumulative impacts of a project when the project’s incremental effect is cumulatively considerable (State CEQA Guidelines CCR Section 15130[a][1]). CEQA defines cumulative impacts as “two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts.” “Cumulatively considerable” means that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (State CEQA Guidelines CCR Section 15065[a][3]; California PRC Section 21083[b][2]). When evaluating cumulative impacts, CEQA allows the use of a list of past, present, and probable future projects, or a summary of projections in an adopted planning document. Because of the scope of the project, the cumulative analysis in the EIR uses both approaches. A list of past, present, and probable future projects is included in the Draft EIR in Chapter 5. The analysis of the cumulative impacts of the project in Draft EIR Chapter 5 is summarized below. The findings in this section are based on the Draft and Final EIRs, which constitute the “EIR,” the discussion and analysis in which is hereby incorporated in full by this reference.
A. **Aesthetics**

The completion of construction activities, the levees, staging areas, and borrow sites for both the proposed project and the related projects would look the same or substantially similar to existing conditions. Therefore, the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to permanent degradation of visual character or adverse changes to scenic vistas. This impact would not result in a cumulatively considerable incremental contribution to a significant cumulative impact. However, the project would generate a cumulatively considerable incremental contribution to a significant cumulative impact related to short-term degradation of visual character or adverse changes to scenic vistas from rock revetment/berms on the waterside of levees in the Sacramento River East Levee Improvements area. No feasible mitigation is available that would reduce the project’s contribution to the significant cumulative impact or reduce the overall significant cumulative impact with respect to the rock revetment along the Sacramento River. This impact would be significant and unavoidable.

The vegetation removal activities of the project, when considered in combination with past and future vegetation removal associated with the related projects, would be substantial and would contribute to a degradation of visual character and result in adverse changes to the visual character, particularly in the short term. No feasible mitigation is available that would reduce the project’s contribution to the significant cumulative impact or reduce the overall significant cumulative impact. Therefore, the project would cause a cumulatively considerable incremental contribution to a significant cumulative impact on visual resources related to permanent degradation of visual character or adverse changes to scenic vistas from vegetation removal. This impact would be significant and unavoidable.

B. **Agriculture and Forestry Resources - Agriculture**

None of the project study area sites where levee improvements, encroachment removals, and vegetation management activities would occur are designated as Important Farmland by the California Department of Conservation. Because no agricultural land uses are present within or in the vicinity of the areas where levee improvements, encroachment removals, and vegetation management activities would occur, implementation of these project elements would not conflict with existing agricultural land uses or result in other changes in the physical environment that could result in the conversion of agricultural land, including Important Farmland, to nonagricultural uses. Therefore, these proposed project elements would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to conversion of agricultural land, including land designated as Important Farmland, to nonagricultural uses.

Without implementation of the proposed project, the significant cumulative losses of agricultural resources, including Important Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) that have occurred in Sacramento and Sutter Counties from past projects—and that would continue as a result of planned future projects—are considered to be a significant cumulative impact. Conservation Strategy activities on the Novak site and Riego North site in the North Sacramento Streams Improvements area and the site north of the Stone Lakes National Wildlife Refuge within the Sacramento River East Levee Improvements area.
would directly and permanently convert Prime Farmland to nonagricultural use. Implementation of Mitigation Measure AG-1, which was previously adopted and incorporated into the project, would lessen the project’s incremental contribution to any significant cumulative impacts associated with conversion of Important Farmland, by salvaging and redistributing the most productive topsoil from the construction footprint and by acquiring agricultural conservation easements at a 1:1 ratio that would provide in-kind or similar resource value protection. Although implementation of Mitigation Measure AG-1 would reduce the significant impact associated with the conversion of Important Farmland to nonagricultural uses, no new farmland would be made available and the productivity of existing farmland would not be improved. Consequently, full compensation for loss of Important Farmland would not be achieved and a net loss of Important Farmland still would occur. Therefore, implementation of the project’s Conservation Strategy within the North Sacramento Streams and Sacramento River East Levee Improvements areas would result in a cumulatively considerable incremental contribution to a significant cumulative impact related to the conversion of Important Farmland to nonagricultural uses.

No feasible mitigation is available that would reduce the project’s contribution to the significant cumulative impact or reduce the overall significant cumulative impact. This impact would be significant and unavoidable.

C. **Agriculture and Forestry Resources – Forestry**

Without implementation of the proposed project, the significant cumulative losses of forestry resources that have occurred from past projects—and that would continue as a result of planned future projects—are considered to be a significant cumulative impact. The amount of forestland that would be lost as a result of levee improvements is small compared to the amount of existing Fremont cottonwood forest and valley oak woodland, and implementation of Mitigation Measure AG-2a, which was previously adopted and incorporated into the project, would require tree plantings to replace lost acreage. Therefore, the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact.

The vegetation management element of the project includes the removal of high-hazard trees along Arcade Creek, the Sacramento River East Levee, the Lower American River, and the Beach Lake Levee. Overall, approximately 10 percent of the total trees on the waterside of project levees would be removed as part of the project. This analysis conservatively assumes that the vegetation removal activities of the project, when considered in combination with past and future vegetation removal associated with the related projects, would be substantial and would contribute to the short-term loss of forestland in the region. Although Mitigation Measure AG-2b, which was previously adopted and incorporated into the project, would reduce this impact, the project would contribute to a short-term cumulatively considerable incremental contribution to a significant cumulative impact related to the conversion of forestland to non-forest uses. No feasible mitigation is available that would reduce the project’s contribution to the significant cumulative impact or reduce the overall significant cumulative impact. This impact would be significant and unavoidable.
Although the vegetation management element of the proposed project would adversely affect forestry resources in the short-term, the Conservation Strategy includes enhancement and creation of various riparian woodlands at different locations throughout the project study area. The Conservation Strategy would result in an overall improvement in riparian woodland habitat and an overall long-term benefit to forestry resources (see Section 4.6, “Biological Resources – Terrestrial”) that would offset the forestry losses associated with vegetation management. Therefore the proposed project would not generate a long-term cumulatively considerable incremental contribution to a significant cumulative impact related to the conversion of forestland to non-forest uses.

D. **Air Quality**

As shown in Tables 4.4-3 and 4.4-6, the project’s individual emissions would be a cumulatively considerable contribution because the North Sacramento Streams and Sacramento River East Levee Improvements would generate short-term, temporary construction emissions that exceed SMAQMD’s threshold of significance. With implementation of Mitigation Measures AIR-1a, AIR-1b, AIR-1c, and AIR-1d, which were previously adopted and incorporated into the project, the proposed project’s construction-related nitric oxide ($\text{NO}_X$) emissions would be reduced to a less-than-significant level. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to impacts on regional air quality.

With respect to localized air pollutants such as CO, toxic air contaminants (TACs), and odors, the proposed project would generate these pollutants only during construction and they would be temporary and short term. As discussed in Impact AIR-2 and AIR-3, which are hereby adopted and incorporated into the project, the proposed project’s construction-related contributions of these air pollutants are not anticipated to cause a significant impact. Therefore, because the proposed project would not generate significant levels of these pollutants and all construction emissions would cease following completion of the proposed project, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to generation of CO and TACs during construction.

E. **Biological Resources – Fisheries**

Cumulative impacts on anadromous salmonids and other special-status fish species and their habitats have resulted from past and ongoing water and land development activities in the Central Valley where these special-status species occur. Many ongoing and probable future projects and activities would further contribute to existing significant cumulative impacts. Mitigation Measure BIO-F1, which was previously adopted and incorporated into the project, would require implementation of measures from the Conservation Strategy, which would avoid and minimize direct temporary and short-term impacts of the proposed project on special-status fishes.

The creation and enhancement of shoreline and riparian habitat through project design features and implementation of measures included in the Conservation Strategy would result in long-term improvements in the quality and quantity of critical habitat for Central Valley
steelhead, Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, green sturgeon, and Delta smelt, and essential fish habitat for all runs of Chinook salmon. These indirect effects would be beneficial. Therefore, the proposed project would not make a cumulatively considerable incremental contribution to a significant cumulative impact on special-status fish populations.

F. Biological Resources - Terrestrial

Implementation of SAFCA’s proposed project has the potential to contribute to the loss or degradation of sensitive habitats, including Waters of the U.S., waters of the State, and protected trees, and to adversely affect special-status species. Most potential effects of the proposed project related to wildlife would be associated with construction disturbances of wildlife and their habitats, but permanent loss of habitat would also result from some of the individual levee improvements. Similar potential for adverse effects on special-status species and their habitats would be associated with the flood risk reduction projects, including future ARCF projects proposed along Magpie Creek, the Sacramento River East Levee, and the American River, and habitat restoration projects expected in the Sacramento area and surrounding region, which would generally continue to reduce suitable habitat and nest sites. Implementation of the avoidance and minimization measures outlined in the Conservation Strategy as well as Mitigation Measures BIO-1 through BIO-12, which were previously adopted and incorporated into the project, would reduce or avoid the effects of the proposed project. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to significant cumulative impacts related to the loss or degradation of sensitive habitats and to adverse effects on special-status species.

G. Cultural Resources

Implementation of the project, as well as future implementation of development projects in Sacramento County; other flood risk reduction projects, and habitat restoration projects have the potential to contribute to the loss or degradation of known and unrecorded archaeological resources, known historical built environment resources, and human remains. Most potential effects would be associated with construction disturbances of archaeological sites and human remains. These effects could contribute to the loss of intact cultural resources or human remains. However, implementation of Mitigation Measures CR-2a, CR-2b, CR-3, CR-4a, and CR-4b, which were previously adopted and incorporated into the project, would reduce or avoid these effects; therefore, the project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to the damage or destruction of known or previously undiscovered archaeological resources and human remains.

The encroachment removal and vegetation management activities associated with the Sacramento River Levee Improvements have the potential to alter Victory Trees, which are known architectural landscape resources. Removal of the Victory Trees would have a cumulative effect on the tree row and result in the loss of integrity of design, materials, feeling, and association. Removal of more trees would result in the tree row’s inability to clearly convey its historical significance. Implementation of Mitigation Measure CR-1, which was previously adopted and incorporated into the project, would reduce the significant impact by conducting a historic landscape inventory and report and implementing treatment measures for retention and
mitigation of the Victory Trees but not to a less-than-significant level. Therefore, it is anticipated that the project would contribute to a cumulatively considerable incremental contribution to a significant cumulative impact associated with damage to known historical built environment resources. No feasible mitigation is available that would reduce the project’s contribution to the significant cumulative impact or reduce the overall significant cumulative impact. This impact would remain significant and unavoidable.

H. Geology, Soils, and Paleontological Resources

Mitigation Measure GEO-1 which was previously adopted and incorporated into the project, would require SAFCA to prepare a SWPPP and implement erosion control BMPs in compliance with existing Statewide NPDES discharge permits from the Central Valley RWQCB, in an effort to reduce potentially significant temporary, short-term construction-related erosion and sedimentation resulting from project implementation. Implementation of Mitigation Measure GEO-1 would reduce this impact to a less-than-significant level. Each related project, including future ARCF projects proposed along Magpie Creek, the Sacramento River East Levee, and the American River that would disturb 1 acre of land or more would also be required to prepare a SWPPP and implement erosion control BMPs. Therefore, that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to construction-related erosion.

Most of the project-related earthmoving activities would take place within Holocene-age rock formations, which are considered to be of low paleontological sensitivity. However, the Pleistocene-age Riverbank Formation, which is paleontologically sensitive, is exposed at the surface in several portions of the North Sacramento Streams Levee Improvements area, and occurs at depth beneath the Sacramento River East Levee Improvements area. Some of the related projects would also occur in the Riverbank Formation, as well as the Modesto Formation (which is also considered paleontologically sensitive due to the large numbers of vertebrate fossils recovered therein). Mitigation Measure GEO-2, which was previously adopted and incorporated into the project, would reduce project-related impacts on previously undiscovered unique paleontological resources to a less-than-significant level. Therefore, with implementation of Mitigation Measure GEO-2, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to damage to or destruction of unique paleontological resources.

I. Geomorphology

A cumulative increase in erosion and sedimentation could occur if other levee improvement projects on the Sacramento River and its tributaries take place at the same time as the proposed project. Future improvements proposed as part of the ARCF project would occur along Magpie Creek, the Sacramento River East Levee, and the American River; however, as of this time there is no construction start date. Project construction activities, including excavation, grading, trenching, backfilling, and transport of soil, could result in substantial soil erosion if not properly designed and controlled. Similar construction activities associated with the other ongoing and reasonably foreseeable projects could also result in substantial soil erosion. Therefore, these impacts would be potentially significant; however, the potential for erosion and sedimentation resulting from the proposed project and other projects is limited by minimization
measures and implementation of a SWPPP, and constructing levee improvements outside of the flood season. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to increases in erosion and sedimentation during construction.

Removal of encroachments and high-hazard vegetation from levees to comply with levee accreditation guidelines and elements associated with the Conservation Strategy and the NEMDC/Steelhead Creek CMP may expose portions of the levee to higher risk of erosion. A cumulative increase in erosion and sedimentation could occur if other levee improvement projects on the Sacramento River and its tributaries take place at the same time as the proposed project, including future ARCF projects. Therefore, these impacts would be potentially significant. However, the proposed project includes avoidance and minimization measures and adding vegetation to existing erosion sites which would reduce the risk of erosion. Any cumulative effect from vegetation removal would be mitigated by the vegetation planting at erosion sites. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to increases in erosion and sedimentation.

When confined between levees, stream energy has the potential to erode the banks and cause bed degradation or incision. Therefore, these impacts would be potentially significant; however, the proposed levee improvements are predominantly subsurface geotechnical improvements and would not significantly alter the levee surfaces on the water-side of the levee or water surface elevations. The proposed project does not include significant levee raising or setbacks, which have potential effects on water surface elevations and geomorphic processes such as channel incision and bank erosion upstream and downstream of the proposed project sites. Therefore, it anticipated that levee improvements would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to channel or bank erosion resulting from the implementation of various seepage control treatments.

It is acknowledged that a levee system is only as strong as its weakest link, and it is speculated that strengthening of levee segments may make other levees more susceptible to failure. However, there is no evidence that the proposed seepage control elements would transfer an unacceptable risk of failure to adjacent or downstream levee systems. It is also acknowledged that erosion protection measures may deflect stream energy and erosion downstream to other unprotected areas. However, proposed erosion protection elements are designed to protect against low-flow erosive forces such as boat wakes, and during times of high flow would be inundated and unlikely to transfer significant erosive forces downstream. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to geomorphic conditions.

Removal of encroachments and high-hazard vegetation from levees to comply with levee accreditation guidelines may increase flow velocities and alter flow paths, increasing erosion and altering sediment transport patterns. A cumulative increase in erosion and sedimentation could occur if other levee improvement projects on the Sacramento River and its tributaries take place at the same time as the proposed project. Future proposed ARCF projects would occur along Magpie Creek, the Sacramento River East Levee, and the American River; however, as of this time there is no construction start date. Therefore, these impacts would be potentially significant;
however, these effects are anticipated to be localized and minor. Once established, the plantings proposed in the Conservation Strategy would counteract for some of the changes in channel roughness and sediment transport. The proposed project elements would not raise levee heights or water surface levels appreciably—and where they do would be localized and minor—thus they would not cumulatively increase or intensify these geomorphic processes. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to increases in flow velocities and alteration of flow paths that result in increased erosion and changes in sediment transport patterns.

The riparian planting and removal of beaver dams associated with the NEMDC/Steelhead Creek CMP and the Conservation Strategy and may contribute to a cumulative increase in channel bed incision and bank erosion sediment deposition downstream of the project area. If combined with other projects, including future improvements proposed as part of the ARCF project, there could be a net increase in sedimentation. Therefore, these impacts would be potentially significant; however, the proposed project includes channel modifications and vegetation management actions to mitigate for these potential impacts. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to increases in channel bed incision and bank erosion sediment deposition.

If not addressed, seepage-related levee failures could contribute significant volumes of sediment and material to the stream channels, which could alter flow patterns and potentially destabilize other levees outside the project study area. Therefore, these impacts would be potentially significant; however, the proposed project would implement seepage control measures that would reduce the risk of levee failure. Therefore, it anticipated that the proposed project would not cumulatively increase the risk of levee failure. This effect would be cumulatively beneficial.

The removal of beaver dams and riparian planting associated with the NEMDC/Steelhead Creek CMP and the Conservation Strategy and may contribute to a cumulative increase in channel bed incision and bank erosion. However, the proposed project includes channel modifications and vegetation management actions to reduce the potential for adverse effects to occur. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to increases in channel bed incision and bank erosion.

J. Greenhouse Gas Emissions

Climate change as related to greenhouse gas (GHG) emissions inherently would be cumulative. Though significance thresholds can be developed by air districts, State regulatory agencies, or Federal regulatory agencies, these thresholds and their related goals are ultimately designed to affect climate change at a global level. Therefore, the analysis presented in Draft EIR Section 4.10, “Greenhouse Gas Emissions,” includes the analysis of both the proposed project and cumulative impacts. With implementation of Mitigation Measures AIR-1a, AIR-1c, and GHG-1, which were previously adopted and incorporated into the project, and the proposed project’s consistency with State climate change adaptation strategies, it is anticipated that the
proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to GHG emissions.

K. Hazards and Hazardous Materials

Mitigation Measure HAZ-1, which was previously adopted and incorporated into the project, includes requirements and BMPs to further reduce impacts. Furthermore, any impact that might occur would be localized to the area where the materials are being used and would not be additive to other hazardous materials-related impacts associated with the project study area. Thus, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to the potential for accidental spills of materials used during construction activities.

Implementation of the proposed project could result in exposure to existing hazardous materials sites on the Cortese list or from accidental rupture of petroleum or natural gas pipelines during construction activities. However, implementation of Mitigation Measure HAZ-3, which was previously adopted and incorporated into the project, would minimize the potential for exposure of people or the environment to hazardous materials encountered during construction activity. It is unknown whether any of the related project sites contain existing hazards materials (e.g., piles of debris, underground or aboveground storage tanks, underground pipelines, stained soils [indicating potential contamination]). However, if hazardous materials were encountered on-site during construction of the related projects, including future ARCF projects, the associated impacts would be localized to those projects and would not combine with other hazardous materials-related impacts associated with the proposed project. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to existing hazardous materials.

Project implementation would result in the handling of small quantities of hazardous materials used in construction equipment (e.g., fuels, oils, lubricants) and a bentonite slurry used for levee reconstruction. However, none of these materials would be acutely hazardous and would not be used in quantities that would pose a hazard to nearby schools. The related projects, including future ARCF projects, would also entail the use of small quantities of hazardous materials similar to the proposed project. However, this use would not represent a school hazard, and any impact that might occur would be localized to the area where the materials are being used and would not be additive to other hazardous materials-related impacts associated with the proposed project. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to the handling of hazardous materials within 0.25-mile of a school.

The operation of construction equipment, for both the proposed project and the related projects, could emit sparks, which may ignite wildfires. Implementation of Mitigation Measure HAZ-5, which was previously adopted and incorporated into the project, would reduce the proposed project’s potential for creation of wildland fire hazards to the maximum extent practicable. It is unknown whether or not the related projects would include mitigation, such as a fire prevention plan, that would reduce construction-related fire risks. Therefore, although the related projects may result in significant impacts, because the wildland fire risks for the proposed project would be reduced through implementation of a fire prevention plan, it is anticipated that
the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to wildland fire hazards.

Because the proposed project is expected to result in a decrease in mosquito habitat, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to mosquito-borne diseases.

I. Hydrologic and Hydraulic Resources

The cumulative context for the identified impacts to hydrologic and hydraulic resources is highly intertwined with other ongoing and future activities within the larger basin setting. Most direct impacts to hydrologic and hydraulic resources are anticipated to be localized and minor, and these impacts would be mitigated through implementation of the actions associated with the Conservation Strategy. For example, vegetation removed or managed for flood risk reduction would be compensated for by vegetation plantings in other locations.

Due to the lack of substantial changes in the levee geometry and the isolated locations and low elevation of erosion repair efforts, impacts to flood water surface elevations are anticipated to be minor and localized. This finding of negligible flood risk precludes any requirement to perform an impact analysis and forms the basis for the conclusion that the incremental effect is not cumulatively considerable. Therefore, it is anticipated that this aspect of the proposed project would not generate a cumulatively considerable incremental contribution related to the potential increase in flood water surface elevations and possible long-term and direct impacts on flooding. Implementation of the NEMDC/Steelhead Creek CMP would include low flow channel modifications and vegetation management actions to decrease hydraulic roughness of the existing vegetation. Therefore, it is anticipated that this aspect of the proposed project would not generate a cumulatively considerable incremental contribution related to the potential increase in flood water surface elevations and possible long-term and direct impacts on flooding. Since the proposed project itself is not anticipated to result in cumulatively considerable impacts within the project study area, impacts beyond the project study area are also not anticipated. With respect to the potential cumulative impacts of past, present, and probable future similar or related flood protection projects in the Sacramento region, these projects (listed in Section 5.4, “Projects Contributing to Potential Cumulative Impacts”), including the ARCF project, are intended to reduce potential flood impacts and potential cumulative impacts. Therefore, it is anticipated that the proposed project, in conjunction with all other planned projects for regional flood management, would not generate a cumulatively considerable incremental contribution related to the potential increase in flood water surface elevations and possible long-term and direct impacts on flooding.

Impacts from other related projects in the Sacramento region contributing to potential cumulative impacts, including the ARCF project, are anticipated to be limited to those projects involving similar centerline slurry cutoff wall construction techniques or other temporary modifications to existing levees, such as levee setback actions, that during construction may temporarily reduce the existing level of flood protection provided by a levee. The locations of specific impacts would be highly variable and would depend on the characteristics of the upstream concurrent failure or misoperation of upstream dam infrastructure and the resulting
downstream spatial extent of increased flooding exceeding temporary levee crest elevations or floodway design capacity thresholds.

The concurrent failure or misoperation of upstream dam infrastructure could expose people or structures to a significant risk of loss, injury, or death from overtopping and flooding during construction where centerline slurry cutoff wall construction techniques are employed that require degrading (lowering) a levee reach by approximately one-third the total height of the levee, as measured on the landside, to provide a work surface for equipment along the centerline trench. Impacts from other related projects in the Sacramento region contributing to potential cumulative impacts, including the ARCF project, are anticipated to be limited to those projects involving similar centerline slurry cutoff wall construction techniques or other temporary modifications to existing levees, such as levee setback actions, that during construction may temporarily reduce the existing level of flood protection provided by a levee. Cumulative impacts from all other similar or related projects in the Sacramento region may be reduced because of proposed improvements to SPFC facilities and the Folsom Dam and Reservoir. The ARCF project includes provisions for widening the Sacramento Weir and Bypass and this would lower flood elevations along the Sacramento and American River levees. The Folsom Dam Safety and Flood Damage Reduction Project, Folsom Dam Raise, and the Folsom Dam Water Control Manual Update projects include physical and operational improvements to reduce the potential for failure or misoperation of dam infrastructure. Both projects, separately or in combination, would serve to reduce downstream flood risk and cumulatively significant impacts. While most of the Folsom Dam improvements are slated to be completed by 2018, there is no proposed construction start date for the ARCF project. The exact construction timing and sequencing of the various levee improvement projects in the Sacramento River Valley are not yet determined or may depend on uncertain funding sources. The potential for this type of cumulative impact to occur would be reduced for those levee improvements constructed after Folsom Dam and Sacramento Weir improvements are in place. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution related to potential short-term temporary flooding impacts from upstream dam failure and overtopping of degraded levees during construction.

 Portions of the existing levees would be improved to meet embankment and foundation stability requirements. The construction of these improvements, and the removal of encroachments, may exacerbate existing geotechnical problems leading to failure of the levee during construction. Therefore, this impact would be potentially significant for the project study area. However, implementation of Mitigation Measure HH-3, which was previously adopted and incorporated into the project, would require preparation of contingency plans prior to the start of levee reconstruction activities and that a certified civil or geotechnical engineer conditions during construction. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution related to the potential for flooding due to levee failure during construction. Impacts from other related projects in the Sacramento region contributing to potential cumulative impacts are anticipated to be limited to those projects where existing geotechnical problems exist along discrete levee reaches. Cumulative impacts from all other similar or related projects in the Sacramento region may be reduced because of proposed improvements to SPFC facilities and the Folsom Dam and Reservoir. The ARCF project includes provisions for widening the Sacramento Weir and Bypass and this would lower flood elevations along the Sacramento and American River levees. Both projects, separately or in combination,
would serve to reduce downstream flood risk and cumulatively significant impacts. The potential for this type of cumulative impact to occur would be reduced for those levee improvements constructed after Folsom Dam and Sacramento Weir improvements are in place. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution related to the potential for flooding due to levee failure during construction.

Numerous storm pipes and drainage outfalls/gravity outlets penetrate project levees and there is a potential for these drainage features to be damaged during construction, thereby potentially disrupting the drainage of upstream areas during storm events and resulting in off-site flooding. However, implementing Mitigation Measure HH-4, which was previously adopted and incorporated into the project, would entail limiting construction during the dry season and low water periods, working with agencies to reestablish drainage following construction, preparing drainage studies as needed, and remediating effects through project design, which would minimize the proposed project’s temporary effects during construction. Impacts from other related projects in the Sacramento region contributing to potential cumulative impacts are anticipated to occur where storm pipes and drainage outfalls/gravity outlets penetrate levees. The locations of specific impacts may be substantial in number and extent; however, implementing Mitigation Measure HH-4 would reduce the project’s impact to a less-than-significant level. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution related to potential direct temporary impacts on existing storm drainage facilities, storm pipes and drainage outfalls during construction.

M. Land Use and Planning, and Population, Housing, and Employment

The determination of significance for impacts related to these issues, as described by Appendix G of the State CEQA Guidelines, is whether a project would conflict with any applicable adopted land use plan or policy adopted for the purpose of avoiding or mitigating environmental impacts. Such a conflict is site-specific and is addressed on a project-by-project basis. Because the impact is a conflict with a land use regulation, not an environmental impact, any land use inconsistencies of future projects, by themselves, are not cumulatively considerable and there is no significant cumulative impact. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact on land use and planning, or population, housing, and employment.

N. Mineral Resources

Although proposed encroachment removal and vegetation management activities along the American River east of I-80 would take place in an area designed by California Geological Survey (CGS) as Mineral Resource Zone (MRZ) MRZ-2—and therefore considered both a regionally and locally important mineral resource recovery area—these activities would be of very short duration (e.g., 1–2 days) and there are no current mineral extraction operations in the American River and Beach Lake Levees High-Hazard Levee Encroachment and Vegetation Removal area. Because of the widespread nature of projects considered in this cumulative impact analysis, there is a potential that one or more of the related projects could take place within areas that have been classified as MRZ-2 and therefore contain important mineral resources. However, levee projects generally use any aggregate resources that are present on site where the improvements are going to occur (if those materials are suitable for the intended use).
Furthermore, given the linear nature of levee improvements, they generally do not restrict access to known mineral resource deposits. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to mineral resources.

O. Noise

A cumulative impact might occur if construction activities associated with any of the related project(s) were to occur within 500 feet of the construction activities under the proposed project, and also, if the construction activities of other projects were to occur at the same time or overlap at some point during the construction activities of the proposed project. The WSLIP, among the projects identified in Section 5.4 of the EIR, “Projects Contributing to Potential Cumulative Impacts,” and located in the immediate vicinity of the Sacramento River East Levee Improvements area, is mostly completed. The Sacramento Bank Project - South River Road under WSLIP is planned to be completed in 2015. The Southport Sacramento River EIP is in the design stage (West Sacramento Flood Protection 2014). All of these activities are along the levee on the West Sacramento side, and are 550–700 feet (width of the river) away from the Sacramento River East Levee improvements under the proposed project. The roadways used under the proposed project could not be used for WSLIP because the river is in between and there is no bridge to cross over, and therefore these projects would not combine with the proposed project’s construction-related traffic and equipment noise, or construction-related vibration effects.

Implementation of the proposed project would result in an increase in construction-related traffic noise above the applicable City of Sacramento thresholds, increase ambient noise levels from operation of construction equipment, cause excessive groundborne vibration or groundborne noise levels during construction activities throughout the project study area above preproject conditions at the closest residential uses. Mitigation Measures NOI-1 and NOI-2, which were previously adopted and incorporated into the project, would reduce the potentially significant impact by requiring measures to reduce construction noise effects and vibration levels. Implementing these measures for all individual improvement projects cannot be assured. In addition, the schedule of most of the proposed improvement projects would be governed by weather conditions and the terms of permits for work in sensitive habitats or the habitats of protected species. For these reasons, it is not known whether construction-related noise impacts can in all cases be reduced to a less-than-significant level.

In addition, construction workers associated with these projects on the west side of the Sacramento River, along the Beach Lake Levee, and at the Upper Beach Lake riparian planting site could be exposed to the excessive aircraft noise from the Borges-Clarksburg airport, depending on the proximity of those construction activities to the airport. Implementation of Mitigation Measure NOI-4, which was previously adopted and incorporated into the project, would reduce exposure of the proposed project’s construction workers to a less-than-significant level.

Although the related projects may result in cumulatively significant impacts from exposure of construction workers and residents to construction-related traffic and equipment noise, construction-related vibration, or construction worker exposure to aircraft noise in and of
themselves, the proposed project would not result in a cumulatively considerable contribution because it is not anticipated that related projects would occur at the same time or overlap at some point during the construction activities of the proposed project. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to construction-related traffic and equipment noise, construction-related vibration, or construction worker exposure to aircraft noise.

P. Recreation Resources

Implementation of Mitigation Measures REC-1a, REC-1b, REC-1c, and TR-3, which were previously adopted and incorporated into the project, would reduce temporary, short-term impacts on recreational and bicycle facilities resulting from construction activities by ensuring detour routes and roadway markings to designate temporary bike lanes; information would be provided to the public regarding closure of public recreational facilities, detours, and alternate sites available; and construction-related damage would be repaired or reconstructed. Because of the temporary nature of the construction impacts and the likelihood that any access restrictions or degradation of the quality of recreational experiences would last for approximately 3–6 months in any location, it is anticipated that the proposed project effects on local recreation would not overlap with other related project effects. Consequently, there would be not be a significant cumulative impact related to recreation resources. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to temporary changes in recreational opportunities during project construction activities.

Q. Traffic and Transportation

The level of traffic increase associated with construction and improvements under the proposed project, combined with any increased traffic on area roadways from other probably future projects would result in a potentially significant cumulative traffic impact. Implementing Mitigation Measure TR-1, which was previously adopted and incorporated into the project, would reduce the incremental contribution of the proposed project to this potentially significant cumulative traffic impact. This mitigation measure would involve developing detours to preserve acceptable traffic flow and minimizing traffic congestion on affected roadways. Many of the probable future projects that may contribute to a cumulative impact are not located in the vicinity of the project study area. The WSLIP, which is among the projects identified in Section 5.4, “Projects Contributing to Potential Cumulative Impacts,” in the EIR is located in the immediate vicinity of the Sacramento River East Levee Improvements area, and thus was specifically considered for purposes of this cumulative traffic analysis. The WSLIP along the Sacramento River is mostly completed. Sacramento Bank Project - South River Road under WSLIP is planned to be completed in 2015. The Southport Sacramento River EIP is in the design stage (West Sacramento Flood Protection 2014). However, all these activities are along the levee on the West Sacramento side, and the roadways used under the proposed project could not be used for WSLIP because the river is in between and there is no bridge to cross over. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to traffic volumes.
Traffic associated with O&M activities for the proposed project would add only minimal trips to the project study area roadway network. However, construction activities for proposed project would generate both haul truck trips and construction worker trips as identified above in the North Sacramento Streams and Sacramento River East Levee Improvements areas. This level of traffic increase, combined with increased traffic on area roadways from other cumulative projects, could result in delays that could substantially increase emergency response times or reduce emergency vehicle access and could result in a potentially significant cumulative impact. However, implementing Mitigation Measures TR-1 and TR-2, which were previously adopted and incorporated into the project, would reduce the incremental contribution of the proposed project to this potentially significant cumulative impact. These mitigation measures would involve providing methods of access and routes around construction activities so that emergency access is maintained and emergency personnel are notified throughout the term of each construction season. As stated previously, the roadways used under the proposed project could not be used for WSLIP project because the river is in between and there is no bridge to cross over. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to emergency vehicle access or response times.

It is unknown whether activities associated with any of the related projects would also require the use of barges on the Sacramento River, and whether these barges would need to operate at similar times or locations as the proposed project. However, the addition of 2-3 additional barges on the Sacramento River associated with the related projects (if required) would not result in a substantial increase in river traffic and the river channel is wide enough to continue to allow river traffic to pass. This impact would be less than significant. Although it is not required, implementing Mitigation Measure TR-3b, which was previously adopted and incorporated into the project, would further reduce the level of this impact because SAFCA would post warning signs and buoys upstream and downstream of all construction equipment, sites, and activities along the waterside of the Sacramento River East Levee. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to Sacramento River channel navigation.

The combination of the high-volume of slow-moving heavy-duty truck traffic on local roadways during project-related activities; workers entering and existing construction sites; periodic road and lane closures associated with construction traffic; and potential damage to pavement, would increase traffic hazards on local roadways during the construction period. The increase in project-related traffic hazards, combined with increased traffic on area roadways from other probable future projects, throughout the project study area could result in a potentially significant cumulative traffic hazards impact. Implementing Mitigation Measure TR-1, which was previously adopted and incorporated into the project, would reduce the incremental contribution of the proposed project to this potentially significant cumulative impact. This mitigation measure would require developing detours to preserve acceptable traffic flow, minimizing project-related traffic congestion on affected roadways, posting warnings about the potential presence of slow-moving vehicles, using traffic control personnel when appropriate, and repairing pavement damage. Roadways affected by the proposed project would be different from those affected by the WSLIP project because WSLIP is on the opposite side of the river there is no bridge to cross over. Therefore, implementing the proposed project would not result
in a cumulatively considerable incremental contribution to a significant cumulative impact related to hazards from project design features or incompatible uses.

R. **Utilities and Service Systems**

Temporary construction activities in the North Sacramento Streams and Sacramento River East Levee Improvements areas would potentially result temporary disruptions of utility service. However, implementation of Mitigation Measure UTL-1, which was previously adopted and incorporated into the project, would reduce the potentially significant impact associated with disruption of utility service to a less-than-significant level because SAFCA and its primary contractor(s) would coordinate with utility service providers and consumers to minimize utility interruptions to the maximum extent feasible, and a response plan to address service interruptions would be prepared and implemented.

Simultaneous construction of other future probable projects, such as NLIP and the ARCF projects, as well as development and utility infrastructure projects within the City of Sacramento Department of Utilities, SMUD, PG&E, and multiple telephone and cable providers service area, also could cause temporary disruptions of utility service resulting from inadvertent damage existing utility infrastructure. Any utility and service system impacts would be geographically isolated, short in duration, and occur on a project-by-project basis. Thus, these disruptions would not combine to form cumulative impacts. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to potential disruption of utility services.

The Kiefer Landfill and L and D Landfill have sufficient permitted capacity to accommodate solid waste disposal needs for Sacramento County, including the disposal needs of the proposed project, as well as related projects. Therefore, it anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to increases in solid waste generation.

S. **Water Quality and Groundwater**

Mitigation Measure GEO-1, which was previously adopted and incorporated into the project, would require SAFCA to prepare a SWPPP and implement erosion control BMPs in compliance with existing NPDES discharge permits from the Central Valley RWQCB, in an effort to reduce potentially significant temporary, short-term construction related erosion and sedimentation resulting from project implementation. Implementation of Mitigation Measure GEO-1 would reduce this impact to a less-than-significant level. Each related project, including future MRCF projects proposed along Magpie Creek, the Sacramento River East Levee, and the American River that would disturb 1 acre of land or more would also be required to prepare a SWPPP and implement erosion control BMPs. Therefore, it is anticipated that the proposed project would not generate a cumulatively considerable incremental contribution to a significant cumulative impact related to short-term construction-related water quality effects.

Installation of relief wells, cutoff walls, and dewatering of the construction area and borrow sites (e.g., removing groundwater that may fill trenches dug for cutoff wall construction or initial dewatering of relief wells) could result in the release of contaminants to surface or...
groundwater. The related projects considered in this cumulative analysis could also result in adverse water quality effects from construction dewatering. Therefore, this impact would be cumulatively significant. However, Implementation of Mitigation Measure WQ-1, which was previously adopted and incorporated into the project, would reduce the project’s potential effects associated with release of contaminants to surface or groundwater from construction dewatering to a less-than-significant level because implementation of dewatering provisions would decrease the potential for release of these contaminants, and would provide for cleanup should these releases occur. The related projects would also be required to comply with Central Valley RWQCB provisions that require a dewatering permit and implementation of measures designed to reduce adverse water quality effects from construction dewatering. Therefore, the proposed project would not generate a cumulatively considerable incremental contribution related to construction dewatering.

X. ALTERNATIVES

CEQA requires that an EIR include an analysis of a reasonable range of feasible alternatives to a proposed project capable of avoiding or substantially lessening any significant adverse environmental impact associated with the project. The discussion of alternatives is required to include the “No-Project” alternative. CEQA requires further that SAFCA identify an environmentally superior alternative. If the “No-Project” alternative is the environmentally superior alternative, an environmentally superior alternative must be identified from among the other alternatives (State CEQA Guidelines, Section 15126.6).

As set forth in these findings, the implementation of the project will result in significant impacts that are considered unavoidable. Where a lead agency has determined that, even after the adoption of all feasible mitigation measures, a project as proposed will still cause one or more significant environmental effects that cannot be substantially lessened or avoided, the agency, prior to approving the project as mitigated, must first determine whether, with respect to such impacts, whether there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA. An alternative may be “infeasible” if it fails to fully promote the lead agency’s underlying goals and objectives with respect to the project. Thus, “‘feasibility’ under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors.” of a project (City of Del Mar, supra, 133 Cal.App.3d at p. 417; see also Sequoyah Hills, supra, 23 Cal.App.4th at p. 715). The following alternatives to the project were considered and evaluated in the Final EIR.

Alternative 1 – No-Project/No-Build Alternative (No Financing, No Improvements)

Under the No-Project/No-Build Alternative, SAFCA would not conduct any work to address identified and critical levee seepage, slope stability, and erosion concerns in the Sacramento metropolitan area. There would be no funding of levee improvements and no levee improvements would be made. The Sacramento metropolitan area would continue to be subject to an unacceptable high risk of levee failure and subsequent catastrophic flooding. The No-Project/No-Build Alternative would result in none of the impacts or improvements associated with the proposed project. Temporary and short-term impacts from major construction activities along levees and in the immediate vicinities would not occur. Significant and unavoidable
impacts identified for the proposed project would not occur. However, substantial flood risk reduction benefits from the proposed project related to Levee Accreditation would not occur.

Impact Analysis

Under normal conditions without flooding, all impacts would be lesser. However, no improvements to the levees and the flood control system would result in impacts to NFIP eligibility. The results of losing NFIP eligibility would greatly increase the cost of insurance for home owners and potentially necessitate and/or perpetuate moratoriums on development in the region, which would impact local and regional economies of the greater Sacramento region. This alternative would also not allow SAFCA and the Sacramento region to comply with Senate Bill (SB) 5 requirements including meeting ULDC requirements to provide a 200-year level of flood protection for an urban area. This alternative would not result in benefits that would occur with the proposed project.

While it may seem speculative to presume that a flood would occur under the No-Project/No-Build alternative, there is a substantially higher risk of flooding under the No-Project/No-Build alternative compared to that under the proposed project. Flood risk analyses show that, in any given year, there is a substantially increased chance of a major flood under the No-Project/No-Build Alternative compared to under the proposed project. A flood in the Sacramento metropolitan area would be disastrous and result in substantial environmental impacts in essentially every environmental topic area. Physical effects from the flood itself, evacuating thousands of residents, and rebuilding billions of dollars of infrastructure would create substantial significant and unavoidable impacts (direct, indirect, and cumulative) far greater than those under the proposed project.

Feasibility/Ability to Meet Project Objectives

Under the No Project/No-Build Alternative, urban development within the project study area would continue to be at risk of flooding and lives would continue to be threatened. The levees within the project study area could fail and result in a catastrophic disaster. Billions of dollars in damageable property and more than 100,000 residents are located within the flood zones protected by the levees targeted by the proposed project. Flooding could also release toxic and hazardous materials, contaminate groundwater, and damage the metropolitan power and transportation grids. The disruption in transportation that could result from a major flood would likely affect several major interstate and State highways. A temporary shutdown or slowdown of many Federal, State, and local government functions would also result. In addition, displacement of residents, businesses, agriculture, and recreational areas could occur. Resulting damage could also hinder community growth, stability, and cohesion. Project objectives are the cornerstone for formulating and screening potential project alternatives. The proposed project has two key objectives: Levee Accreditation and Conservation Strategy. Neither objective would be attained under the No-Project/No-Build Alternative.

The concept of “feasibility” encompasses the question of whether a particular alternative or mitigation measure promotes existing policies, as well as the underlying goals and objectives of a project. For the reasons stated above, SAFCA rejects Alternative 1 – No-Project/No-Build Alternative as infeasible within the meaning of CEQA.
Alternative 2 - No-Action/Federal Project Alternative

Under this alternative, the levee improvements included in the proposed project would be constructed by USACE as part of the American River Common Features (ARCF) General Reevaluation Report (GRR) project. While the No-Action/Federal Project Alternative includes many of the elements of the proposed project, it is greater in magnitude and covers a larger area. The proposed project involves levee strengthening only with no increases in levee height. Preliminary engineering plans developed by USACE call for levee height increases in both the North Sacramento Streams Levee Improvements area and the Sacramento River East Levee Improvements area, necessitating flood wall construction in the North Sacramento Streams area and some landside widening of the levee in some locations in the Sacramento River East Levee area. In addition, the USACE preliminary engineering plans anticipate that cutoff wall construction along portions of the Sacramento River East Levee that is needed to address identified underseepage vulnerabilities would require removal of the material and vegetation comprising the upper 1/2 of the levee structure to accommodate construction equipment. By contrast the proposed project requires removal of the material and vegetation comprising the upper 1/3 of the levee structure in the Sacramento area.

Impact Analysis

Aesthetics: The No-Action/Federal Project Alternative would result in greater impacts to aesthetics from increased vegetation loss. More extensive construction activities would impact and disrupt the existing visual conditions in the American River Parkway and along the Sacramento River. This alternative would result in a greater impact than the proposed project.

Agriculture and Forestry Resources: The No-Action/Federal Project Alternative would require the acquisition of properties for flood control easements along the Sacramento River and Arcade Creek. This alternative would also require conversion of agricultural lands to floodway. Because of the increased footprint of this alternative, it could also result in an increased conversion of nonforest land to nonforest uses. This alternative would result in a greater impact than the proposed project.

Air Quality: The No-Action/Federal Project Alternative would require additional construction work resulting in impacts from additional construction equipment, haul trucks, and barges. This alternative would result in a greater impact than the proposed project.

Biological Resources – Fisheries: The No-Action/Federal Project Alternative would result in increased impacts to fish habitat from the removal of vegetation along the levee slopes. The placement of rock along the bank protection sites would cause an increase in turbidity. Widening the Sacramento Bypass would create additional floodplain habitat for fish which could provide a benefit. Overall, this alternative would result in a greater impact than the proposed project.

Biological Resources – Terrestrial: The No-Action/Federal Project Alternative would include construction of levee improvements would result in significant loss of wildlife habitat on the Sacramento River levees, in the American River Parkway, and along Arcade Creek.
Sacramento Weir expansion would require the removal of riparian vegetation. This alternative would result in a greater impact than the proposed project.

**Cultural Resources:** The No-Action/Federal Project Alternative would result in adverse effects to historic properties from construction of levee improvements and the bypass widening impacts associated with archaeological resources would be greater than those described for the proposed project because the proposed project site does not include the Sacramento Weir or Yolo Bypass. This alternative would result in a greater impact than the proposed project.

**Geology, Soils, and Paleontological Resources:** The No-Action/Federal Project Alternative would result in greater impacts to geology, soils, and paleontological resources as the footprint of the project is greater in size. This alternative would result in a greater impact than the proposed project.

**Geomorphology:** The No-Action/Federal Project Alternative would decrease water surface elevations in the Sacramento River channel but water surface elevations in the lower Yolo Bypass would be slightly higher. Although the magnitude of these changes has not been quantified, it is likely that the increase in the Yolo Bypass water surface elevations would be considered “substantial” under the standard historically applied by the CVFPB and thus would constitute a potentially significant and unavoidable impact. This alternative would result in a greater impact than the proposed project.

**Greenhouse Gas Emissions:** The No-Action/Federal Project Alternative would result in greater impacts to GHG emissions from the use of the additional construction work resulting in impacts from additional construction equipment, haul trucks, and barges. This alternative would result in a greater impact than the proposed project.

**Hazards and Hazardous Materials:** The No-Action/Federal Project Alternative would result in impacts similar to those described for the proposed project from construction activities. Any hazardous materials encountered would be removed and properly disposed of prior to construction. This alternative would result in similar impacts to the proposed project.

**Hydrologic and Hydraulic Resources:** The No-Action/Federal Project Alternative would decrease water surface elevations in the Sacramento River channel but water surface elevations in the lower Yolo Bypass would be slightly higher. Although the magnitude of these changes has not been quantified, it is likely that the increase in the Yolo Bypass water surface elevations would be considered “substantial” under the standard historically applied by the CVFPB and thus would constitute a potentially significant and unavoidable impact. This alternative would result in a greater impact than the proposed project.

**Land Use and Planning, and Population, Housing, and Employment:** The No-Action/Federal Project Alternative would require the acquisition of properties for flood control easements along the Sacramento River and Arcade Creek. This alternative would also require conversion of agricultural lands to floodway. The No-Action/Federal Project Alternative would result in disruption to residents alongside the construction sites from traffic, noise, and dust impacts. Acquisition of properties for flood control easements would be required, which could displace residents. This alternative would result in a greater impact than the proposed project.
Mineral Resources: The No-Action/Federal Project Alternative would result in greater impacts to mineral resources as the footprint of the No-Action/Federal Project Alternative is greater in size compared to the proposed project. This alternative would result in a greater impact than the proposed project.

Noise: The No-Action/Federal Project Alternative would result in greater noise and vibration impacts to sensitive receptors as a result of the proximity to sensitive receptors from additional construction work resulting in impacts from additional construction equipment, haul trucks, and barges. This alternative would result in a greater impact than the proposed project.

Recreation Resources: The No-Action/Federal Project Alternative would result in greater impacts to recreation as a result of temporary closure of recreation facilities for construction in the American River Parkway. Impacts would include temporary closures to bike trails, walking trails, and boat launches/facilities. Other impacts would include possible closure of the Sacramento Bypass during portions of hunting season. This alternative would result in a greater impact than the proposed project.

Transportation and Traffic: The No-Action/Federal Project Alternative would result in greater impacts to transportation and traffic as a result of additional construction work associated with this alternative. The resulting impacts from additional construction equipment, haul trucks, and barges would be greater than the proposed project. This alternative would result in a greater impact than the proposed project.

Utilities and Service Systems: The No-Action/Federal Project Alternative would result in temporary disruptions to utility services during relocation of utilities that penetrate the levee. This alternative would result in similar impacts to the proposed project.

Water Quality and Groundwater Resources: The No-Action/Federal Project Alternative would result in additional potential water quality impacts including increased turbidity during bank protection construction; runoff of exposed soils; and cement, slurry, or fuel spills during construction. This alternative would result in a greater impact than the proposed project.

Feasibility/Ability to Meet Project Objectives

It is possible that differences in project design could be significantly narrowed if not eliminated by USACE as their project engineering and design effort unfolds. However, due to the potentially larger footprint, potential impacts are generally greater under the No-Action/Federal Project alternative compared to the proposed project based on the increased footprint and magnitude of this alternative. Additionally, the No-Action/Federal Project Alternative is very likely to lag the proposed project in time of construction. Whereas the proposed project is anticipated to be constructed in 2016 and 2017 (assuming receipt of all environmental clearances, permits, authorizations, and permissions), the No-Action/Federal Project Alternative might not be completed until 2025 based on current Federal authorization and funding capabilities. This gap in time would prolong the current exposure of people and property in the North Sacramento Streams and Sacramento River East Levee Improvements areas to an unacceptably high risk of flooding and subject these areas to high cost flood insurance.
requirements and restrictions on new construction under the provisions of the NFIP. Although the No-Action/Federal Project Alternative would eventually meet the Levee Accreditation requirement, it would not achieve the objective to protect the natural environment, especially riparian habitat and stream channels suitable for native plants, wildlife habitat, and public recreation. In comparison, the proposed project would achieve this objective through the Conservation Strategy.

The concept of “feasibility” encompasses the question of whether a particular alternative or mitigation measure promotes existing policies, as well as the underlying goals and objectives of a project. For the reasons stated above, SAFCA rejects Alternative 2 – No-Action/Federal Project Alternative as infeasible within the meaning of CEQA.

Alternative 3 – Limited Footprint Alternative

Under this alternative, cutoff walls would be installed by the deep mixing method (DMM) thereby avoiding any substantial levee degrade required for construction. Deep cutoff walls using DMM or trench remixing and deep wall (TRD) methods do not require as wide of a working platform. Levee degradation for DMM cutoff wall installations is only required as needed to develop the working platform necessary to operate the cranes and supporting equipment, typically a width of 30 to 40 feet.

Impact Analysis

Aesthetics: Implementation of the Limited Footprint Alternative would result in fewer impacts to aesthetics from vegetation loss. Construction activities would impact and disrupt the existing visual conditions in the American River Parkway and along the Sacramento River but to a lesser extent than the proposed project. This alternative would result in a lesser impact than the proposed project.

Agriculture and Forestry Resources: The Limited Footprint Alternative would require the acquisition of properties for flood control easements along the Sacramento River and Arcade Creek. This alternative would result in a lesser impact than the proposed project.

Air Quality: The Limited Footprint Alternative would have less impact associated with air pollutant and/or odorous emissions. There would be less heavy equipment needed to perform the improvements resulting in lower air quality impacts. This alternative would result in a lesser impact than the proposed project.

Biological Resources – Fisheries: The Limited Footprint Alternative would result in a smaller impact due to the reduced width of the construction footprint. This alternative would not eliminate all impacts to the aquatic biological resources but would reduce the overall impacts. This alternative would result in a lesser impact than the proposed project.

Biological Resources – Terrestrial: The Limited Footprint Alternative would result in a smaller impact due to the reduced width of the construction footprint. This alternative would not eliminate all impacts to the terrestrial biological resources but would reduce the overall impacts. This alternative would result in a lesser impact than the proposed project.
**Cultural Resources:** The Limited Footprint Alternative would still include ground-disturbing activities and result in potential effects to possible as-yet undiscovered resources; the reduced width of the construction footprint would eliminate a portion of the potential impacts to cultural resources. This alternative would result in a lesser impact than the proposed project.

**Geology, Soils, and Paleontological Resources:** The Limited Footprint Alternative would have the same risk of construction-related erosion impacts to proposed levee improvements as that described for the proposed project. The risk of potential damage to proposed levee improvements from seismic activity, settlement or liquefaction, or from construction on unstable soils or expansive soils under this alternative would be the same as that described for the proposed project. Project-related construction activities would occur in the same paleontologically sensitive rock formations as the proposed project, therefore the potential impacts to unique paleontological resources would be similar. This alternative would result in a similar impact as the proposed project.

**Geomorphology:** The Limited Footprint Alternative would result in potential geomorphic impacts similar to those described for the proposed project; although the project footprint would be slightly smaller the same avoidance and minimization measures would be employed as the proposed project thus the impacts would be similar. This alternative would result in a similar impact as the proposed project.

**Greenhouse Gas Emissions:** The Limited Footprint Alternative would have less impact associated with GHG emissions than the proposed project. There would be less heavy equipment needed to perform the improvements resulting in lower GHG emissions. This alternative would result in a lesser impact than the proposed project.

**Hazards and Hazardous Materials:** The Limited Footprint Alternative would result in a similar risk of exposure of construction workers or the general public to potential release of hazardous materials into the environment because construction activities would occur in the same location as the proposed project. This alternative would result in a similar impact as the proposed project.

**Hydrologic and Hydraulic Resources:** The Limited Footprint Alternative would result in potential hydrologic and hydraulic impacts that would be similar to those described for the proposed project. Although the project footprint would be slightly smaller, the same avoidance and minimization measures would be employed as the proposed project. Thus, the impacts would be similar. This alternative would result in a similar impact as the proposed project.

**Land Use and Planning, and Population, Housing, and Employment:** The Limited Footprint Alternative would result in potential land use and planning impacts that would be similar to those described for the proposed project. The construction-related impacts would be temporary in nature and occur within the existing footprint of the SAFCA levee system. Potential population, housing, and employment impacts would be similar to those described for the proposed project. The construction-related impacts would be temporary in nature and occur within the existing footprint of the SAFCA levee system. This alternative would result in a similar impact as the proposed project.
Mineral Resources: Potential mineral resource impacts from the Limited Footprint Alternative would be similar to those described for the proposed project because none of the levee improvement areas are located within a regionally or locally designated important mineral resource extraction zone. This alternative would result in a similar impact as the proposed project.

Noise: The Limited Footprint Alternative would result in less truck trips and less heavy equipment being used as a result of the smaller footprint being required for the degrade and rebuild of the levee. Therefore, the overall level of construction noise and vibration generated by this alternative would be less. This alternative would result in a lesser level of impact as compared to the proposed project.

Recreation: The Limited Footprint Alternative would result in fewer impacts to recreation as a result of the smaller construction footprint. Impacts would still include temporary closures to bike trails, walking trails, and boat launches/facilities. Other impacts would include possible closure of the Sacramento Bypass during portions of the hunting season. This alternative would result in a lesser impact than the proposed project.

Transportation and Traffic: The Limited Footprint Alternative would result in less truck trips and less heavy equipment being used as a result of the smaller footprint being required for the degrade and rebuild of the levee. This alternative would result in a lesser impact than the proposed project.

Utilities and Service Systems: The Limited Footprint Alternative would have impacts related to potential damage of utility infrastructure and disruption of service during construction. This would be similar to the proposed project as a cutoff wall would still be installed to the same depth, only the construction methods would differ. This alternative would result in a similar impact as the proposed project.

Water Quality and Groundwater Resources: The Limited Footprint Alternative would have potential water quality and groundwater impacts similar to those described for the proposed project. Although the project footprint would be slightly smaller, the same avoidance and minimization measures would be employed as the proposed project. This alternative would result in a similar impact as the proposed project.

Feasibility/Ability to Meet Project Objectives

The Limited Footprint alternative includes many of the elements of the proposed project but is lesser in magnitude. Improvements under the Limited Footprint alternative would achieve the desired Levee Accreditation requirements, with generally few direct impacts from construction–related activities because of smaller construction footprint, and the project objective to protect the natural environment, especially riparian habitat and stream channels suitable for native plants, wildlife habitat, and public recreation. However, the Limited Footprint alternative has substantially higher costs than the proposed project because of the greater use of DMM construction methods for the cutoff walls.
The concept of “feasibility” encompasses the question of whether a particular alternative or mitigation measure promotes existing policies, as well as the underlying goals and objectives of a project. For the reason stated above, SAFCA rejects Alternative 3 – Limited Footprint alternative as infeasible within the meaning of CEQA.

XI. STATEMENT OF OVERRIDING CONSIDERATIONS

The Board has balanced the benefits of the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements Project against its unavoidable environmental risks in determining whether to approve the project, and has determined that the benefits of the project outweigh the unavoidable adverse environmental effects. The reasons set forth below are based on the EIR, and other information in the record.

A. Because of unique topographical and meteorological features, the Sacramento River Basin, including its major tributaries, the Feather and American Rivers, is capable of producing significantly higher peak flood discharge per square mile of drainage area than any other major river basin in the United States.

B. The 1986 flood, the largest flood ever recorded for the Sacramento and American Rivers, triggered a major reevaluation of Sacramento’s flood control system by USACE, which identified deficiencies in the flood control system protecting Sacramento. Although substantial flood protection effort has been undertaken since 1986, large portions of the Sacramento metropolitan area remain at high risk (having less than 100-year flood protection) or at moderate risk (having greater than 100-year but less than 200-year flood protection) of flooding.

C. There is an immediate need to protect the people and property at risk in the project area. Billions of dollars in damageable property and more than 300,000 residents are located within the flood zones protected by the levee system targeted by the project. Flooding could also release toxic and hazardous materials, contaminate groundwater, and damage the metropolitan power and transportation grids. The disruption in transportation that could result from a major flood would likely affect several major interstate and State highways. A temporary shutdown or slowdown of many Federal, State, regional, and local government functions would also result. In addition, displacement of residents, businesses, agriculture, and recreational areas could occur. Resulting damage could also hinder community growth, stability, and cohesion.

D. The project will help maximize public safety along the Lower American and Sacramento Rivers and their tributaries in the Sacramento region. Specifically, the project will improve the levee system protecting Sacramento and make related landscape modifications and drainage and infrastructure improvements.

E. The project would significantly reduce the risk of an uncontrolled flood in the project area that would result in a catastrophic loss of property and a prolonged interruption of commercial activity.

F. By contributing to protection of existing housing stock from destruction due to flood damage, the project will contribute to the maintenance of affordable housing in the region.
G. Several of the significant and unavoidable impacts identified in the EIR and (including construction-related noise, traffic on local roadways, emissions) are temporary in duration and will be limited to the construction period.

XII. INCORPORATION BY REFERENCE

The Draft and Final EIRs are hereby incorporated into these Findings in their entirety. Without limitation, this incorporation is intended to elaborate on the scope and nature of the mitigation measures, the basis for determining the significance of impacts, the comparative analysis of alternatives, and the reasons for approving the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements Project in spite of the potential for associated significant and unavoidable adverse impacts.

XIII. RECIRCULATION NOT REQUIRED

State CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when “significant new information” is added to the EIR after public notice is given of the availability of the Draft EIR but before certification. No significant new information was added to the Draft EIR as a result of the public comment process. The Final EIR responds to comments, and clarifies, amplifies, and makes insignificant modifications to the Draft EIR. In response to comments on the EIR by the United Auburn Indian Community, SAFCA added new Mitigation Measure CULT-4a to further reduce Impact CR-4 (Discovery of Human Remains during Construction) by requiring preparation and implementation of a Native American Burial Discovery and Treatment Plan that is specific to Native American human remains. Mitigation Measure CULT-4 (Implement Procedures for Inadvertent Discovery of Human Remains), which was identified in the Draft EIR and requires compliance with all legal requirements associated with discovery of human remains, was renumbered to Mitigation Measure CULT-4b. Both mitigation measures have been adopted and incorporated into the Project. In response to discussions with the California Department of Fish and Wildlife concerning giant garter snake, SAFCA added new Mitigation Measures BIO-4b and BIO-4c to further reduce Impact BIO-4 (Potential Disturbance or Loss of Giant Garter Snakes and Their Habitat) by requiring exclusionary fencing and biological monitoring at Borrow Site 2K. Both mitigation measures have been adopted and incorporated into the Project. The Final EIR does not identify any new significant effects on the physical environment or a substantial increase in the intensity or severity of an environmental impact requiring major revisions to the EIR. Therefore, recirculation of the EIR is not required.

XIV. RECORD OF PROCEEDINGS

Various documents and other materials constitute the record of proceedings upon which the Board bases its findings contained herein. The record of proceedings is located in the offices of the Clerk of the Sacramento Area Flood Control Agency, 1007 Seventh Street, 7th Floor, Sacramento, California 95814.
XV. SUMMARY

A. Based on the foregoing Findings and the information contained in the record, the Board has made one or more of the following Findings with respect to each of the significant environmental effects of the proposed modifications to the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements Project:

1. Changes or alterations have been required in, or incorporated into, the proposed modifications to the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements Project that avoid or substantially lessen the significant environmental effects identified in the EIR.

2. To the extent that such changes or alterations are within the responsibility and jurisdiction of another public agency and not SAFCA, those changes or alterations have been, or can and should be, adopted by that other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

B. Based on the foregoing Findings and the information contained in the record, it is determined that:

1. All significant effects on the physical environment due to the approval of the proposed modifications to the North Sacramento Streams, Sacramento River East Levee, Lower American River, and Related Flood Improvements Project have been eliminated or substantially lessened where feasible.

2. Any remaining significant effects on the physical environment found to be unavoidable are acceptable due to the factors described in the Statement of Overriding Considerations in Section XI, above.