

American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River Erosion Contract 1: River Mile 55.2 Left Bank Protection - Consistency Certification Narrative

Covered Action Summary

The American River Watershed Common Features General Reevaluation Report (ARCF GRR) identified levees along the Sacramento River between the confluence with the American River and the town of Freeport that require improvements to address potential erosion-induced failure during large flood events. Flood risk reduction improvements described in the ARCF GRR were analyzed in the ARCF GRR Final Environmental Impact Statement / Environmental Impact Report (EIS/EIR). The flood risk reduction improvements described in the ARCF GRR (ARCF 2016 Project) are to be implemented by the U.S. Army Corps of Engineers (USACE) in coordination with Central Valley Flood Protection Board (CVFPB), Department of Water Resources (DWR), and Sacramento Area Flood Control Agency (SAFCA) as non-federal project sponsors. The American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River Erosion Contract 1: River Mile 55.2 Left Bank Protection (Project) is a component of the overall ARCF 2016 Project. The Project includes the installation of approximately 1,150 feet of bank protection along the left bank (when facing downstream) of the Sacramento River just downstream of the Westin Sacramento Hotel in Sacramento, California. The Project is located within the legal boundaries of the Sacramento – San Joaquin River Delta (Delta). Construction is anticipated to begin in June 2021 and conclude in October 2021. Most of the levee improvements included in the Project were described in the ARCF GRR EIS/EIR. However, some elements of the Project were not previously analyzed because the specific Project design was not available in 2016. USACE and CVFPB have completed a Supplemental Environmental Assessment / EIR (Supplemental EA/EIR) to analyze the impacts of the Project according to National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements.

The Project is located along the east (left) bank of the Sacramento River, in the Little Pocket area of the City of Sacramento, approximately 3 miles downstream of the Pioneer Bridge (Figure 1). The site begins immediately downstream (south) of the Westin Hotel property and continues downstream approximately 1,150 feet. The primary design objective and Project purpose is to restore the structural stability of the levee and maintain public safety. The Project consists of the installation of approximately 1,150 feet of riprap bank protection. The Project also consists of installing a riparian planting bench and instream woody material to mitigate environmental impacts associated with construction. These components of the Project are described in detail in the subsections below. Further information describing the Project is available in the ARCF GRR EIS/EIR and the Supplemental EA/EIR.

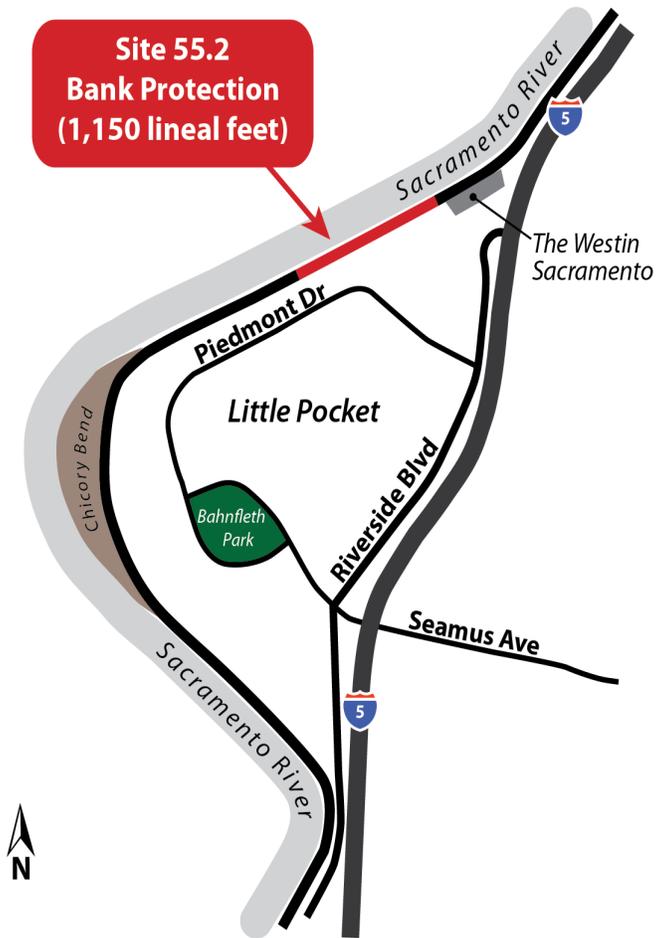


Figure 1. Project Location

Erosion Protection Measures

The Project is designed to address susceptible foundation soils, steep slopes, and the potential for shallow slope failures along 1,150 linear feet of the levee near Sacramento River mile 55.2. The Project design will also protect the bank against future erosion caused by wind-wave action and boat wake. A river barge(s) equipped with cranes and excavators will be used to place the quarry stone bank protection. The Project design also includes a riparian planting bench that is approximately 15-feet wide. Quarry stone will be placed above and below the planting bench to protect the bank against natural erosive forces. The bank protection will include self-launching rock of an adequate volume to provide toe protection up to a maximum scour depth of 26 feet. A typical cross section of the Project design is shown in Figure 2. Prior to construction, the site would be cleared, grubbed, and stripped of vegetation necessary to install the necessary bank protection.

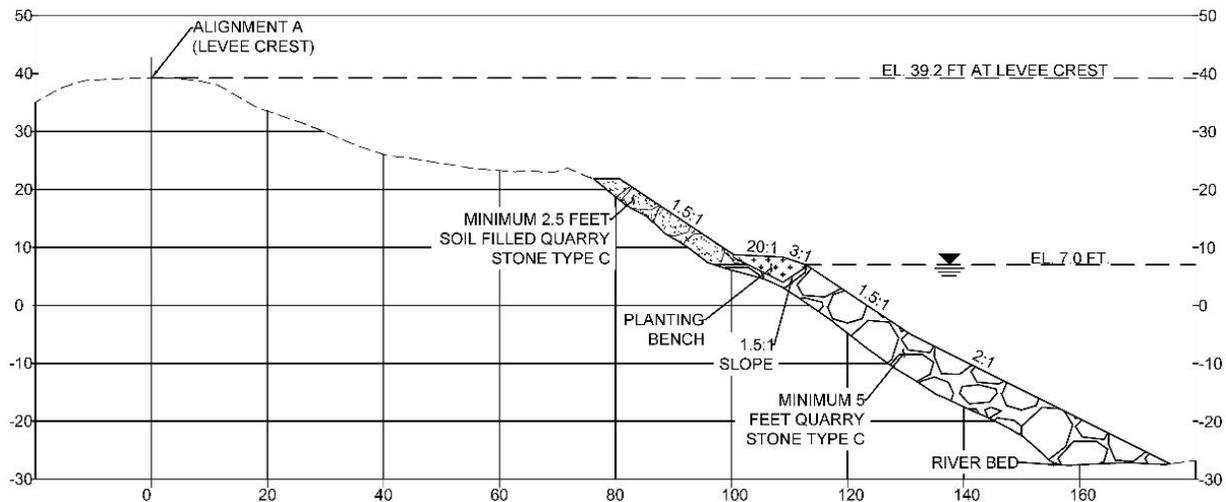


Figure 2. Bank Protection Design Typical Cross Section

Riparian Planting Bench

Construction of the Project will require the removal of approximately 1.38 acres of riparian habitat. Riparian mitigation will be constructed at a 2:1 ratio for each impacted acre of riparian canopy. The Project design includes a riparian planting bench to provide on-site mitigation. The planting bench was designed in coordination with National Marine Fisheries Service (NMFS) and USFWS. The planting bench will be approximately 15 feet wide. The toe of the planting bench is set at an elevation of 7 feet NAVD88 (1988 North American Vertical Datum), which is the average water surface elevation at the Project site during the months of August, September, and October over a 67-year period of record (1948 – 2015). The planting design will be consistent with Habitat Mitigation Monitoring and Adaptive Management Plan (HMMAMP) which was adopted in 2016 as part of the ARCF GRR EIS/EIR. The planting bench will provide approximately 0.22 acres of on-site riparian habitat mitigation.

In-stream Woody Material

The incorporation of In-stream Woody Material (IWM) into bank protection designs is a requirement of the NMFS BO and is meant to provide mitigation for impacts associated with construction. IWM allows for the replacement of in-stream cover for listed fish species that are impacted due to construction. IWM consist of full trees with root balls and canopies. Both large and medium sized trees will be used, depending on site conditions. Hardwood species are typically preferred for IWM as they tend to have slower degradation rates than coniferous species when subject to continual inundation. Potential sources for trees include orchard trees or any trees of adequate size and hardness that will be removed onsite for construction.

The trees will be placed into the quarry stone below the planting bench by the root ball and one half of the tree length, keyed into the quarry stone below the riparian bench, with canopies extended into the water column just below the waterside edge of the riparian bench, and oriented in a downstream direction. The counterweight by the planting bench and quarry stone will provide adequate protection for the logs to withstand buoyancy and drag forces from incoming flows and debris. The downstream orientation of the IWM is to mimic the natural orientation of downed trees along river systems. The IWM will be placed at 5- to 10- foot spacing in alternating groups of 3 to 5 trees. Tree branches will be

oriented to protrude out from the riparian bench at the summer mean water surface elevation to provide a visual indication to river users of the presence of the bench. The State of Washington's Stream Habitat Restoration Guidelines, Appendix G (Washington Department FW et al 2012), were used to inform the design of the IWM. Figure 3 depicts a cross section of the planting bench with instream woody material.

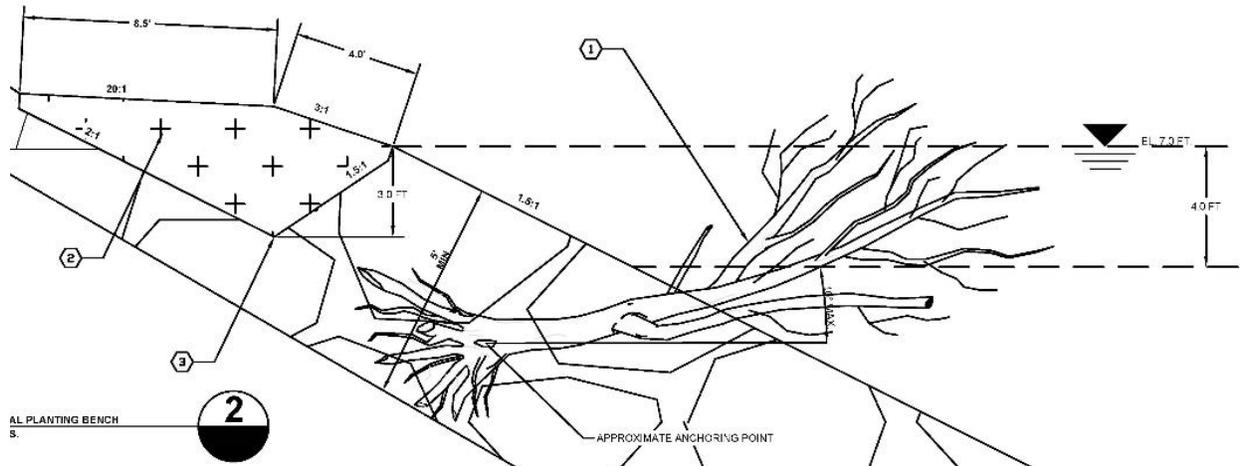


Figure 3. Instream woody material placement

Mitigation Measures

The Project was subject to CEQA review as described in the ARCF GRR Final EIS/EIR and the Supplemental EA/EIR. In the ARCF GRR EIS/EIR and again in the Supplemental EA/EIR, mitigation measures were identified for significant impacts, including those referenced in the "Mitigation Measure Comparison" table, attached separately. Mitigation measures required for each significant Project impact are consistent with and at least as effective as relevant mitigation measures included in the Mitigation, Monitoring, and Reporting Program (MMRP) for the Delta Plan.

Best Available Science

The Project was designed by USACE in accordance with latest USACE engineering design standards. Impact analyses were conducted, and mitigation measures were developed in accordance with CEQA and NEPA requirements. As a result of comments received during the public review process for the ARCF GRR Final EIS/EIR, some analyses and mitigation measures were adjusted or modified. The State of Washington's Stream Habitat Restoration Guidelines, Appendix G (Washington DFG 2012) was used to inform design of the riparian planting bench and instream woody material. The design of the riparian planting bench and instream woody material was informed by the Standard Assessment Model (SAM). Additional information about the SAM analysis is located in Chapter 3 of the Supplemental EA/EIR. The exact size, elevation, and planting palate of the riparian planting bench were informed by professional contributions of the Project Development Team (PDT) including representatives of USACE, CVFPB, DWR, SAFA, USFWS, and NMFS.

Expand Floodplains and Riparian Habitats in Levee Projects

The Project is located in an urban area, with residences or another development immediately behind the levee within the Project area. As described in the ARCF GRR EIS/EIR, setback levees were considered and rejected during the development of the project description due to the presence of these residences and developed land uses. Due to the urban environment of the Project area, it would not be feasible for USACE to construct a setback levee to meet the flood risk reduction objectives of the Project. The Project includes a riparian planting bench that will be planted, monitored, and maintained to support a diverse riparian habitat community.

Avoid Introductions of and Habitat Improvements for Invasive Nonnative Species

Management of invasive plant species for on and off-site mitigation as part of the ARCF 2016 Project is defined in the HMMAMP. A site-specific habitat management plan may be created for the on-site mitigation as part of the Proposed Action, which could include additional management actions related to invasive plant species that were not defined in the HMMAMP. The presence of invasive, nonnative fish species is part of the existing condition. The riparian planting bench will provide near shore mosaic flood plain aquatic habitat and refuge for native juvenile fish species, thereby reducing the risk that native fish species would be adversely impacted by invasive, nonnative fish species that are already present in the Sacramento River.

Respect Local Land Use when Siting Water or Flood Facilities or Restoring Habitats

The Project includes improvements to existing levee infrastructure and does not include expansions or changes to the footprint of these facilities or acquisition of private property beyond the existing flood control infrastructure. The land-use of the Project area will not be changed by construction of the Project. The neighborhood adjacent to the Project area is zoned for low density suburban use and the area north of the Project area, near the Westin Hotel, is zoned as a suburban center. There would be no change in these land use designations as a result of Project implementation. The specific locations of erosion control measures to be implemented are based on engineering and risk analyses conducted by USACE as part of the design process.

The Project is located near a heavily recreated portion of the Sacramento River. Fishing, picnicking, water skiing, and bicycling are the most popular recreational activities within the vicinity of the Project area. The Project will restrict access to the levee crown during construction. However, the portion of levee within the Project area is gated and not available for general use by the public. Although the Project will result in temporary closures to a portion of the levee, this will not eliminate or substantially restrict the availability of the recreational value of the levee. Additionally, construction will primarily occur from the Sacramento River via barge. Use and staging of barges in the Sacramento River near the Project site will not result in any boating facility closures, and boaters will still be able to move through the area. Barge use may impact boaters' recreational experience, but measures have been included in the Supplemental EA/EIR to minimize those effects, including providing appropriate signage to inform boaters of activities and obstructions. Although construction of the Project will temporarily impact the levee's visual character and recreational value, those effects are short-term and have been minimized to

the extent feasible as described in the Supplemental EA/EIR. Additional information addressing the environmental analysis of the Project can be found in Chapter 3 of the ARCF GRR Final EIS/EIR and Chapter 3 of the Final Supplemental EA/EIR.

Prioritization of State Investments in Delta Levees and Risk Reduction

The Sacramento River levees are immediately adjacent to the river which constricts flow and reduces floodplain functions. The result is a channelized system with increased velocities during high water events. High winter flows can erode and stress the levees, weakening them and causing them to fail in certain locations. The purpose of the ARCF 2016 Project is to proactively address susceptible levee regions to reduce the risk of levee failure and provide enhanced flood protection to the Sacramento metropolitan area. Among many locations in the system, an active erosion site was identified as early as 2008 requiring repairs along River Mile 55.2 of the Sacramento River (left bank). As described in the Supplemental EA/EIR, the Project purpose is to reduce the risk of levee failure by improving a small stretch of levee near River Mile 55.2. The geotechnical design criteria adopted for the Project follow published USACE and DWR Urban Levee Design Criteria (ULDC). A 200-year water surface profile was used in the design analysis to evaluate Project compliance with geotechnical criteria under DWR's ULDC 200-year level of protection. Additional information addressing the Project, including the purpose, need for action, and authorities, can be found in Chapter 1 of the ARCF GRR EIS/EIR and in Chapter 1 of the Final Supplemental EA/EIR.

Referenced Documents:

Central Valley Flood Protection Board (CVFPB) and U.S. Army Corps of Engineers (USACE). 2016. American River Watershed Common Features General Reevaluation Report Final Environmental Impact Statement/Environmental Impact Report. Available:
https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/ARCF_GRR_Final_EIS-EIR_Jan2016.pdf

Central Valley Flood Protection Board (CVFPB) and U.S. Army Corps of Engineers (USACE). 2020. American River Watershed Common Features, Water Resources Development Act of 2016 Project, Sacramento River Erosion Contract 1: River Mile 55.2 Left Bank Protection Supplemental Environmental Assessment/Environmental Impact Report

Central Valley Flood Protection Board (CVFPB) and U.S. Army Corps of Engineers (USACE). 2016. Habitat Mitigation, Monitoring, and Adaptive Management Plan, American River Common Features General Reevaluation Report.
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Delta Stewardship Council. 2019. The Delta Plan- Appendix O. Amended 2019 Available:
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https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/Final_ARCF_GRR_Jan2016.pdf

Washington Departments of Fish and Wildlife, Natural Resources, Transportation and Ecology, Washington State Recreation and Conservation Office, Puget Sound Partnership, and the U.S. Fish and Wildlife Service (WDFW et al). 2012. Stream Habitat Restoration Guidelines. Appendix G. Olympia, Washington.