

Appendix I: Comments and Responses

1.1 Introduction

This appendix provides responses to public and agency comments on the American River Common Features (ARCF), 2016 Flood Risk Management Project Draft Supplemental Environmental Impact Statement/Subsequent Environmental Report (SEIS/SEIR) received during the public comment period for the Draft SEIS/SEIR.

Public Comment Summary

Notice of the availability of the Draft SEIS/SEIR was posted with the State Clearinghouse (SCH #2005072046) and in the Federal Register (EIS No. 20230179) on December 22, 2023. The Draft SEIS/SEIR was circulated for more than 45 days (December 22, 2023, through February 23, 2024, extended from February 5 in response to public requests) for review by Federal, State, and local agencies; organizations; and members of the public. The Draft SEIS/SEIR was made available on the Sacramento District, Corps of Engineers (USACE) and Central Valley Flood Protection Board (CVFPB) websites. The Project Partners mailed out postcards to homeowners near the project area summarizing the Proposed Action, how to access the Draft SEIS/SEIR, the start of the 45-day public comment period, and announcing two planned virtual public meetings. Hard copies of the Draft SEIS/SEIR were made available for review by request. Two virtual public meetings were held on January 10 and January 16, 2024, to provide the public with additional opportunities for comments on the Draft SEIS/SEIR. All comments received during the public review period were considered by CVFPB and USACE and incorporated into the Final SEIS/SEIR as appropriate.

Two virtual meetings were held. During the virtual meetings, the chat function was available for the public to send questions to the meeting moderator and to provide comments. Attendees were also given an opportunity to voice questions at the end of the presentation, but attendees were requested to provide comments on the contents of the environmental document in writing via mail or electronic mail.

Organization of the Comments and Responses

Appendix I includes all public comments received during the public review period for the Draft SEIS/SEIR, and the responses to those comments. Materials include:

- **Comments.** In addition to this response document, Appendix I includes all of the comments that were received on the Draft SEIS/SEIR. The comments are provided in separate PDF files, which include numerical codes used to organize responses. These PDF files are provided separately from the responses to enable readers to more easily review and compare the comments with the relevant response. Due to the volume of comments, the comment letters are divided into several files; one includes comments from agencies and organizations, and then several files of comments received from individuals. Each of these PDF files is set

up to open with a view that includes bookmarks for each comment letter, and readers can use these bookmarks to quickly jump to a particular letter that may be of interest.

- **Index.** An index of individual commenters, with last names first. Individual commenters can review this index to identify what codes were assigned to their comment letter or letters (for example, Smith John **Indiv 873, Indiv 892** indicates that two letters received from John Smith were assigned Indiv 873 and Indiv 892.
- **Master Responses.** Many letters raised similar issues or related topics. Several Master Responses were prepared to provide a narrative responding clearly, consistently, and comprehensively to these comments. For example, Master Response 15 addresses a range of issues related to riparian vegetation along the American River raised by commenters, including short- and long-term riparian forest impacts, replanting strategy and performance, carbon sequestration, and wildlife corridors. Many individual responses refer to these master responses, and may provide an additional detailed response to specific issues raised by a particular commenter.
- **Responses to Comments.** The responses to comments are organized in several categories:
 - Responses to Federal Agency Comments
 - Responses to State Agency Comments
 - Responses to Local Agency Comments
 - Responses to Comments at Public Meetings – including both transcripts of verbal comments and the comments recorded in the chat function of the meeting software.
 - Responses to Form Letters.
 - Responses to Comments from Individuals and Organizations

How to Access and Use This Information

An individual commenter should first find their name in the following section, “Index of Individual Commenters.” This index will identify the code or codes assigned to their letters (for example, Indiv 520, Indiv 585).

Letters may be found in the separate PDF files. In this case, the commenter would open the “INDIV-500s.pdf” file containing the letters Individual 500 through Individual 599. Once the file is open, clicking on the bookmarks for Indiv 520 and Indiv 585 will enable the commenter to jump directly to their comments. Within each comment letter, specific comments may receive an additional code – for example, Indiv-585-1 or Indiv-585-4.

Responses will be found below, in Section 1.8, “Responses to Comments from Individuals and Organizations.” The bookmarks in the file may again be used to jump to the response being sought.

If the index identifies a form letter number, please refer to the Form Letters.pdf file for comments, and then to the specific responses to each form letter in Section 1.7, “Responses to Form Letters.”

Many responses may refer to the Master Responses, which may be found in Section 1.2, “Master Responses.”

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1.2 Master Responses

Public comments that were addressed in Master Responses can be found in this appendix. The location of the MR is listed by page number below.

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MR 1: Extend Public Comment Period and Host In-Person Meeting

Many commenters requested that the U.S. Army Corps of Engineers, Sacramento District (USACE) and Central Valley Flood Protection Board (CVFPB) extend the American River Common Features, 2016 Flood Risk Management Project (ARCF 2016 Project), Sacramento, California, Draft Supplemental Environmental Impact Statement/Subsequent Impact Report (SEIS/SEIR) XIV dated December 2023, public comment period and provide an in-person meeting. USACE and CVFPB extended the comment period by over two weeks, moving the end date from February 5 to February 23, 2024. Two online meetings were conducted during the comment period, as noticed, and planned. No in-person meeting was scheduled during the comment period; the Project Partners (USACE, CVFPB, DWR and the Sacramento Area Flood Control Agency [SAFCA]) have seen substantially higher attendance and greater participation at online meetings compared to in-person meetings for previous environmental documents prepared for ARCF 2016 projects. The request for in-person meetings will be considered for future ARCF project public meetings.

The public commented that USACE/Partners should be providing public opportunity beyond the scope of the NEPA/CEQA comment period, to voice concerns/questions and get insight on the project. In response to these comments, additional efforts for public outreach that have been carried out, such as:

- USACE providing monthly updates to Sacramento Levee Upgrades website (sacleveeupgrades.com).

- On April 8th, 2024, Congressman Ami Bera's office hosted a virtual public meeting to hear public comments and provide information
- The Lower American River (LAR), Bank Protection Working Group (BPWG) is conducted quarterly and is open to the public. This is one venue where presentations on project design and the need for the projects, and detailed engineering justifications for the LAR designs are presented. The presentations are followed by lengthy Q&A discussions to address public questions regarding design concerns, engineering with nature, etc. All BPWG meetings have been open to the public and have focused on hearing public concerns and answering questions at length. Please reach out to spk-pao@usace.army.mil for more information on how to get involved in the BPWG.
 1. April 8, 2024 - Ami Bera Public Zoom Meeting (1.5 hours - available on https://www.youtube.com/watch?v=MaCQLj-8a_M)
 2. April 30, 2024 - BPWG Public Zoom Meeting (3 hours - available on <https://www.youtube.com/watch?v=NY-Y4z3tZf8>)
 3. August 13, 2024 - BPWG Public Zoom Meeting (3 hours - available on <https://www.youtube.com/watch?v=iBcwJ0vj8x8>)
 4. November 19, 2024 - BPWG Public Zoom Meeting (3 hours – available at <https://www.youtube.com/watch?v=xAEkOjFuGgM>) Additional BPWG are anticipated in 2025, information on new meetings is typically posted on sacleveupgrades.com.

MR 2: Scope and Approach of Improvements in Contract 3B

MR 2-1 *Bank Erosion Protection from Howe Ave to Mayhew Road*

Project Objectives and Flooding Risk in Sacramento

The Sacramento Metropolitan area is one of the most at-risk areas for flooding in the United States due to its location at the confluence and within the floodplain of two major rivers. Both rivers have large watersheds with very high potential runoff, which has overwhelmed the existing flood management system in the past. The purpose of the ARCF 2016 Project is to reduce the flood risk in the greater Sacramento area. There is a high probability that flows in either the American or Sacramento Rivers will stress the network of levees protecting the study area to the point that levees could fail. The consequences of such a levee failure would be catastrophic since the inundated area is highly urbanized and the flooding could be up to 20 feet deep in some areas. The flooding would rapidly inundate a highly urbanized area with minimal warning or evacuation time. As the Capital of California, the Sacramento metropolitan area is the center of State government, and many essential statewide services are located here.

Erosion Risks from Aging Infrastructure

The existing levee system was designed and built many years ago, before modern construction methods were employed. These levees were constructed close to the river to increase velocities, which will flush out hydraulic mining debris. This debris is essentially gone now, and the high velocities associated with flood flows are eroding the levees, which are critical components of the flood management system needed to reduce the flood risk in the study area.

Under the Water Resources Development Act (WRDA) of 1999, Pub. L. No. 106-53, § 366, 113 Stat. 269, 319-320 (1999), Congress authorized improvements to Folsom Dam to control a 1/325 Annual Chance Exceedance (ACE)¹ flood event with a peak release of 160,000 cubic feet per second (cfs). WRDA 1999 also authorized the Folsom Dam Modification Project to modify the existing outlets to allow for higher releases earlier in flood events. At the same time, Congress also directed USACE to review additional modifications to the flood storage of Folsom Dam, indicating that Congress was looking at maximizing the use of Folsom Dam to reduce flood risk prior to consideration of any additional upstream storage on the American River. The Folsom Dam Raise Project was subsequently authorized by Congress in 2004. The ARCF Project was modified by WRDA 1999 to include improvements to safely convey an emergency release of 160,000 cfs from Folsom Dam. More details on Folsom Dam management, Folsom Dam improvements and how it related to Proposed Project can be found in sections 1.4 “Flood Risk Management System History” and 2.1 “Background” of Appendix G, “Engineering.”

In 2002, it was decided that a reevaluation study will be required for at least the Natomas portion of the ARCF Project. Congress was notified in 2004 that additional authorized cost increases will be required for study, design, and construction of levee improvements in the Natomas Basin. While the reevaluation study was beginning for the ARCF Project, the Folsom Dam Post Authorization Change Report (USACE 2007) was being completed by the Sacramento District. The results of this study, and of the follow-on Economic Reevaluation Report for Folsom Dam improvements, showed that additional levee improvements were needed on the American River and on the Sacramento River below the confluence in order to truly capture the benefits of the Folsom Dam improvement projects (see section 2.1.3 “Folsom Dam Operation Improvements” of Appendix G, “Engineering,” for more details). The levee problems identified in these reports consisted primarily of the potential for erosion on the American River and seepage, stability, erosion, and height concerns on the Sacramento River below the confluence with the American River. Because of this, additional reevaluation needed to include the two remaining basins comprising the city of Sacramento: American River North and American River South. Consequently, an ARCF General Revaluation Report (GRR), which included the Sacramento River below the confluence of the American River, the lower American River, and some tributaries (Natomas East Main Drainage Canal, Arcade Creek, Dry/Robla Creeks, and Magpie Creek) was completed in 2016 (USACE and CVFPB 2016).

The ARCF 2016 Project included 11 miles of erosion work on the Lower American River; however, only approximately 6 miles is planned for construction. As the designs became more refined, only locations that have been determined to be an immediate risk of levee failure or locations where it is anticipated that the next high flood event will put the levee in a condition of immediate risk of levee failure were evaluated further. These design concepts have gone forward to Pre-Construction Engineering and Designs (PED). Additional details on how the specific segments of the river needing erosion protection is discussed in sections 1.8 “Site Evaluations and Selection” and 2.4 “Site Evaluations and Selection” of Appendix G, “Engineering.” The SEIS/SEIR describes the initial alternative development and screening in Section 3.3.1 “Initial Alternatives Development and Screening,” and a more detailed elaboration of the design alternatives and design evolution can be found in section 1.7.4 “Erosion Protection Design

¹ An 1/n Annual Chance of Exceedance (ACE) represents the annual probability of an event occurring. The n is equivalent to the n-year flood in common terms. In this case, the 1/325 ACE is equivalent to saying “325-year flood”.

Alternatives” and 2.5.2 “Contract 3B” of Appendix G, “Engineering.” The ARCF 2016 Project, analyzed in the original 2016 ARCF GRR Final (EIS/EIR), included 11 miles of work along the American River. Figure 3.5.2-1 in the SEIS/SEIR shows the areas identified for erosion protection work in the ARCF GRR Final EIS/EIR compared to the projects recently completed (Contracts 1 and 2), scheduled for construction in 2025 (Contract C3A) and those refined in this SEIS/SEIR (including Contract C3B North, C3B South, 4A and 4B). See section MR 3-1 below for more details on how the design of Contract 3B North and C3B South itself was adjusted to minimize impacts to habitat and trees.

The American River Erosion Contract 3B site comprises only a portion of sites or river miles included in the ARCF 2016 Project. Further evaluation after 2016 determined that this area is subject to a high risk of erosion and poses an immediate threat to the levees during high flows; specifically, the design objective flow of 160,000-cfs. For a relative understanding of what recent flood event flow levels are in comparison to the 160,000-cfs design flow, please refer to section 2.1.1 “Historical Performance” of Appendix G, “Engineering.” This project is targeted to mitigate the risk to the public where erosion of the riverbank and levee in this area will potentially lead to significant loss of life and economic damages to the City of Sacramento and the surrounding metropolitan area. Through the site evaluation and design process for this Contract, critical areas for flood risk management have been targeted and tailored to minimize environmental impacts including the removal of trees. The current design balances life safety risk reduction measures within USACE guidance and protecting or maintaining the environmental and recreational resources within the river corridor. The design process applied was iterative and downscaled to minimize impacts to the environment. Designs were reviewed and commented on by a large body of local, multiple state and Federal agencies and subject matter experts across the nation including environmental resources and engineering staff.

MR 2-2 Bank Protection Approach: Proposed vs Natural Bank Protection

The ARCF 2016 Project erosion protection improvements are designed to last at least 50 years because of the high risk and economic and life safety consequences. Based on the identified erosion modes of levee failure (e.g. vertical scour and lateral bank erosion, refer to Section 1.6 “Levee Erosion Failure Process” and Sections 2.5.2.3.1, 2.5.2.4.1, and 2.5.2.5.1, all entitled “Identified Risk Drivers,” of Appendix G, “Engineering,” for more details) caused by applicable erosion processes coupled with the high risk and economic and life safety consequences of that risk for this immediate area, added resiliency in the flood risk mitigation measure is necessary. Trees and vegetation alone cannot provide resiliency in erosion protection as the soil matrix around the root zone will be eventually be eroded by high velocities of the design flow of 160,000 cfs², leading to a fallen tree pull out pit, which can lead to a scour hole and potential levee failure. The Project Partners have seen trees fall within the American River Erosion Contract 3B site at lower flows than 160,000 cfs. Because trees are susceptible to being undermined by erosion, trees alone cannot be relied on to provide the required erosion protection to the surrounding communities.

² Figure 2 in “Stability Threshold for Stream Restoration Materials” (ERDC 2001) illustrates how various types of soil covers (i.e. bare soil, clay, grass etc) having reduced allowable velocity for extended flow duration. Thus, the working engineering assumption is that the sustained high velocities of 160,000 cfs design flow will reduce vegetation’s erosion resistance over time.

The inadequacy of relying solely on vegetation to arrest/prevent erosion is clear when evaluating the risk posed by Probable Failure Mode (PFM) 3³, or failure of the levee foundation due to erosion at the riverbank or riverbank toe. PFM 3 erosion typically starts in the main river channel below summer low water levels at the riverbank's edge where sufficient continuous tree root mass is not available to bolster soil's strength. As erosion of the soil at this elevation progresses into bank and toward the levee, the erosion undermines the trees further up the bank, resulting in them toppling, which eliminates all the benefits their roots provide to the soil higher on the bank. This specific failure process is why trees/vegetation alone are considered inadequate as a form of erosion protection on the LAR. If the LAR levees were further away from the main river channel and erosive forces of the river were lower, natural bank protection could be a viable alternative to stone bank protection.

Given the life loss and economic consequences of a levee failure, bank protection must be used to have a high confidence the levees will safely pass the 160,000 cfs design flow. By installing rock-based bank protection along the riverbank, USACE can adequately address the risk posed by PFM 3 by sizing the rock to ensure it can withstand increased velocities in the channel and not be washed downstream. The rock-based bank protection will not only protect the levee from erosion, but it will also protect existing vegetation left undisturbed by construction from erosion, too. This bank protection minimizes impacts to vegetation during construction and will also expand the bankline waterward and provide more space for vegetation to establish than previously existed.

The design process applied was iterative and downscaled to avoid and minimize impacts to the environment but meet minimum flood risk objectives (for specific examples please refer to MR 3-1). The design includes on-site habitat feature construction where the riprap material along the riverbank is soil filled, includes a topsoil depth placed above the riprap surface and is then planted with vegetation. The design essentially mimics or builds off knowledge gained from previous erosion protection construction efforts on the American River since the late 1990s through 2010s (please refer to MR 3-4 for more details). It is expected the 2016 ARCF Project bank protection improvements will, over time, perform and sustain vegetation similar to, if not better than, these previously constructed erosion protection projects (refer to MR 3-3 and MR 3-4 for examples of successful plantings at past projects).

MR 2-3 Prior Erosion Control Techniques and Efficacy

There was significant erosion along the levee system during the 1986 flood event (peak flow of 134,000 cfs) and again during the 1997 flood event (peak flow of 117,000 cfs). Since its original construction in the 1950s, Folsom Dam's objective release was 115,000 cfs and until 1999, its emergency objective release was 152,000 cfs. Based on the performance of the levee system during the 1986 and 1997 flood events, it was evident that the system could not safely convey flows greater than 115,000 cfs, and was still considerably at risk even for releases of 115,000 cfs. To remedy this, between authorizations issued by Congress in 1996, 1999 and 2016, USACE was tasked with hardening the levee system to be able to withstand and safely convey Folsom

³ USACE's risk cadre evaluated the ARCF levee system at the outset of the project. Probability Failure Modes (PFM) and numbers were generated and assigned in Probable Failure Mode identification workshops. PFM numbers were created sequentially as ideas were generated from the panel of experts. The PFM numbers do not represent order of importance or risk. The ARCF Semi-Quantitative Risk Assessment (SQRA) reports include details of all PFM considered for the project.

Dam's increased emergency objective release of 160,000 cfs. Please refer to Appendix G, Sections 1.4 "Flood Risk Management System History" and 2.1.1 "Historical Performance" for more information on performance of the LAR System in past flood events.

Erosion repair sites constructed prior to 2013, either constructed under earlier Congressional authorities, as an emergency response to a past flood event, or installed by local maintaining agencies, were designed to withstand the 115,000 cfs flow, not the 160,000 cfs emergency release. In general, the majority of past erosion protection measures constructed prior to 1995, and some of the repairs constructed since 1995 were determined inadequate to withstand the 160,000 cfs emergency objective release for two main reasons: 1) the past erosion protection measures were constructed using inadequate materials (e.g., rock size, type, and/or quantity), or 2) the past sites were designed considering a peak flow of 115,000 cfs. However, based on a condition assessment performed of all the past revetment placed along LAR (cbec 2021), some river segments, which include projects constructed under the Sacramento River Bank Protection Project (SRBPP), designed for a flow of 115,000 cfs, have performed well and do not require new designs under ARCF 2016 Program. The assessment also determined other SRBPP erosion repair sites have failed and require a new design in Contract 3B of the ARCF16 Program. Please refer to Appendix G, Section 2.3.7 "Existing Bank Revetment Condition Assessment" for more information on how this condition assessment information was utilized in the ARCF 2016 Project site selection process and determination of where erosion protection was required along LAR.

USACE has performed more detailed erosion analyses modeling the applied hydraulic forces and resisting forces estimated by soil properties. As with American River Erosion Contracts 3B, 4A and 4B, American River Erosion Contracts 1 and 2 (near Sacramento State University and Paradise Beach) were designed to withstand 160,000 cfs (refer to MR 2-1 for details on why). In early 2023, shortly after construction of American River Erosion Contract 1, flows peaked at 32,500 cfs. The American River Erosion Contract 1 erosion protection features easily withstood the flows and there was no threat to the levee. Willow cuttings that were installed during construction also withstood the 32,500 cfs flows. Some of the topsoil over riprap was damaged as will be expected before vegetation establishment. Topsoil was repaired and vegetation was planted at American River Erosion Contract 1 site in the fall of 2023, so the Project Partners did not get a chance to see how newly planted vegetation withstood higher levels of flows. American River Erosion Contract 2 erosion protection construction was finished late 2023 and Project Partners are actively monitoring to see how it withstands rising water levels. Please refer to section 2.1.6 "LAR Contracts 1 and 2" of Appendix G, Engineering Appendix for more details.

Cumulative Hydraulic Impacts Assessed

The American River Erosion Contract 3B project is specifically targeted to mitigate for the potential of levee breach based on erosion processes at the project location upstream of Howe Avenue on the north bank, and upstream of Watt Avenue on the south bank. The intent of the Contract C3B project is to mitigate the potential of levee breach from erosion without increasing stage of the cumulative project (water elevations resulting from the entire ARCF project); stage increase will increase flood risk from overtopping. The Sacramento Weir project and American

River Erosion Contract 2 project (see section 2.1.6 “LAR Contracts 1 and 2” of Appendix G for more details), in construction or nearing final construction, supports the execution of the American River Erosion Contract 3B project by the added flood conveyance those projects provide (i.e., reduced river stages upstream of Howe Avenue). This allowed for more flexibility in the American River Erosion Contract 3B design, which greatly reduced its impacts on vegetation. Prior to the conveyance benefits of American River Erosion Contract 2 and the Sacramento Weir widening being known (before hydraulic models were able to include their final designs), early design iterations of American River Erosion Contract 3B were much more expansive and impacted significantly more vegetation along the parkway upstream of Howe Avenue because of the zero stage increase threshold criteria. These earlier design iterations included major regrading of the channel, including the island upstream of Howe Avenue and the south bank between Howe Avenue and Watt Avenue. With the other ARCF contracts being completed or partially constructed (American River Erosion Contract 1, American River Erosion Contract 2, and Sacramento Weir), there is improved flood conveyance on the Lower American River, allowing the American River Erosion Contract 3B designs to be reduced in size, therefore reducing impacts to environmental resources and vegetation.

Each USACE design is assessed for cumulative hydraulic impacts with a variety of ARCF 2016 Projects included. American River Erosion Contract 3B hydraulic modeling input and output accounted for other ARCF 2016 Erosion projects (e.g., LAR Contracts 1 and 2) to ensure the overall project’s erosion protection improvements did not increase the risk of levee overtopping. Please see Section 2.3.3.4 “Cumulative Impacts Analysis” of Appendix G, the Engineering Appendix for more information on the cumulative impacts analysis.

Based on the results of the most recent cumulative impacts analysis, when comparing the with-project condition (which includes the most recent designs for Contract 3B) with the pre-ARCF 2016 project condition, there is a net reduction in river stages along the entirety of LAR. The benefits provided by both the Sacramento Weir widening and LAR Contract 2, has allowed Contract 3B to be designed for the smallest erosion protection footprint practicable to address the erosion risks upstream of Howe Avenue. Any further reduction in the Contract 3B footprint will result in an unacceptable remaining flood risk to the surrounding communities.

MR 2-4 Streambank Monitoring Report and Contract 3B South

The 2017 Lower American River Streambank Monitoring Report is an assessment of the Lower American River system on an annual basis and specifically assessed the high-water events recorded between October 2016 through September 2017. The report assessed conditions during this period and accounted for the February 10, 2017, peak flow event of 82,400-cfs. The American River Erosion Contract 3B project per the project authority is mitigating flood risk for a much higher design objective flow of 160,000-cfs due to improvements to Folsom Dam (see MR 2 -1 for more details). Many of the inspection members who were a part of the 2017 monitoring and assessment effort were included in the determination of ARCF 2016 Project sites requiring flood risk mitigation efforts as well as review of the proposed American River Erosion Contract 3B project features. The American River Erosion Contract 3B designs were targeted to meet minimum flood risk metrics while minimizing environmental impacts.

MR 2-5 *Designs Based on Folsom Dam Operations*

As discussed in MR 2-1, Congress authorized improvements for Folsom Dam in 1999. By doing this, improvements to levees downstream of Folsom Dam could be fine-tuned to work cohesively with the Folsom Dam improvements being discussed by Congress. Folsom Dam improvements consisted of controlled releases of up to a 1/325 ACE flood event with a peak release of 160,000 cfs (see section 2.1.3 “Folsom Dam Operation Improvements” of Appendix G for more details on the improvements). All of the ARCF 2016 Projects components were authorized so that the American River and Sacramento River could safely convey an emergency release from Folsom Dam of 160,000 cfs. On the American River, project components have to be designed to address possible risks to the levees along the river associated with 160,000 cfs releases from Folsom Dam. On the Sacramento River, the changes in flow due to the Folsom Dam project were minor because of the Sacramento Weir and its proposed expansion (currently under construction), which diverts high flows into the Yolo bypass system. The best hydrologic analyses available have been used throughout the planning and design of the ARCF 2016 Project to evaluate the erosion risk along the Sacramento and LAR. The analyses took into account forecast informed operations of Folsom Dam as well as the projected flows from the new Folsom Dam auxiliary spillway.

MR 2-6 *Construction Buffers*

The Draft SEIS/SEIR included footprints that were buffered to address potential adjustments for construction feasibility. The original American River Erosion Contract 3B maps were created to reflect locations of major temporary or permanent changes such as erosion protection features and ramps (listed as Construction Buffer) and locations where access was needed or minor changes (listed as Construction Access). American River Erosion Contract 3B project footprints and footprints of the erosion protection methods have been updated in the Final SEIS/SEIR (Figures 3.5.2-3 to 3.5.2-9). The erosion feature footprint requires additional space to allow large equipment to access and construct the erosion protection and on-site habitat mitigation features; updated maps for American River Erosion Contract 3B have named polygons differentiating between Erosion Protection and Ramps. A buffer beyond the physical limits of the erosion protection footprint was still applied for constructability purposes.. The Construction Access figure depiction has been retained to demonstrate where construction equipment needs to travel to access the site (e.g. haul routes, staging areas, ramps). Many commenters have expressed their concerns on which areas will have tree removal. Tree removal is expected in the Erosion Protection and access Ramp footprint areas; however, in some locations trees need to be removed in the Construction Access or Staging Areas. Please refer MR 3-6 and MR 15 for more details on tree removal areas.

MR 2-7 *Survey Reach Delineation and Linear Scale of Erosion*

As discussed under MR 2-1 and 2-2, it has been determined that the levee in the American River Erosion Contract 3B and Contract 4A areas will not be resilient against flows that Folsom Dam is now upgraded to release. To determine the locations that are at risk of erosion during high flood events, the Project Partners have further divided the river reaches into segments (depending on the location, segments vary between 500 and 8,000 feet). The segments were delineated based on relatively homogeneous existing bank and levee conditions. Only segments determined to be

at immediate risk of levee failure or segments, where it is anticipated that the next high flood event will put the levee in a condition of immediate risk of levee failure, went forward to design (please refer to sections 1.8 “Site Evaluations and Selections” and 2.4 “Site Evaluations and Selections” of Appendix G, Engineering Appendix, for more details on the process of selecting these segments). During the PED process, these segments were looked at in even more detail to determine a more localized need for the method of erosion protection that will meet flood risk reduction objectives and to reduce the environmental impacts of the localized habitat (please refer to section 2.5.2 “Contract 3B” of Appendix G, Engineering Appendix for more details). Figures 3.5.2-4, 3.5.2-6, and 3.5.2-8 of the SEIS/SEIR show how the different erosion protection methods vary along the American River Erosion Contract 3B project site based on erosion concerns and environmental sensitivity.

MR 2-8 Construction Vehicle Size and Impacts to Riparian Habitat

The salmonid migratory season and the flood season limit major construction activities to occur between early summer to late fall for in-water construction. In addition, the Project Partners wanted to minimize the length of construction disturbance to recreationalists and nearby residences. Our Resource Agency Biological Opinions have a strong preference for minimizing the duration of construction. Our construction schedules are based on minimizing our duration of the impact on individual ESA listed species. The size of equipment vs a longer construction time is balancing act that has been carefully evaluated to reduce overall impacts including recreation, wildlife and Noise disturbance.

Use of small trucks and earth movers will significantly extend the number of years needed to construct the project. Protection of the riparian habitat was a high priority for the design team, so instead of construction equipment adjustments, there were construction method and project layout adjustments made to minimize the impact on riparian habitat as much as feasible while still meeting flood risk reduction objectives. Examples of methods used to minimize impacts to trees and riparian habitat are outlined in MR 3-1.

MR 2-9 Soil Borings Upstream of Howe Ave and Watt Ave

Additional geotechnical borings have been completed since the ARCF GRR Final EIS/EIR. Section 2.3.4 "Geology" of Appendix G, “Engineering,” provides specifics of geotechnical exploration work completed and when it was completed. The borings were mainly collected along the upper river bank, overbanks and on the levee crown for use in assessment tools such as geotechnical slope stability analysis model, vertical scour computations, lateral erosion estimates and hazardous, toxic and radioactive waste assessments. Previous and recently collected bathymetric survey data, laboratory testing, geophysical data collection efforts, and bed outcropping observation data were completed and compiled to support riverbed stratigraphy modeling. Per the Lower American River Geomorphology Assessment performed in support of the LAR erosion risk assessments (NHC, 2018), the presence and mapping of and characteristic assessment of the Pleistocene Fair Oaks unit (or sometimes referred to as erosion resistant material by the Project Partners), is mainly present upstream of Watt Avenue, and its erosion resistant properties were accounted for in this modeling and ultimately for flood risk mitigation design.

MR 3: Tree Removal and Plantings in Contract 3B and 4

MR 3-1 *Need for Tree Removal in Contract 3B and 4B*

As described in MR 2-2, the American River Erosion Contract 3B Project area was assessed as high risk and high life loss and economic consequences warranted flood risk mitigation to safely convey 160,000 cfs flows that Folsom dam is now upgraded to release. See response to MR 2-1 on Folsom Dam and the design objective flow and project areas erosion risk assessment. Initially the ARCF 2016 Project proposed 2 different types of erosion protection, launchable trench (revetment buried underground that launches when erosion occurs) and bank protection (revetment placed at grade) throughout the project area. As described in MR 2-1, 11 miles of work was approved by the ARCF 2016 Project but once more thorough investigations were conducted during PED only 6 miles were considered to be a high enough of a risk to go forward with design and repair. During PED the project design has evolved based on peer review conducted by local, state and Federal agencies, including U.S. Fish and Wildlife Service (USFWS), National Marines Fisheries Service (NMFS), National Park Service (NPS), and Sacramento County Department Regional Parks (County Parks) to help balance fish, wildlife, recreational, and visual impacts. In 2021, County Parks and NPS told the Project Partners that the American River Erosion Contract 3B design at that time was too impactful to heritage oaks and will likely be considered inconsistent with the National Wild and Scenic Rivers Act (WSRA). From July 27 to July 29, 2021, a design charrette (a meeting with stakeholders to work through problems) occurred in order to work through redesigning the project to better balance environmental objectives and flood risk reduction objectives. County Parks, NMFS, USFWS, NPS, USACE Environmental Staff, Department of Water Resources (DWR) Environmental Staff, and Sacramento Area Flood Control Agency (SAFCA) Environmental Staff attended and participated the design charrette. During the design charrette the collective design team reviewed river segment at the American River Erosion Contract 3B site and worked through the best erosion protection option to meet environmental and flood risk reduction goals. Since 2021, the Project Partners have been optimizing and refining the project based on the outcome of the design charrette and have worked to minimize the project footprint and minimize tree removal as much as feasible. The design team used the following environmental priorities to help adjust their designs:

1. Minimum design footprint to meet flood risk objectives.
2. Heritage oaks or any tree larger than 24 inch in diameter – based on collected survey data.
3. Extents of existing Mitigation Sites.
4. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) Habitat.
5. Western Yellow Billed Cuckoo (*Coccyzus americanus*) (Cuckoo) Habitat.
6. Recreational Resources.
7. Sensitive Plants.

8. Wetlands.
9. Shaded Riverine Aquatic (SRA) Habitat.
10. Activities that will decrease air impacts (example: making new ramps to shorten routes).
11. Visual Resources.
12. Unique Aquatic Habitat Features.

Please refer to Master Response 15-1 for details on tree data utilized for American River Erosion Contract 3B designs. Tree data was used when designing the project and the footprint was moved when feasible to avoid trees, in particular large native trees.

Examples of avoidance and minimization of tree impacts include: installing access ramps within the construction boundary of the erosion protection features as much as feasible, selecting erosion protection methods on the river at a very localized level to minimize the habitat impacts based on the localized conditions, constructing from revetment platforms along the river's edge (away from vegetation) as much as feasible, including requirements in the Contract Specifications for protecting trees at the project site that are not impacted by construction, and designing erosion protection features and access ramps to avoid trees where and when feasible. Erosion protection feature methods were selected by location to minimize the footprint as much as feasible while still meeting flood risk objectives. For instance, at Site 4-2 and along the Watt Avenue Boat Launch Parking lot at Site 4-1, launchable trench was selected, as this feature could be placed underneath existing developed areas (a paved road, a parking lot, dirt road, and bike trail) so impacts were focused on infrastructure, like roads, which can easily be replaced once erosion protection features are installed, instead of irreplaceable natural resources. In addition, a launchable trench is designed to be installed just downstream of Larchmont Park as the riverbank was wide enough to allow for installation of a launchable trench while protecting heritage oaks: this part of the riverbank generally contains more shrubs than trees. The launchable trench will protect the unique erosion resistant material along the river's edge that creates unique fish habitat. Erosion protection is still needed higher up on the riverbank at this location, so tie backs were used so that the erosion protection features could be placed between trees (see figure 3.5.2-8 in the SEIS/SEIR). Launchable toe was installed upstream of the Waterton Way River access and Larchmont Park to protect the heritage oaks higher up on the riverbank.

Through this iterative design process, USACE, SAFCA, and DWR environmental staff have been involved in the review process and provided comments on the environmental impacts throughout design evolution. Based on PDT engagement with the Risk Cadre from Spring to Fall 2022, it was determined that the levee was still at risk for failure due to tree scour and high velocities along the levee embankment along areas in the vegetation free zone (the area 15 feet from the levee toe) of the American River Erosion Contract 3B footprint. Typically trees within the vegetation free zone of the levee that are determined to be a risk to the levee will be cut down to reduce the risk of levee failure; however, these trees were determined to be important wildlife habitat and visual resources. These trees in the vegetation free zone became a separate contract, American River Erosion Contract 4B, to allow USACE to complete the additional analysis and documentation to acquire Vegetation Design Deviation without impacting the schedule of

American River Erosion Contract 3B. The additional analysis will determine if the trees in the vegetation free zone can remain in place, not pose a risk to life and safety, and not pose a risk to the integrity of the levee itself. Section 2.5 of the Appendix G, Engineering Appendix, includes additional information about American River Erosion Contract 4B. The American River Erosion Contract 3B 95 percent designs were presented to County Parks, NPS, NMFS, and USFWS in October of 2023. The updated American River Erosion Contract 3B 95 percent design set was then transmitted to County Parks, NPS, NMFS, and USFWS in December of 2023. The preliminary American River Erosion Contract 3B 100 percent design set was also transmitted to County Parks, NPS, NMFS and USFWS in June of 2024.

After this cooperative effort to avoid and protect trees, there are still hundreds of trees (refer to Master Response 15-1 for more details) determined to be removed to construct the erosion protection features and meet flood risk reduction objectives. As discussed in MR 2-2, riparian vegetation alone is not enough protection to address the flood risk problems in the area. Erosion protection measures are needed and cannot be installed without the removal of some vegetation. These trees must be removed for various reasons including: regrading to provide stable slopes for erosion protection features to function correctly, installation of launchable trench requires excavation, the amount of revetment installed over roots in some areas will kill the tree, leaving some trees will be a safety hazard for personnel constructing the project, and for individuals recreating in the area after work is complete, and construction equipment's access will be blocked by some trees (ramps were redesigned many times to impact as few trees as feasible, however).

Many commenters have incorrectly asserted that removing trees will increase the risk of flooding. It is important to note that revetment will be placed to strengthen the levee, so even if there is erosion of the soil placed over the revetment while vegetation reestablishes, the revetment under this soil will still protect the levee from erosion.

MR 3-2 *Bioengineering Approach Not Feasible*

As mentioned in MR 2-2, use of bioengineering at the American River Erosion Contract 3B site will not reduce all of the flood risks at that location. Bioengineering is not feasible on the American River for following reasons:

1. Concern about longevity identified during the risk informed design process: project partners and stakeholders, including NMFS and USFWS, were concerned about the damage to the bioengineering structures, such as thickets of shrubs to increase roughness in the area, in the 50-year life of the project. For example, fires have become more common in the American River Parkway. If a fire were to occur in an area where vegetation was used as a method to minimize erosion, the levee will be at higher risk of erosion induced failure at that location until the vegetation was replaced. There is precedent of fire destroying a bioengineering erosion protection on the American River. At Lower American River Mile 10.0 left, erosion was first identified as a critical erosion site and in need of repair in 2003. Shortly after, a bioengineering erosion protection feature was installed in the form of brush boxes by the local maintainers. These brush boxes were destroyed in a fire between 2003 and 2006. After the 2006 flood (peak flow

of approximately 37,000 cfs), this site was reidentified as in need of repair and was repaired using stone revetment in Fall 2011.

2. Probable Failure Mode (PFM) 3, or failure of the levee foundation due to erosion at the riverbank or riverbank toe. As discussed in MR 2-2 one of the failure modes being addressed by American River Erosion Contract 3B is caused by erosion at the riverbank toe, which undermines vegetation planted along the riverbank.
3. Using living plants below the permanently wetted surface of the river is not possible. Toe scour is a threat to levee integrity in most of the locations receiving erosion protection for Contract 3B site. Since bioengineering with live plants, which can continuously renew themselves is not an option for toe scour, bioengineering techniques to address toe scour will have to utilize inert wooden structures, such as root wad revetments and log crib structures. These inert wooden structures have a limited service life due to decay processes. These types of structures will require periodic replacement, which will cause impacts to habitat that will be of the same order of magnitude as the original installation of the structures. Additionally, the initial habitat impacts of installing inert wooden structures will be greater than installing launchable rock toe protection, as wooden structures cannot self-launch, as rock can. This will require excavation to scour depth increasing the construction footprint to accommodate the excavation back slopes. Additionally, excavating in the permanently wetted channel will require extensive dewatering, which will greatly slow construction, increasing the temporal impacts of the work, and increasing the area impacted.

The Project Partners do consider use of bioengineering where feasible. At this point, there has only been one location for the ARCF 2016 Project, on the Sacramento River (Sacramento River Erosion Contract 4), where use of bioengineering met all flood risk reduction objectives at the site. The hydraulic conditions for the design objective event at the American River Erosion Contract 3B project location do not support bioengineering design features alone to meet flood risk objectives.

Additional information on bioengineering as an alternative is discussed in section 1.7.4 “Erosion Protection Design Alternatives” of Appendix G.

MR 3-3 Tree Establishment in Riprap

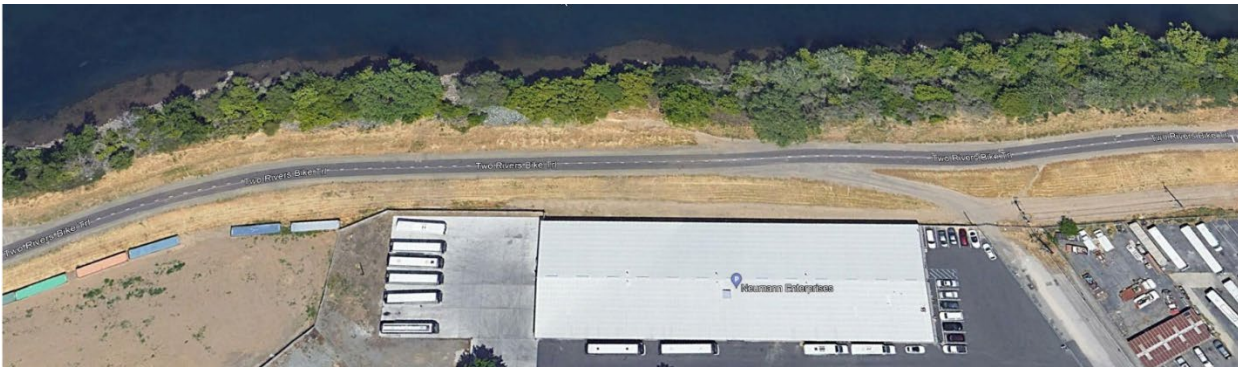
USACE, Sacramento District has been planting trees in areas with riprap revetment since the 1990’s along both the Sacramento and American Rivers. Below are some examples of such sites from aerial imagery from Google Earth, month and date of imagery is noted. In general, USACE has had good success revegetating riprap revetments. Earlier efforts involved planting the trees into the soil beneath the riprap by moving the rip rap, planting the trees and replacing the rip rap. In the last 15-20 years USACE has been installing soil filled rip rap often with a layer of soil placed above and planting into the placed soil. This method has generally had better results and is the method proposed for American River Erosion Contract 3B. Figures 3.5.2-15, 3.5.2-16, 3.5.2-26, 3.5.2-27 and section 3.5.2.1.1 “Erosion Protection Features” describes the methods

used for American River Erosion Contract 3B. Please also refer to section 2.6.4 “Revegetation of Sites” of Appendix G, Engineering Appendix for more details.

South Bank, just downstream of SR-160 Bridge, May 2005



South Bank, just downstream of SR-160 Bridge, May 2021



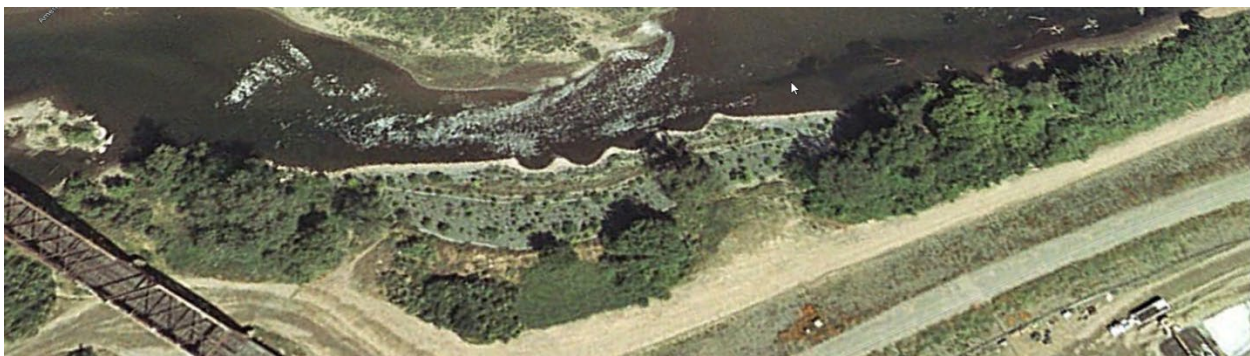
South Bank, between Sacramento Northern Bike Trail and Railroad Bridges, May 2005



South Bank, between Sacramento Northern Bike Trail and Railroad Bridges, June 2021



South Bank, between Railroad and Business 80 Bridges, May 2005



South Bank, between Railroad and Business 80 Bridges, June 2021



Sacramento River 1.5 miles upstream of Clarksburg Road on the right bank (west side of river), June 2007.



Sacramento River 1.5 miles upstream of Clarksburg Road on the right bank (west side of river), January 2022.



MR 3-4 *Establishment of New Plantings*

Sites can vary, but within 3-5 years, the plants are usually established to the point that irrigation is no longer required. After 10 years, the vegetation is usually well established enough to obscure most of the underlying surface. After 15-20 years, the site may not be apparent to a casual observer. Below are aerial images from google earth tracking the plant growth at the USACE erosion site on the south bank of the American River upstream and downstream of the Highway 160 bridge. The site includes a planting bench and a rip rap slope above the bench. The images show the portion of the site upstream of the Highway 160 bridge. Please also refer to section 2.6.4 “Revegetation of Sites” of Appendix G, Engineering Appendix for more details.

May 2002, installed in 2001



June 2007, after 6 years



September 2010 after 9 years



July 2016 after 15 years



May 2021 after 20 years



MR 3-5 New Plantings During Rock Trenches and Toes Launch

When flood levels are high and scour occurs, the erosion protection features may launch as intended, and some plantings may be lost. To minimize this as much as feasible, tie backs were added to planting benches. Tie backs are a strip of revetment perpendicular to the river channel. When erosion occurs and a portion of the feature launches, it will eventually hit a tie back, which will stop the erosion from continuing for the rest of the planting bench.

In addition, USACE has evaluated the design durability for the ARCF 2016 Project components (USACE 2024). For the analysis, USACE evaluated the existing mitigation features built on top of bank revetment or launchable rock toe of past projects. USACE then forecasted the stability of these designs over the ARCF 2016 Project lifespan and estimated that over the life of the project, a total of 0.06 acres will be lost on the Sacramento River Projects (0.04 acres at

Sacramento River Erosion Contract 2 and 0.02 acres at Sacramento River Erosion Contract 3) and 4.00 acres will be lost on the American River Projects (0.89 acres at American River Erosion Contract 1, 2.1 acres at American River Erosion Contract 2, 0.3 acres at American River Erosion Contract 3A and 0.71 acres at American River Erosion Contract 3B). Project Partners do not anticipate replanting sites after launching occurs as additional vegetation will need to be removed to access the area to replant the area, but the Project Partners will mitigate for this anticipated loss of habitat upfront at a 1:1 ratio by adding the associated acreage into offsite mitigation creation and/or bank credits.

MR 3-6 *Site-Specific Tree Assessments*

USACE considered each tree when designing the project and when designing the tree clearing plan set. Only when it was determined infeasible to save a tree was that tree considered for removal. Please refer to the last paragraph of MR 3-1 for a list of examples of why trees needed to be removed. See MR 3-1 for more details of the steps the Project Partners took to reduce impacts to trees as much as feasible.

Unfortunately, erosion protection measures cannot be implemented without impacts to vegetation located in the project footprint. Figures 3.5.2-10 and 3.5.2-11 have been added to SEIS/SEIR the outline the anticipated locations where trees will be removed.

Please refer to MR 3-1 for more justification and details of the Steps and methods the Project Partners took to reduce impacts to trees as much as feasible while still meeting flood risk objectives. Since the Draft SEIS/SEIR was released for public review the design process has progressed, so more details are available for review. See Figures 3.5.2-4 to 3.5.2-9 in the SEIS/SEIR for refined maps of the project site.

MR 3-7 *Erosion near Sacramento State University (Contract 1)*

The bank protection work completed between Sacramento State University and Glenn Hall Park was constructed in 2022, as a part of American River Erosion Contract 1. In the Project Partner's technical evaluations, this site was determined to be the highest risk site on the river for imminent threat of levee failure during a high-water event, requiring a robust design for severe flood conditions. Over 100,000 tons of large quarry stone were strategically placed, then covered with topsoil and replanted.

Several commenters have demonstrated concern about erosion seen post-construction at American River Erosion Contract 1. Site monitoring has been ongoing by USACE and the non-Federal Partners. The observed erosion was surficial, only affecting the topsoil mentioned previously. The surficial erosion occurred after construction, but prior to planned revegetation of the site. Site replanting, or regreening, had been delayed due to high water levels at the beginning of the rainy season, but was finished in early 2023. If the design flow of 160,000 cfs had occurred, the topsoil would likely have been lost but the rock armoring beneath the topsoil would have protected the adjacent neighborhood from levee erosion and potential levee failure.

Please refer to section 2.1.6 "LAR Contracts 1 and 2" of Appendix G, Engineering Appendix for more details

MR 3-8 *Native Seed Mixes for Hydroseeding*

All hydroseeding will be with native grasses (see Mitigation Measure AIR-2). Pollinator friendly plants will be incorporated where feasible (see Mitigation Measure MONARCH-1).

MR 4: Contract 3B Impacts to Recreation on the Lower American River

Many commenters asserted that the Contract 3B project will negatively impact recreation along the Lower American River at the project sites. Commenters identified potential impacts related to loss of informal “social” trails (trails that are not formally designated in the American River Parkway Plan or maintained by Regional Parks) in wooded (and shaded) areas between the levee and the summer shoreline of the river, as well as loss of access to the riverbank for wildlife viewing, boating, fishing, and other water-related recreation. One commenter provided a map identifying local trails and river access points. Commenters also identified the use of bike trails on the American River Parkway for commuting, and the cumulative impact of erosion repairs along the Lower American River.

Through providing additional information in the Master Responses and the responses to individual commentors, we are hoping to provide clarity on the project designs. For example, one comment referred to the impact of “miles of riprap along the river, destroying miles of natural shoreline including beaches” (Comment CHAT-2-31). Please refer to Appendix G, “Engineering” and MR 2, MR 3, and MR 15. These materials provide additional detail about the design of the proposed improvements, and additional detail regarding the footprint of the proposed improvements and changes to the habitat and appearance of the area. Revisions to Appendix B, Section 4.1, “Vegetation and Wildlife,” include maps illustrating the locations of trees to be preserved or removed. Other comments referred to the importance of recreation and natural areas for public health, and mental and psychological health; please refer to MR 13, which addresses these issues. Several subsections below address recreational impacts related to informal trails and informal recreation, river and beach access, bicycle commuting, impacts to existing parks, and long-term cumulative impacts.

MR 4-1 *Informal Trails and Recreation*

The American River Parkway Natural Resources Management Plan’s (NRMP) sections for the Watt Avenue B and Save the American River (SARA) Park Area Plan (where Contract 3B improvements will be constructed) lists only one official trail in the Contract 3B project vicinity on the South bank: the equestrian/pedestrian trail along the levee toe (Sacramento County 2023, pages 8-67 and 8-73). The American River Parkway’s NRMP also only lists two trails in the Contract 3B project vicinity on the North bank: the bike trail and a separate equestrian/hiking trail, which both run parallel to the river (Sacramento County 2023, page 8-61, 8-67 and 8-73). In addition, the American River Parkway NRMP identifies a trail mapping and habitat management action related to informal social trails: “Map the multiuse trail and trail spurs, equestrian/hiking trail, pedestrian trail, maintenance roads, and current social trails. After mapping is complete, determine which social trails should be actively closed and restored vs. actively monitored” and to “Remediate social trail impacts and promote native vegetation growth: Manage social trails in a manner that consolidates trails and allows rehabilitation of vegetation understory.” (Sacramento County 2023, page 8-65 and 8-71). Although there are

many trails, including trails to river access points in the Contract 3B South area, these trails are not official recreation trails and are not currently managed by Sacramento County Regional Recreation and Parks Department. Furthermore, regardless of whether the project is constructed, the American River Parkway NRMP calls for mapping, evaluation, and trail closures and consolidation, to minimize the effects of these informal trails on habitat.

As mentioned in the Draft SEIS/SEIR in Appendix B, Section 2.2.3.4, under Impact 2.2-c for American River Erosion Contract 3B North and South, American River Erosion Contract 4B) “The American River Parkway is used for walking, cycling, running, hiking, bird watching, wildlife viewing, horse riding rafting, kayaking, paddleboarding, and fishing. The intermittent construction, tree clearing, and site replanting over the timeframe of the work will reduce the quality of all of these recreational experiences in the American River Parkway, causing a direct significant impact that cannot be mitigated to a less-than-significant level, though mitigation measures (listed below as REC-1) will be implemented in an attempt to minimize the negative recreational impacts as much as possible.” There are substantial portions of the Contract 3B site where no erosion protection will be placed along the river, so use of the river at these locations will remain unchanged after construction has been completed. Designs of American River Erosion Contract 3B have progressed enough that maps with the most up-to-date designs have been added to the Draft SEIS/SEIR. Figures 3.5.2-5, 3.5.2-7, and 3.5.2-9 shows the areas where erosion protection will be placed.

The proposed improvements will remove some areas of riparian forest, including mature forest, but as described in MR 2 and Appendix G, “Engineering,” the design was prepared to retain existing riparian forest to the extent possible. After the immediate construction impacts on recreation have ceased, the Contract 3B project site will retain substantial areas of riparian forest, both along the low-flow shoreline and farther up the bank toward the toe of the levee. Planting benches will be replanted with native trees, shrubs, and forbs. Riverbank bank protection will be constructed with soil filled revetment, topped with soil, and replanted with trees, shrubs and forbs. Levee bank protection will be constructed with soil filled revetment, topped with soil, and planted with grasses and forbs. Launchable toes will support planting benches behind the launchable toe. Planting benches will be planted with trees, shrubs and forbs. The launchable trench improvements (when not placed under roads or bike trails) will be covered with soil and replanted with shrubs and forbs based on site conditions. When there is enough soil over launchable trench, trees will be planted over the launchable trench as well. The general characteristics and recreational possibilities of this reach of the river (scattered areas of riparian forest, interspersed with grassy areas and areas of low vegetation, with informal trails, maintenance roads, and the Jedediah Smith Trail, will be similar to existing conditions, although some wooded areas and some specific shoreline features will be removed or changed by the improvements (these areas of change are illustrated in Figures 3.5.2-5, 3.5.2-7, and 3.5.2-9). Although implementation of American River Erosion Contract 3B will change the appearance of the project sites and remove some existing informal trails and access points, similar informal recreational opportunities will remain in the long term, after construction is completed and initial replanting and restoration (up to 8-10 years) is complete. The project sites will still be characterized by a mix of wooded and open areas, with paths and informal access to the shoreline, including wooded and shaded areas. Please refer to MR 5 and MR 15 for additional details related to the habitat and vegetation restoration at the project sites. Additionally, placement of erosion protection features protecting against PFM 3 (see MR 2-2 for details) will

protect against erosion undermining trees and existing trails. This means that erosion protection features will prevent these features from eroding away in high flood events.

MR 4-2 *Beaches and River Access*

The American River Erosion Contract 3B project includes two areas, Contract 3B North and Contract 3B South. The Contract 3B North area where erosion protection will be placed along the water's edge is currently very steep, and the area where improvements will be constructed is not widely utilized for recreation due to its slope and relative inaccessibility. By contrast, the Contract 3B South area includes shoreline that is generally accessible via informal trails between the Watt Avenue Boat Ramp river access and the upstream extent of the proposed improvements near Larchmont Park. The Contract 3B project sites will be restored after work is complete (please refer to MR 3, MR 5, and MR 15 for additional details) and river access points upstream and downstream from the Contract 3B South sites will continue to be accessible. In addition, there are substantial areas within the Contract 3B South sites where erosion protection will not be placed along the river's edge (Figure 3.5.2-9). For the most part, slopes will be regraded following construction, softening slopes, and where planting benches will be constructed, the project will create flat areas adjacent to the shoreline. Although these changes may provide easier access than the existing condition in many places, access will not be encouraged, both due to the presence of habitat mitigation plantings and because of the objectives listed in the American River Parkway NRMP (described above in MR 4.1).

There is a large and popular informal river access area near the most upstream portion of the American River Erosion Contract 3B area (extending eastward from Larchmont Park) where the project will substantially change the character at the shoreline compared to existing conditions. The existing wading area with smooth river rocks will be replaced with launchable toe rock covered in choke stone and instream woody material (IWM), which is not conducive of wading. However, this site represents only 200 feet of the total 6,550 feet of erosion protection at the Contract 3B South sites, and several similar informal locations within approximately 1 mile of the Contract 3B South sites offer similar opportunities for informal river access at a sandy or flat "beach" location. These areas are located near the Glenbrook River Access, just upstream of the Mayhew Drain, and at the Grist Mill access.

Erosion protection features along the riverbank and levee embankment that include revetment are designed to be soil filled, topped with a 1-foot thick soil layer, composed purely of topsoil, atop the soil-filled revetment and planted to allow vegetation to establish. The only locations where revetment will be visible and not covered with soil include tie-back features within the planting benches, the waterward face of the planting benches and stormwater outfalls, a total of approximately 2,250 linear feet. Cobble had been initially designed on top of the planting benches, but was replaced with coir fabric after Sacramento Department of Regional Parks review and engagement where Regional Parks indicated that they have seen reductions in plant growth at mitigation sites with cobble on the American River.

Based on a requirement from the NMFS Biological Opinion, the launchable toes at the waterward face of the planting benches are designed to be choked (smaller angular rocks will be

placed around the revetment to minimize the gaps). This requirement decreases the risk of fish predation, provides a more walkable surface, and provides a more visually pleasing shoreline. Smoother or rounded cobble had been considered as the material for choke fill, but USACE determined that smoother/rounded rock choke stone material will be more prone to downstream transport during higher river conditions, and angular choking material was chosen as a result. Instream woody material will be placed on the planting benches and willows will be planted, and areas disturbed by constructing the proposed improvements will be revegetated, generally with woody vegetation for onsite mitigation. Access through the restored areas will be discouraged to promote healthy growth of habitat mitigation. However, because the revetment will not be visible or will be choked, and because slopes will be more gradual than existing conditions, the erosion features themselves will not physically prevent access to the river. More likely the onsite mitigation vegetation will prevent easy access to the river at improvement sites. As already discussed, remediating social trail impacts, promoting native vegetation growth, and managing social trails in a manner that consolidates trails and allows rehabilitation of vegetation understory is a management action for the American River Parkway NRMP in the Contract 3B South area. Signs for ecological restoration will be posted at areas of regreening.

As described in the Draft SEIS/SEIR and expanded upon in the preceding paragraphs of this response, the American River Erosion Contract 3B project will have temporary and short-term significant impacts on recreation, including bike riding, pedestrian use, fishing, boating, and wildlife viewing, during construction within the Contract 3B South area. These impacts cannot be further reduced or eliminated; public access must be limited at the site of active construction. However, in the long term, after the completion of construction and the initial growth of on-site replantings (up to 8-10 years), a similar range of recreational opportunities will be available along the Contract 3B South area. Some informal trails and river access points will remain, others will be changed, and the scenic character of the area will include a different mix of wooded and open areas compared to the existing conditions (please refer to MR 15 for additional discussion of habitat changes).

MR 4-3 Bike Commuting and Trail Closures

The American River Erosion Contract 3B will include closures of portions of the Jedediah Smith Recreation Trail during construction of the Contract 3B North improvements. As required by Mitigation Measures REC-1 and TRANS-1, the Project Partners will identify and post detour routes for bicycle and pedestrian traffic during these closures. Detours will be established in coordination with local agencies and could include paved portions of the levee top, and on-street routes. On the south bank of the river, there is no paved bicycle trail upstream of Watt Avenue, although some commenters indicated the top of the levee is used by commuters. Nevertheless, the Project Partners will consult with Regional Parks and establish detours consistent with the requirements of Mitigation Measures REC-1 and TRANS-1.

MR 4-4 Park Closures During Construction

Parks have been selected for staging areas to minimize impacts to vegetation on the waterside of the levee. As disclosed in the SEIS/SEIR (Appendix B, “Detailed Analysis,” Section 2.2, “Recreation,”), a portion of Larchmont Community Park will be used as a staging area during construction. This closure could extend for up to 2.5 years, from initial staging until completion

of the second construction season. Other nearby recreational facilities, including Glenbrook Park, will remain open during construction closures. The temporary impact will be significant and unavoidable, as described in Impact 2.2-c in Appendix B, “Detailed Analysis,” Section 2.2, “Recreation.”

MR 4-5 Cumulative Impacts on Recreation

The SEIS/SEIR addresses short-term cumulative impacts on recreation in Section 5.1.2, “Recreation.” Several comments identified the potential for long-term cumulative impacts on recreation related to changes in the visual and habitat character of the Lower American River.

Construction of erosion improvements on the Lower American River as part of American River Erosion Contracts 1, 2, and 3A has changed the visual character of two widely-used stretches of the American River Parkway approximately 1 to 2 miles downstream of the American River Erosion Contract 3B improvements proposed in the Draft SEIS/SEIR. Although some initial replanting of the Contract 1 and 2 sites has occurred, substantial new growth of woody vegetation will not occur for several more years and will potentially overlap with construction and replanting of the proposed American River Erosion Contract 3B improvements. Unlike the American River Erosion Contract 3B project area, the Contract 1, 2, and 3A project sites had tighter riverbanks and little to no bench, so recreation along the riverbank was less common than what occurs at the American River Erosion Contract 3B site. Once construction is completed and vegetation is established, the Contract 1, 2, and 3A sites will all have benches and/or softened slopes. Construction of the Two Rivers Trail Phase 2 improvements by the City of Sacramento will expand recreational access downstream on the south bank of the river, with enhanced access to the Paradise Beach area, and better connectivity to recreational opportunities at Sutter’s Landing and for residents in midtown and downtown Sacramento. American River Erosion Contract 4A improvements near the SR-160 bridge would potentially include a reroute of the Jedediah Smith Memorial Trail that would provide similar recreational quality to the current alignment along the levee toe. Similarly, the ARMS mitigation site would be constructed on a parcel that has not historically been available for recreational access because it was in private ownership; construction at this site would therefore not negatively impact cumulative recreational opportunities on the Lower American River. These related projects would each temporarily affect the availability and quality of recreational experiences in the American River Parkway during construction, but in aggregate, there would be a less-than-significant long-term cumulative impact on recreation on the American River Parkway.

MR 5: Mitigation Measures, Mitigation Requirements, Habitat Impacts, On- and Off-site Mitigation and Mitigation Site Maintenance and Management

Note: Additional information on habitat impacts is discussed in Master Response 3, and 15. Additional information on the American River Mitigation Site is included in Master Response 9.

MR 5-1 Programmatic Mitigation

Mitigation Measures

What is a mitigation measure?

A mitigation measure is an action taken by the project proponent to reduce the impacts or reduce the severity of the impact to the natural and human environment. CEQA requires that all the final mitigation measures be included with the Final Document as an appendix, titled Mitigation, Monitoring, and Reporting Program.

Definitions of Responsibility:

USACE – The Army Corps of Engineers

Project Partners – USACE, and CVFPB/DWR and SAFCA

Non-Federal partners - CVFPB/DWR and SAFCA

Construction Contractor – Entity that is hired to complete the authorized work.

Mitigation Measures

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

Before the start of project-related construction activities for each project component, the Project Partners will require the contractor to prepare and implement a Traffic Control and Road Maintenance Plan. This plan will describe the timing and methods of traffic control to be used during construction. All on-street construction traffic will be required to comply with the local jurisdiction's standard construction specifications. The items listed below will be included in the plan and implemented as terms of the construction contracts:

- Follow the standard construction specifications of affected jurisdictions and obtain the appropriate encroachment permits, if required. Encroachment permit conditions, as known at the time of construction contract solicitation, will be included in the construction contract. Encroachment permit conditions will be enforced by USACE and the local agency that issues the encroachment permit.
- Provide a site-specific access plan specifying the roadways on which construction workers are allowed travel to access the work sites and borrow areas.
- Provide adequate parking for construction trucks, equipment, and construction workers within the designated staging areas throughout the construction period. If inadequate space for parking is available at a given work site, the construction contractor will provide an off-site staging area and, as needed, coordinate the daily transport of construction vehicles, equipment, and personnel to and from the work site.
- Queue trucks only in areas and at times allowed by the appropriate local jurisdiction.

- Post warnings about the potential presence of slow-moving vehicles during construction.
- Proposed lane closures will be coordinated with the appropriate local jurisdiction and be minimized to the extent possible during the morning and evening peak traffic periods. Construction specifications will limit lane closures during commuting hours where feasible, and lane closures will be kept as short as possible. If a road must be closed, detour routes and/or temporary roads will be made to accommodate traffic flows. Signs will be provided to direct traffic through detours.
- Post signs providing advance notice of upcoming construction activities at least 1 week in advance so that motorists and cyclists can avoid traveling through affected areas during these times.
- Provide bicycle detours to allow for continued use by bicycle commuters. Always maintain safe pedestrian and bicyclist access around the construction areas. Construction areas will be secured as required by the applicable jurisdiction to prevent pedestrians and bicyclists from entering the work site, and all stationary equipment will be located as far away as possible from areas where bicyclists and pedestrians are present. Signage for street detours will be located outside of the bike lanes and up on the curb where feasible and posted at least 1 week prior to construction affecting pedestrian and bicyclist access.
- Notify (by means such as physical signage, internet postings, letters, or telephone calls) and consult with emergency service providers at least 1 week in advance to inform them of construction activities, maintain emergency access, and facilitate the passage of emergency vehicles on city streets during construction activities. Emergency vehicle access will always be made available.
- The construction contractor will document pre- and post- construction conditions on roadways used during construction. This information will be used to assess damage to roadways used during construction. The contractor will repair all potholes, fractures, or other visual damages associated with project work.
- Comply with Caltrans requirements by submitting this Traffic Control and Road Maintenance Plan to Caltrans for review of traffic controls and points of access from the State highway system (SR-160, I-5, I-80 Business, and I-80) for haul trucks and other construction equipment.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure REC-1: Implement Bicycle and Pedestrian Detours, Provide Construction Period Information on Facility Closures, and Repair Project-related Damage to Recreational Areas

Project Partners will implement the following measures to reduce temporary, short-term construction effects on recreational facilities in the project site:

- Identify all times and locations where recreation access will be prohibited or limited prior to construction each construction season and consult with Sacramento County Department of Regional Parks and City of Sacramento Department of Parks and Recreation to implement planned closures. Provide 14 days advance notice to recreation users using signs posted at entrances to recreation facilities informing recreation users of anticipated construction activities, facility closures (areas and durations), and maps of detours. Closures of paved trails will be noticed at least 14 days in advance using posted signs at the detour locations. When work in the American River Parkway affects the Jedidiah Smith Memorial Trail, a Bike Detour Plan and a Sign Plan will be submitted to the Sacramento County Department of Regional Parks for input on the plans prior to any construction work associated with the closure.
- Post signs at entry points for parks and recreation facilities clearly indicating closures and estimated duration of closures at least 14 days prior to closures. Information signs will notify the public of alternate parks and recreation sites, including boat launch ramps, and provide a contact number to call for questions or concerns. Where feasible, avoid placing construction signage in the bike lanes themselves.
- Provide flaggers and post warning signs and signs restricting access before and during construction to ensure public safety.
- Provide marked detours for all bike trails and on-street bicycle routes that will be temporarily closed during construction. Detours could be modified based on consultation with the Sacramento County Department of Regional Parks, City of Sacramento Department of Parks and Recreation and Sacramento County Department of Transportation, or City of Sacramento Transportation Division at least 14 days before the start of construction activities, as applicable. Signs that clearly indicate closure routes at least 14 days prior to closures will be posted at major entry points for bicycle trails, information signs will be posted to notify motorists to share the road with bicyclists where necessary, and a contact number will be provided to call for questions or concerns. Fences will be erected to prevent access to the project site.
- Provide traffic control in conformance with California Manual for Uniform Traffic Control Devices in areas where recreational traffic will intersect with construction vehicles.
- If any access point or boat launch ramp needs to be closed during construction, post notices at least 14 days prior to closure and providing alternative access routes and facilities.
- Upon completion of levee improvements, coordinate with the City of Sacramento, Sacramento County, and/or Cordova Recreation and Parks District to restore access and repair any construction-related damage to recreational facilities to pre-project conditions.
- Consult with the Sacramento County Department of Regional Parks related to events that are scheduled on the American River Parkway, and schedule construction at

particular locations to avoid and/or minimize impacts to these events to the extent feasible.

Timing: Before, during, and after construction

Responsibility: Project Partners

Mitigation Measure REC-2: Implement Measures to Notify Boaters

The Project Partners will implement the following measures to reduce temporary, short-term construction effects on recreational facilities and users at the project site:

- Post signs 14 days prior to construction activities at the Sacramento Marina, Garcia Bend Park, Hidden Harbor Marina, Rio Vista Public Boat Launch, and/or Snug Harbor Marina, to clearly indicate the estimated duration of in-water work windows and construction duration.
- Place buoys at the upstream and downstream ends of the construction site at the beginning of construction through the end of construction to warn boaters of the ongoing in-water work.
- Notify the Coast Guard, in accordance with the Rivers and Harbors Act, of in-water work from barges moored in the river. Notification will include in-water work windows and construction duration.

Timing: Before and during construction

Responsibility: Project Partners

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

The Project Partners will implement the measures listed below before construction begins to avoid and minimize potential damage to utilities, infrastructure, and service disruptions during construction.

- Coordinate with applicable utility and service providers to implement the orderly relocation of utilities that need to be removed or relocated.
- Provide notification one week prior to 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 at the Proposed Action's construction sites, including natural gas, petroleum, and sewer pipelines. Any buried utility lines will be clearly

marked at the construction sites (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 will 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.
- Communicate construction activities with first responders to avoid response delays due to construction detours.

Timing: Before construction

Responsibility: Project Partners

Mitigation Measure SOCIO-1: Uniform Relocation Assistance and Real Property Acquisition Act

Private properties within the footprint of the Proposed Action will be acquired for project construction in compliance with the Uniform Act and implementing regulation, 49 CFR Part 24. Relocation advisory services, moving costs reimbursement, replacement housing, and reimbursement for related expenses and rights of appeal may be provided upon the acquisition of real property.

Timing: Before construction

Responsibility: USACE and Project Partners

Mitigation Measure SOCIO-2: Conduct Outreach with Local Advocacy Groups

Contact advocacy groups and local organizations in the Sacramento area through plain-language letters requesting input on potential mitigation measures. Additional outreach via telephone calls, meetings, and social media is anticipated. A range of solutions including early warning and relocation may be applicable to each project component.

Timing: Before and during construction

Responsibility: USACE

Mitigation Measure SOCIO-3: Prepare a Transient (Unhoused) Population Safety Plan

USACE will require its construction contractor to prepare and implement a Transient (Unhoused) Population Safety Plan as a requirement in Project specifications for American River Erosion Contract 3B North and South, American River Erosion Contract 4B, American River Erosion Contract 4A, MCP, and ARMS. The plan will detail

proposed phasing, signage, fencing, and other protective measures to provide for the safety of the public and unhoused communities.

Timing: Prepared prior to construction and implemented during construction mobilization.

Responsibility: Construction Contractor

Mitigation Measure SOCIO-4: Consult with School Districts

Contact local school districts to request input on potential mitigation measures. Specific measures applied at each project site may vary based on feedback received from each school district, and could include early notification, scheduling construction/road closures during the summer or during timeframes when traffic to and from school is at a minimum.

Timing: Incorporate school districts into the notification list during the public review period. Measures agreed upon with the local school districts would be incorporated into the Final project design.

Responsibility: USACE

Mitigation Measure VIS-1: Shielding construction lighting

Project Partners shall require its construction contractors to ensure that all temporary lighting is shielded or directed downward to avoid or minimize any direct illumination onto light-sensitive receptors located outside of the project site.

Timing: During nighttime construction

Responsibility: Project Partners

Mitigation Measure VIS-2: Minimize Disturbance to Wildlife from Nighttime Lighting

The Project Partners will minimize or avoid the effects of nighttime lighting on wildlife and special-status fish species by implementing the following actions in the area of 24-hour night work.

- Avoiding construction activities at night, to the maximum extent practicable.
- Using the minimal amount of lighting necessary to safely and effectively illuminate the work areas.
- Shielding and focusing lights on work areas and away from the water surface of the Sacramento and American Rivers, to the maximum extent practicable.

- Temporary and permanent lighting will have correlated color temperatures and under 3000K to minimize disturbance to wildlife at night.
- A qualified biologist will monitor the work area at appropriate intervals to assure that all relevant mitigation measures are implemented. Mitigation Measure BIRD-1 (See Appendix B Section 4.3) applies to night work as well.

Timing: During any nighttime construction

Responsibility: Project Partners

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

Prior to the start of earthmoving activities, the Project Partners will obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) stormwater permit for general construction activity (Order 2022-0057-DWQ), including preparing and submitting a project-specific SWPPP at the time the Notice of Intent to discharge is filed. The SWPPP shall identify and specify the following:

- the use of an effective combination of robust erosion and sediment control BMPs and construction techniques 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, non-stormwater 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 non-stormwater 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 will be in place throughout all site work, construction/demolition activities, and will be used in all subsequent site development activities. BMPs may include, but are not limited to, such measures as those listed below:

- work window- conduct earthwork during low-flow periods;
- to the extent possible, stage construction equipment and materials on the landside of the levee in areas that have already been disturbed;
- minimize ground and vegetation disturbance during project construction by establishing designated equipment staging areas, ingress and egress corridors, spoils disposal and soil stockpile areas, and equipment exclusion zones prior to the commencement of any grading operations;
- stockpile soil on the landside of the levee reaches, and install sediment barriers (e.g., silt fences, fiber rolls, and straw bales) around the base of stockpiles to intercept runoff and sediment during storm events. If stockpiling soil on the landside of the levee is not feasible, a waterside soil stockpiling location above the OHWM will be coordinated with the appropriate agencies, such as NMFS, CVRWQCB, and USFWS (if applicable). If necessary, cover stockpiles with geotextile fabric to provide further protection against wind and water erosion;
- install sediment barriers on graded or otherwise disturbed slopes as needed to prevent sediment from leaving the project site and entering nearby surface waters;
- install plant materials to stabilize cut and fill slopes and other disturbed areas once construction is complete. Plant materials will include an erosion control native seed mixture or shrub and tree container stock. Temporary structural BMPs, such as sediment barriers, erosion control blankets, mulch, and mulch tackifier, will be installed as needed to stabilize disturbed areas until vegetation becomes established;
- conduct water quality tests to measure increases in turbidity and sedimentation caused by construction activities. Specifically, where natural turbidity is between 0 and 5 NTUs, increases shall not exceed 1 NTU; where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%; where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; and where natural turbidity is greater than 100 NTUs, increases shall not exceed 10%. If turbidity is found to exceed these standards, cease construction activities until filtration or construction BMPs can be demonstrated to effectively prevent sediment discharge above standards; and
- a copy of the approved SWPPP shall be maintained and available at all times on the construction site.

Project Partners will also prepare and implement a Spill Prevention, Control, and Countermeasure Plan (SPCCP). A SPCCP is intended to prevent any discharge of oil into navigable water or adjoining shorelines. The contractor will develop and implement a SPCCP to minimize the potential for adverse effects from spills of hazardous, toxic, or petroleum substances during construction and operation activities. The SPCCP will be

completed before any construction activities begin. Implementation of this measure will comply with state and Federal water quality regulations. The SPCCP will describe spill sources and spill pathways in addition to the actions that will be taken in the event of a spill (e.g., an oil spill from engine refueling will be immediately cleaned up with oil absorbents). The SPCCP will outline descriptions of containment facilities and practices such as doubled-walled tanks, containment berms, emergency shut-offs, drip pans, fueling procedures, and spill response kits. It will also describe how and when employees are trained in proper handling procedures and spill prevention and response procedures.

Timing: Before and during construction

Responsibility: Project Partners

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, the Project Partners 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 Riverbank Formation (at the bike bridge portion of the MPC), the Project Partners 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 the Project Partners and shall immediately cease work in the vicinity of the find. The Project Partners 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 Project Partners to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

Timing: Before and during construction activities at the Magpie Creek bike bridge area.

Responsibility: Project Partners

Mitigation Measure HYDRO-1: Obtain flowage easements on adjacent floodplain

Prior to the start of the channel widening and levee improvements, the Project Partners shall obtain easements on 80 acres of the floodplain, to ensure the downstream portion of the system can accommodate the increased design flows conveyed by the upstream channel, and will be obtained on portions of downstream parcels that could experience stage increases of up to 0.2 feet. The easements will reserve 80 acres of floodplain area to contain flood flows and ban development of structures that could impact flood flows in perpetuity.

Timing: Before construction

Responsibility: Project Partners

Mitigation Measure WQ-1: Obtain Appropriate Discharge and Dewatering Permit and Implement Provisions for Dewatering

Before discharging any dewatered effluent to surface water, USACE and its Partners will obtain a Limited Threat General Order (LTGO) from the CVRWQCB. The LTGO will include water quality monitoring to adhere to the effluent and receiving water quality criteria outlined in the permit, which is typically based on the CVRWQCB Basin Plan. As part of the permit, the permittee will 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 will represent the best available technology that is economically achievable to achieve maximum sediment removal.

Measures could include retaining 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 will be subject to approval by the CVRWQCB. USACE will verify that coverage under the appropriate NPDES permit has been obtained before allowing dewatering activities to begin. USACE or its authorized agent will perform routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained. USACE will notify its contractors and Project Partners immediately if there is a non-compliance issue and compliance will be required and met.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure AIR-1: Implement the Sacramento Metropolitan Air Quality Management District and Bay Area Air Quality Management District Basic Construction Emission Control Practices.

SMAQMD and BAAQMD 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. USACE shall require its contractors to comply with the basic construction emission control practices listed below 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 travel along freeways or major roadways.
- Use wet power vacuum street sweepers to remove any visible track out 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 miles per hour.
- Complete pavement of all roadways, driveways, sidewalks, and parking lots to be paved as soon as possible.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by CCR, Title 13, Sections 2449[d][3] and 2485).
- Provide clear signage that posts this requirement for workers at the entrances to the construction sites.
- 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.

Timing: Before and during construction

Responsibility: Project Partners and construction contractor(s)

Mitigation Measure AIR-2: Implement the Sacramento Metropolitan Air Quality Management District's Enhanced Fugitive PM Dust Control Practices.

SMAQMD recommends that construction projects that will exceed or contribute to the mass emissions threshold for PM₁₀ implement the Enhanced Fugitive PM Dust Control Practices, as applicable to the project. As the construction activities for the Proposed Action will involve substantial material movement activities and will be located in proximity of residential receptors, the Project Partners shall require construction contractors to implement the Enhanced Fugitive PM Dust Control Practices listed below 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 miles per hour.
- Plant vegetative ground cover (fast germinating native grass seed) in disturbed areas as soon as possible and 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 with a 6- to 12-inch layer of wood chips, mulch, or gravel to a distance of 100 feet from the paved road 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 USACE 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.

Timing: Before and during construction

Responsibility: Project Partners and construction contractor(s)

Mitigation Measure AIR-3: Implement SMAQMD's Enhanced Exhaust Control Practices and Require Lower Exhaust Emissions for Construction Equipment.

The Project Partners shall require all off-road diesel-powered equipment used during construction to be zero-emission if reasonably available. If not reasonably available, all off-road equipment shall be equipped with Tier 4 Final or cleaner engines, except for specialized construction equipment in which Tier 4 Final engines are not available. In place of Tier 4 Final engines, off-road equipment can incorporate retrofits such that emissions reductions achieved equal or exceed that of a Tier 4 Final engine. All heavy-duty trucks entering the construction sites must be zero-emission if reasonably available. If not reasonably available, on-road heavy duty trucks must be model year 2014 or later and must meet CARB's lowest optional low-NOx standard. Diesel equipment will be required to use renewable diesel fuel, to demonstrate compliance with this requirement:

- The construction contractor shall submit to USACE and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, which will be used an aggregate of 8 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, and the CARB equipment identification number for each piece of equipment. This will include all owned, leased, and subcontracted equipment to be used. The construction contractor shall provide the anticipated construction timeline including start date, and the name and phone numbers of the project manager and the 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 Construction Mitigation Tool can be used to submit this information. The inventory shall be updated and submitted monthly throughout the duration of the project, or as pre-arranged with SMAQMD, except for any 30-day period in which no construction activity occurs. If no construction occurs for any 30-day period, a notification will be sent to SMAQMD stating that no construction occurred.
- The construction contractor shall provide a plan for approval by USACE 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 Tier 4 emissions. 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 Tool 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 in the project area 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 monthly to USACE and SMAQMD. 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 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.
- Use the Construction Mitigation Tool to track PM₁₀ emissions and mileage traveled by on-road trucks, reporting results to USACE and SMAQMD on a monthly basis.

Timing: Before and during construction

Responsibility: Project Partners and construction contractor(s)

Mitigation Measure AIR-4: Use the Air District's Off-site Mitigation Fee to Reduce NO_x and PM₁₀ Emissions.

The Project Partners shall implement the measures listed below to reduce NO_x and PM₁₀ construction-related emissions.

Pursuant to air district thresholds of significance, if the projected construction-related emissions exceed the NO_x and/or PM₁₀ thresholds of significance, based on the equipment inventory and use, USACE shall contribute to SMAQMD's and/or BAAQMD's off-site mitigation fee program sufficiently to offset the amount by which the project's NO_x and PM₁₀ emissions exceed the threshold. If emissions for the ARCF 2016 Project in any given year will exceed the *de minimis* threshold of 25 tons per year for NO_x, USACE will enter into an agreement with SMAQMD and/or BAAQMD to purchase offsets for all NO_x emissions in any year that projected emissions will exceed the threshold. The determination of the estimated mitigation fees shall be conducted in coordination with SMAQMD and/or BAAQMD before any ground disturbance occurs for any phase of project construction. (USACE anticipates purchasing offsets for NO_x emissions in 2024 through 2026, because the ARCF 2016 Project is forecast to exceed the *de minimis* threshold. Estimated fees for the Proposed Action are \$37,350 annually to SMAQMD for emissions in the SVAB.) All mitigation fees shall be paid prior to the start of construction activity to allow air districts to obtain emissions reductions for the proposed project. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), USACE shall work with SMAQMD and BAAQMD to ensure emission calculations and fees are adjusted appropriately.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure AIR-5: Implement Marine Engine Standards

Project Partners shall require use of Tier 4 marine engines where locally available and feasible. Due to uncertainty as to the availability of Tier 4 marine engines within the required project timeline, the lowest emission marine engines locally available shall be required, either Tier 3 or Tier 2. The Tier 3 standards reflect the application of technologies to reduce engine PM and NO_x emission rates. Tier 4 standards reflect application of high-efficiency catalytic after-treatment technology enabled by the availability of ultra-low sulfur diesel.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure GHG-1: Implement GHG Reduction Measures

Measures that would be implemented to reduce the project's contribution from generation of GHGs are as follows:

- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- Recycle at least 50 percent of construction waste and demolition debris.

- Purchase at least 20 percent of the building materials and imported soil from sources within 100 miles of the project site.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 5-minute, as required by the State’s airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). 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. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Use equipment with new technologies (e.g., repowered engines, electric drive trains).
- Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines).
- Use a California Air Resources Board (CARB)-approved low carbon fuel for construction equipment. (NOx emissions from the use of low carbon fuel must be reviewed and increases mitigated.)
- Purchase GHG offset for program-wide GHG emissions (direct emissions plus indirect emissions from on-road haul trucks plus commute vehicles) that meet the criteria of being real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols approved by the CARB, consistent with Section 95972 of Title 17 of the California Code of Regulations and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by USACE or SMAQMD. Such credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) through the California Air Pollution Control Officers Association’s (CAPCOA’s) GHG Rx and SMAQMD. Purchase of carbon offsets shall be sufficient to reduce the project’s GHG emissions to below SMAQMD’s significance thresholds applicable through a one-time purchase of credits, based on the emissions estimates in this SEIR or on an ongoing basis based on monthly emissions estimates that will be prepared in accordance with procedures established by Measure AQ-3.

Timing: Before, during, and after construction

Responsibility: Project Partners

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

The Project Partners will require contractors to implement the following measures at each work site to avoid and minimize construction noise and vibration effects on sensitive receptors. To the extent feasible and practicable, the primary construction contractor(s) will employ noise-reducing construction practices such that noise effects are limited to the maximum degree practical during construction. Measures that will be used to limit noise will include, but not be limited to, the measures listed below:

- Provide written notice to residents or other sensitive receptors within 1,200 feet of the construction zone, advising them of the estimated construction schedule, and including the City and County Noise Ordinance limits and hours, Mitigation Measure NOI-1 applicable minimization measures, and a link to the USACE Construction Inquiry Form to advise residents of the process for handling their concerns related to impacts from levee construction. This written notice will be provided within 1 week to 1 month of the start of construction at that location.
- Display notices with information including, but not limited to, contractor contact telephone number(s) and proposed construction dates and times in a conspicuous manner, such as on construction site fences.
- Schedule the loudest and most intrusive construction activities during daytime hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, when feasible.
- Require that construction equipment be equipped with factory-installed muffling devices, and that all equipment be operated and maintained in good working order to minimize noise generation. No equipment will have unmuffled exhaust.
- Only use equipment that will comply with pertinent equipment noise standards of EPA and the State of California.
- Locate stationary noise-generating equipment as far as practicable from sensitive receptors.
- Limit unnecessary engine idling (i.e., more than 5 minutes) as required by State air quality regulations.
- Employ equipment that is specifically designed for low noise emission levels, when feasible.
- Employ equipment that is powered by electric or natural gas engines, as opposed to those powered by gasoline fuel or diesel, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, place temporary noise-reduction barriers (e.g., sound curtains) between stationary noise equipment and noise sensitive receptors to block noise transmission, when feasible, or take advantage of existing barrier features, such as existing terrain or structures, when feasible.

- Locate construction staging areas as far as practicable from sensitive receptors.
- Design haul routes to avoid sensitive receptors, to the extent practical.
- To the extent feasible and practicable, the primary construction contractors will 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 and Sacramento County), depending on the jurisdictional location of the affected receptor(s), and the California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual, which identifies maximum vibration levels of 0.2 to 0.5-inch per second Peak Particle Velocity (PPV) for minimizing damage to structures. Project construction specifications will require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 vibration velocity level in decibel scale (VdB) within 50 feet at any building. If construction will occur within 50 feet of any occupied building, the contractor will prepare and implement a vibration control plan prior to construction. The plan will include measures to limit vibration, including but not limited to the following:
 - Establish numerical thresholds above which the contractor will be required to document vibration sources and implement measures to reduce vibration, and above which work will be required to stop for consideration of alternative construction methods.
 - Avoid vibratory rollers and packers near sensitive areas to the maximum extent practicable.
 - Route heavily loaded trucks away from residential streets, if possible. If no alternatives are available, select streets with the fewest homes.
 - Prior to construction activities, notify each residence within 100 feet of construction and provide contact information to request pre- and post-construction surveys. These pre- and post-construction surveys will assess the existing condition of structures prior to construction and potential architectural/structural damage induced by levee construction vibration at each structure within 100 feet of construction activities, including staging areas. The survey will include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation will be reviewed with the individual owners prior to any construction activities. Post-construction monitoring of structures will be performed to identify (and repair, if necessary) damage, if any, from construction activities. Any construction-related damage will be documented with photographs and video. This documentation will be reviewed with the individual property owners.
 - Place vibration monitoring equipment in lines approximately parallel to the levee alignment at intervals not to exceed 200 feet along the construction limits, including active staging areas. Vibration monitors will be operational at all times

during the performance of construction activities. The contractor will monitor and record vibrations continuously.

Timing: Before and during construction.

Responsibility: Project Partners

Mitigation Measure HAZ-1: Address Potentially Contaminated Materials in Accordance with Applicable Laws.

The Non-Federal Partners have the responsibility to assess and clean-up HTRW prior to turn over of the site to USACE for construction. However, if soil or water showing is evidence of contamination (odor, staining, etc.) is encountered during excavation or construction activities, Project Partners will direct construction contractors to halt activities and require investigation (potentially including data collection or sampling) by a qualified professional. Any hazardous materials found will be handled, transported, and disposed of at an approved disposal site in accordance with all Federal, State, and local regulations at an approved disposal site.

Timing: During construction

Responsibility: Project Partners

Mitigation Measure BIRD-1: Avoid and Minimize Effects on Nesting Birds

Project Partners will implement the following measures to minimize potential effects on active nests of Swainson's hawk, white-tailed kite, bank swallow, purple martin, and other migratory birds:

- Before on-site project activities begin each year, all construction personnel will participate in a worker environmental awareness program. A qualified biologist will inform all construction personnel about the life history of Swainson's hawk and other nesting birds and the importance of nest sites.
- Tree and shrub removal and other clearing, grading, and construction activities that remove vegetation will not be conducted during the nesting season (generally February 15 to August 31, depending on the species and environmental conditions for any given year) to the maximum extent feasible.
- If vegetation removal will occur during the nesting season, surveys will be conducted to identify active bird nests and measures will be implemented to avoid and minimize impacts on active nests. For special-status species, a survey will also be conducted for active nests within 500 feet of construction activities. For all other migratory birds, the survey will cover active nests within 100 feet of construction activities. All surveys will be completed using the latest techniques and protocols. If the biologist determines that the area surveyed does not contain any active nests, construction activities, including removing or pruning trees and shrubs, can commence.

- For any active bird nest found, regardless of the season, a protective buffer will be established and implemented until the nest is no longer active. The size of the buffer will be determined based on the species, nest stage, type, and intensity of project disturbance in the nest vicinity, presence of visual buffers, and other variables that may affect susceptibility of the nest to disturbance. A qualified biologist will monitor the nest during project activities to confirm effectiveness of the buffer and adjust the buffer as needed to ensure project activities do not adversely affect behavior of adults or young.
- For bald eagle, the typical maximum buffer distance between a bald eagle nest and construction activities is 660 feet (USFWS, 2007). If any bald eagle nests are discovered during the field surveys, regardless of whether a nest is classified as active, inactive/alternate, or abandoned, the Project will comply with the National Bald Eagle Management Guidelines (USFWS 2007).
- For bank swallow, if avoidance of bank swallow nests is not feasible, design measures to minimize impacts, including reducing the construction footprint to protect the upper bank from encroachment, will be considered. If nesting habitat is directly impacted, mitigation will include removal of existing rock at a former bank protection site, acquisition of a permanent easement, and/or participation in a conservation easement on an appropriate landform.
- For purple martin and white-tailed kite, a survey will also be conducted for active nests within 500 feet of construction activities. These surveys could be conducted concurrent with Swainson's hawk surveys, so long as one survey is conducted no more than 48 hours from the initiation of construction activities. If the biologist determines that the area surveyed does not contain any active nests, construction activities, including removing or pruning trees and shrubs, can commence.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure VEG-1: Compensate for Riparian Habitat Removal

No net loss of riparian habitats will be achieved through impact avoidance, minimization, and compensatory mitigation. Impacts on sensitive natural communities that result in the removal of vegetation shall be mitigated at a minimum 2:1 ratio. Mitigation can include onsite restoration, offsite habitat creation, in-lieu fee payment, and/or purchase of mitigation credits from a resource agency approved mitigation bank. Mitigation as required in accordance with the 2015 ARCF GRR Fish and Wildlife Coordination Act Report or the Endangered Species Act consultation with USFWS and NMFS, depending on the type of habitat, may be applied to satisfy the no net loss of riparian habitat performance standard.

Timing: Before, during, and after construction

Responsibility: Project Partners

Mitigation Measure VEG-2: Retain, Protect, and Plant Trees On-Site

Final project designs will be refined to reduce impacts on vegetation and wildlife to the extent feasible. Refinements implemented to reduce riparian habitat losses will include reducing the impact footprint, constructing bank protection rather than launchable rock trench whenever feasible, and designing and constructing planting benches. Where practicable, trees will be retained in locations where the bank protection and planting benches are constructed. Trees will be protected in place along the natural channel during rock placement. Additional plantings will be installed on the newly constructed benches to provide habitat for fish and avian species. The planting benches will be used where feasible to minimize impacts on fish and wildlife species. Where feasible, soil-filled revetment will be used to allow plantings and erosion protection features like launchable trench to be buried to allow plantings. The on-site habitat will be created in accordance with the ARCF GRR Habitat Mitigation, Monitoring, and Adaptive Management Plan, which includes conceptual mitigation proposals, performance standards, and adaptive management tasks.

All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible. Where possible, protective fencing or flagging shall be installed 5 feet beyond the tree canopy dripline boundary of each tree or tree group, referred to as the protected tree zone. Contractors and subcontractors shall avoid heavy equipment operation, grading, and excavation in the protected tree zones, to the greatest extent practicable. Heavy equipment operation, grading, and excavation activities in the protected tree zone shall be overseen by a qualified arborist/ecologist. The contractor shall maintain the fencing or flagging to always keep it identifiable. Fencing and flagging shall be removed only after all construction activities are complete.

An annual pre-construction meeting shall be held between all contractors and subcontractors (e.g., grading, tree removal/pruning, and builders) and a qualified arborist/biologist. The meeting shall focus on instructing the contractors and subcontractors on tree protection practices and answering any questions. All equipment operators and spotters, assistants, or those directing operators from the ground, shall provide written acknowledgement of receiving tree protection training. This training shall include information on the location and marking of protected tree zones, the necessity of preventing damage, and the discussion of work practices that shall accomplish these tasks.

Contractors and subcontractors shall take care when moving construction equipment or supplies near protected trees, paying special attention to overhead vegetation. Contractors and subcontractors shall ensure that damage to the trees shall be avoided when transporting or moving construction materials and working around the tree (even outside of the fenced protected zone). Contractors and subcontractors shall flag aboveground tree parts with potential for damage (e.g., low limbs, scaffold branches, and trunks) with high-visibility flagging, such as fluorescent red or orange. If contact with the tree crown is unavoidable, conflicting branches may be pruned under supervision of a qualified arborist/ecologist. The contractor or subcontractor shall not prune protected trees until all construction is completed unless standard pruning will reduce conflict between canopy

and equipment. All pruning shall be conducted under supervision of a qualified arborist, or their representative.

A qualified arborist/ecologist shall inspect the preserved protected trees adjacent to grading and construction activity prior to initiation of construction activities, during construction activities within tree protection zones, and prior to removal of tree protection zone fencing/flagging at the end of construction. A report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage shall be submitted to the Project Partners by the qualified arborist/ecologist following each inspection.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure WATERS-1: Compensate for Fill of State and Federally Protected Waters.

In compliance with the CWA, the Project Partners would compensate for fill of State and Federally protected waters to ensure no net loss of functions and values of jurisdictional waters at a minimum 1:1 ratio. Mitigation for permanent impact on aquatic resources shall be provided at a minimum 1:1 ratio. Mitigation can include onsite restoration, in-lieu fee payment, or purchase of mitigation credits at a resource agency approved mitigation bank. Mitigation as required in regulatory permits issued through USFWS, NMFS, and/or the Regional Water Quality Control Board may be applied to meet the performance standard of a minimum 1:1 ratio to ensure no net loss of functions and values of jurisdiction waters.

Water quality certification pursuant to Section 401 of the CWA would be obtained from the Central Valley RWQCB before starting project activities subject to Section 401. Any measures determined necessary during the permitting processes would be implemented, such that there is no net loss of functions and values of jurisdictional waters.

If compensation is provided through permittee-responsible mitigation with additional NEPA and/or CEQA documentation, a mitigation plan would be developed to detail appropriate compensation measures determined through consultation with USACE and Central Valley RWQCB. These measures would include methods for implementation, success criteria, monitoring and reporting protocols, and contingency measures to be implemented if the initial mitigation fails.

Timing: Before and after construction

Responsibility: Project Partners

Mitigation Measure FISH-1: Use the Fish Habitat Assessment and Simulation (FHA) Model to Ground Truth Effects and Mitigation.

Project effects for fish and their associated mitigation will be calculated using the methods outlined in the 2021 NMFS BO, or updated to be consistent with any new NMFS BO should the 2021 version be reinitiated. The FHA model (NMFS 2024) was developed in coordination with NMFS. FHA is a publicly available model for estimating effects on levee protection projects and determining habitat mitigation measures for salmonid, sturgeon, and other fish species in the Sacramento River Basin. The FHA model may be utilized to ground truth the effects of levee protection and any habitat mitigation measures for the ARCF 2016 Project. Data output from this model will be used to improve analysis, design, and mitigation on future bank protection sites.

Timing: Model approved March 2024

Responsibility: Project Partners

Mitigation Measure FISH-2: Implement Measures to Avoid, Minimize, and Compensate for Effects on Shaded Riverine Aquatic Habitat.

Project Partners will implement the following avoidance, minimization, and compensation measures:

- For identified designated critical habitat of listed fish species, where feasible, all efforts will be made to compensate for impacts where they have occurred, or at mitigation sites nearby in the Sacramento or American River Basins. Effects on designated critical habitat, SRA habitat, and instream components combined, and the compensation value of replacement habitat will be informed by the methods outlined in NMFS and USFWS BOs.
- USACE will compensate for habitat losses either by constructing off-site mitigation sites, purchase of credits at a NMFS-approved conservation bank, or by implementing a combination of the two, in coordination with NMFS and USFWS. USACE will compensate for lost habitat using the mitigation ratios identified in the NMFS and USFWS BOs. On-site created SRA habitat acreage will also be counted toward offsetting lost SRA habitat.
- As described in the Habitat Mitigation, Monitoring, and Adaptive Management Plan (Appendix I of the ARCF GRR Final EIS/EIR), compensation sites will be monitored, and vegetation will be replaced as necessary based on performance standards described in the plan.

Timing: Before, during, and after construction

Responsibility: Project Partners

Mitigation Measure FISH-3: Implement Measures to Avoid and Minimize Effects on Listed Fish Species.

To avoid and minimize effects on listed fish species, the following measures will be implemented by the Project Partners:

- In-water construction activities (all activities below the OHWM including placement of rock revetment) will be limited to the work window of July 1 through October 31. The in-water work window (as it applies to the Sacramento River, American River, and Magpie Creek only) could be extended to November 15 with NMFS approval. In addition, NMFS approved an earlier start date of June 1 for earlier contracts that are already under construction, and NMFS would possibly approve this earlier start date for American River Erosion Contract 3B North and South on a case-by-case basis.
- Erosion control measures, or BMPs, will be implemented, including a SWPPP and Water Pollution Control Plan, to minimize the entry of soil or sediment into the American and Sacramento Rivers. BMPs will be installed, monitored for effectiveness, and maintained throughout construction operations to minimize effects on Federally listed fish and their designated critical habitat. Maintenance will include daily inspections of all heavy equipment for leaks.
- USACE will stockpile construction materials, such as portable equipment, vehicles, and supplies, at designated construction staging areas and barges.
- USACE will stockpile all liquid chemicals and supplies at a designated impermeable membrane fuel and refueling station with a 110% containment system (container with 10% extra capacity).
- USACE will limit site access to the smallest area possible to minimize disturbance.
- USACE will minimize ground and vegetation disturbance during project construction, and clearly mark project limits, including the boundaries of designated equipment staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones.
- USACE and construction contractors will observe a 15-mile-per-hour speed limit or less (depending on constraints placed on the project for other natural resources analyzed as part of the Proposed Action) within construction areas for all project-related vehicles, except on County roads and on State and Federal highways.
- USACE will secure or remove litter and debris from the project daily. Such materials or waste will be deposited at an appropriate disposal or storage site.
- USACE will immediately (within 24 hours) clean up and report any spills of hazardous materials to the USFWS, NMFS, and California Department of Fish and Wildlife (CDFW). Any such spills, and the success of the efforts to clean them up, shall also be reported in post-construction compliance reports.

- USACE will screen any water pump intakes prior to project activities, such as irrigation or dewatering, to maintain an approach velocity of 0.2 feet per second or less when working in areas that may support Federally listed fish species.
- USACE will participate in an existing Interagency Working Group to coordinate stakeholder input into future flood risk reduction actions associated with the ARCF 2016 Project.
- USACE will coordinate with NMFS during pre-construction engineering and design as future flood risk reduction actions are designed to ensure that conservation measures are incorporated to the extent practicable and feasible, and projects are designed to maximize ecological benefits.
- USACE will implement a Habitat Mitigation, Monitoring, and Adaptive Management Plan (HMMAMP) with an overall goal of ensuring that the conservation measures achieve a high level of ecological function and value. The HMMAMP will include:
 - Specific goals, objectives, and performance standards and a clear strategy for maintaining all project conservation elements for the life of the project.
 - Measures to be monitored by USACE for 10 years after construction. USACE will update its O&M manual to ensure that the HMMAMP is adopted by the local sponsor to ensure that the goals and objectives of the conservation measures are met for the life of the project.
 - Specific goals and objectives and a clear strategy for achieving full compensation for all project-related effects on listed fish species.
 - The HMMAMP shall include a compensatory mitigation accounting plan to ensure the tracking of compensatory measures associated with future ARCF GRR projects as described in the Proposed Action.
 - USACE will include, as part of the HMMAMP, a Riparian Corridor Improvement Plan as part of the project, with the overall goal of maximizing the ecological function and value of the existing levee system in the Sacramento metropolitan area.
- USACE will continue to coordinate with NMFS during all phases of construction, implementation, and monitoring by hosting annual meetings and issuing annual reports throughout the construction period as described in the HMMAMP.
- USACE will seek to avoid and minimize adverse construction effects on listed species and their critical habitat to the extent feasible and will implement on-site and off-site compensation actions as necessary.
- For identified designated critical habitat, where feasible, all efforts will be made to compensate for effects where they have occurred or in close proximity. USACE will develop and implement a compensatory mitigation accounting plan and associated monitoring and adaptive management plans for on-site mitigation efforts to ensure the

tracking of compensatory measures associated with implementation of the Proposed Action. Monitoring for the establishment of riparian tree and shrub species within shaded riparian aquatic habitat is expected to last approximately 8/10 years, not to exceed 10 years. Establishment success will be based on criteria determined on a site-by-site basis with NMFS. Once the monitoring period is complete, all vegetation maintenance and monitoring will transfer and be the responsibility of the non-Federal sponsor and local maintaining agency. USACE will continue to coordinate with NMFS during all phases of construction, implementation, and monitoring by hosting meetings and issuing annual reports throughout the construction period.

- USACE will minimize the removal of existing riparian vegetation and IWM to the maximum extent practicable. Where appropriate, removed IWM will be anchored back into place, or if not feasible, new IWM will be anchored in place.
- USACE will consider varying the elevation of planting benches and IWM to accommodate a wide variety of water years and ensure there is ample shoreline habitat in different flow scenarios.
- USACE will minimize the removal of existing vegetation during project-related activities. If needed, removed or disturbed vegetation will be replaced with native riparian vegetation. USACE will also ensure that the planting of native vegetation will occur as described in the HMMAMP. All plantings must be provided with the appropriate amount of water to ensure successful establishment.
- USACE will provide a copy of the BOs, or similar documentation, to the prime contractor, making the prime contractor responsible for implementing all requirements and obligations included in the documents and for educating and informing all other contractors involved in the project as to the requirements of the BOs. A notification that contractors have been supplied with this information will be provided to NMFS. A NMFS-approved Worker Environmental Awareness Training Program for construction personnel will be conducted by the NMFS-approved biologist for all construction workers before initiating construction activities. The program will provide workers with information on their responsibilities with regard to Federally listed fish, their critical habitat, an overview of the life-history of all the species, information on take prohibitions, protections afforded these animals under ESA, and an explanation of the relevant terms and conditions of the issued BO. Written documentation of the training will be submitted to NMFS within 30 days of the completion of training.
- USACE will designate a NMFS-approved biologist as the point-of-contact for any contractor who might incidentally take a living, or find a dead, injured, or entrapped threatened or endangered species. This representative will be identified to the employees and contractors during all employee education programs. If lethal take is to occur on any ESA-listed species, USACE and NMFS will be contacted immediately.
- USACE will avoid adverse effects from nighttime construction activities. USACE will use the minimal amount of lighting necessary to safely and effectively illuminate

the work areas. USACE will shield and focus lights on work areas and away from the water surface (e.g., Sacramento River), to the maximum extent practicable.

- USACE will monitor turbidity during in-water work activities to ensure levels stay below the allowable thresholds (turbidity measures 1,000 feet downstream of the extent of the site is not to exceed double the upstream of site turbidity measurement). Work will stop if the threshold is exceeded, until turbidity decreases below the threshold and/or activities creating turbidity are altered to reduce turbidity to allowable thresholds.
- USACE will continue to conduct a tagging and monitoring program for previously tagged Green Sturgeon at ARCF 2016 Project sites pre-construction, during construction, and post-construction on the Sacramento River. USACE will conduct telemetry monitoring of Green Sturgeon for 3 years post-construction within the ARCF action area. Monitoring results will be reported annually. This is in coordination with the Green Sturgeon Habitat Mitigation Monitoring Plan. USACE will also conduct telemetry monitoring upstream and downstream of the American River confluence. Monitoring would not be required above the confluence in the American River, as previous and on-going monitoring studies and literature citations have shown no Green Sturgeon documented migrating up the American River. USACE will continue to work in close collaboration with other State and Federal research agencies and academia institutions. This collaboration will assist in the further findings of impacts associated with USACE projects and impacts to other listed species as they are being monitored by other research partners.
- USACE will identify all habitats containing, or with a substantial possibility of containing, listed terrestrial, wetland, aquatic, and/or plant species in the potentially affected project areas. The project will minimize effects by modifying engineering design to avoid potential effects.
- USACE will install IWM along all projects associated with the ARCF GRR at 40-80 percent shoreline coverage at all seasonal water surface elevations in coordination with the Interagency Working Group or the Bank Protection Working Group, where site engineering allows. The purpose is to maximize the refugia and rearing habitats for juvenile fish.
- USACE will develop a Vegetation Design Deviation for each site in consultation with NMFS to allow for the protection of existing vegetation in place and the planting of new low-risk vegetation on the lower slope of the levee system.
- USACE will provide NMFS a detailed O&M plan for all aspects of the Proposed Action, to ensure all sites are properly managed and the Vegetation Design Deviation allowing vegetation to remain is followed. This plan shall be incorporated into the O&M manual for each site to ensure vegetation removal does not occur in the future.
- USACE will provide NMFS a Long-Term Management Plan outlining the maintenance of all on-site and off-site mitigation. The plan will include performance

goals, monitoring plans, replanting plans, and adaptive management plan for how mitigation will be addressed if the mitigation site fails.

- USACE will provide NMFS with a site-specific project description prior to advertising for construction contracts at any sites. The project description will include a design at or beyond the 65 percent level, anticipated impacts, and proposed mitigation ratios for the site. NMFS must provide written approval that the site is consistent with the 2021 Biological Opinion for the ARCF GRR prior to construction, NMFS will respond within 14 days of receiving site-specific documents.
- USACE will submit a report to NMFS of any incidental take that occurs as part of the Proposed Action. This report will be submitted no later than December 31 of each reporting cycle.

Timing: Before, during, and after construction

Responsibility: Project Partners

Mitigation Measure BEE-1: Implement Measures to Avoid and Minimize Effects on Crotch's Bumble Bee. (CEQA only)

To avoid and minimize effects on Crotch's bumble bee, the Project Partners will implement the following measures:

- A qualified biologist knowledgeable about the biology, habitat use, plant use, and identification of Crotch's bumble bee (and identification of similar bumble bee species) shall conduct a habitat assessment before project activities commence to determine if floral resources used by Crotch's bumble bee for nectar and/or pollen and potential nesting sites are present in the Project Area. The biologist shall conduct a site visit during the colony active period (generally April through August) to observe potential floral resources, nesting sites, and overwintering refugia, and assess the diversity and percent cover of blooming plants and general plant diversity.
- Prior to project-related ground-disturbing activities and/or activities involving removal of vegetation or debris (excluding pruning, limb removal, and overhead trimming), the qualified biologist shall conduct a single visual survey during the colony active period (generally April 1 through August 31) in areas identified as suitable habitat. Surveys shall occur no more than 14 days prior to ground-disturbing and/or vegetation removal activities. A new survey shall be conducted at the beginning of the survey period in each year that project activities (including operations and maintenance) involving ground disturbance or vegetation removal will occur unless such activities commence prior to April. Surveys shall be conducted in accordance with 2023 CDFW Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. Surveys shall include visual encounters only, with identification aided by photographs. Surveyors shall not capture or handle bumble bees unless authorized by CDFW. Bumble bees may only be netted, chilled, and photographed for identification purposes if the biologist is authorized by a Memorandum of Understanding in accordance with CFGC Section 2081(a).

- If Crotch's bumble bee adults are detected during the habitat assessment or surveys described above, or incidentally later in the season, a biological monitor shall monitor project activities involving ground disturbance or vegetation removal in the areas the adults were observed until the adults are no longer present onsite. A 25- foot no-work buffer shall be implemented around Crotch's bumble bees not nesting within the area. Biological monitoring shall continue until the individual leaves the area on its own.
- If a Crotch's bumble bee nest is detected, a 50- foot no-disturbance buffer shall be implemented around the nest until a qualified biologist determines the nest is no longer active. A biological monitor shall monitor the nest long enough to determine the buffer is effective in protecting the nest (i.e., the nest is not getting disturbed, and the contractor is aware of the prohibited work area). The buffer shall be increased if observations indicate a larger buffer is warranted. The buffer shall only be reduced if a qualified biologist determines a smaller buffer distance will be adequate to avoid nest disturbance.
- If foraging Crotch's bumble bees are present but a nest has not been found, floral resources and other vegetation in the project area may be carefully removed, under guidance of a qualified biologist. Floral resources shall be removed with a biological monitor present and with hand-held tools, such as weed-whackers. Vegetation removal shall occur during suitable weather conditions for bees to be flying.
- If Crotch's bumble bee activity continues at a location after floral resources have been removed, a nest may be present and a second focused survey for active nests shall be conducted.

Timing: Before and during construction

Responsibility: Non-Federal Partners

Mitigation Measure MONARCH-1: Implement Measures to Avoid and Minimize Effects on Monarch Butterfly.

To avoid and minimize effects on monarch butterfly, the Project Partners will implement the following measures, where feasible, for construction and O&M activities that occur within 100 feet of milkweed plants (*Asclepias* spp.) to avoid or minimize disturbances and impacts to monarch butterflies:

- Before construction activities a qualified biologist will conduct preconstruction surveys for milkweed (*Asclepias* spp.). Flag and fence existing milkweed patches, when feasible, and avoid mowing or removing them, during the monarch breeding season in the Central Valley from March 15 to October 31 (Xerces Society 2018), to conserve milkweed plants and avoid causing direct mortality to immature stages of monarchs.
- A 2-foot buffer will be maintained around milkweed plants during project construction to protect breeding habitat.

- Include USFWS recommended pollinator plants into mitigation site planting plans, when possible. Pollinator plants may need to be introduced into mitigation site planting plans after invasive and exotic weeds have been controlled. Several years of weed control efforts may be necessary to reach a satisfactory level of control prior to planting pollinator plants.
- All newly planted milkweed will be regionally native and preferably of the same species removed.

Mowing

- Train mower operators to recognize milkweed plants and important native nectar plants to reduce accidental mowing.
- Do not cut or mow milkweed during the monarch breeding season in the Central Valley from March 15 to October 31 (Xerces Society 2018)
- Limit mowing to no more than twice per year. Generally, fall mowing after the first frost is ideal to avoid mowing floral resources and host. In mitigation sites mowing limits may be delayed until exotic and invasive weeds are sufficiently controlled. This may take several years of intensive weed control.
- If mowing must occur during monarch breeding season, delay mowing to as late as possible (late summer or early fall) to provide a longer period for monarch caterpillars to develop and extend availability of nectar plants to monarchs and other pollinators into the late summer.

Weed Control

- No herbicide application will take place within 50 feet of occupied monarch habitat (including milkweed) when monarchs are present (adults or larvae), generally March 15 through October 31. If herbicide application must occur within 50 feet of occupied monarch habitat, then application will only be conducted using targeted spraying, cut stump, and wiping by a Service-approved biologist and will be no closer than 2 feet.
- Actively unoccupied growing milkweed will be avoided by a minimum of 2 feet during the application of herbicides (target spray, cut stump, wiping and wicking). Herbicide application within 50 feet of a milkweed plant will be conducted spray equipment equipped with low-pressure fan type nozzles to reduce the risk of drift.
- No broadleaf selective herbicide application will take place within 100 feet of occupied monarch habitat when wind speeds exceed 10 mph, or temperatures exceed 85°F to minimize potential for drift and volatilization.
- No persistent or pre-emergent herbicides will be used within 100 feet of milkweed or other occupied monarch habitats (e.g., roosting sites).
- Milkweed numbers and species will be assessed in project areas where impacts to milkweed may occur due to activities such as ATV access and herbicide application.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure VELB-1: Implement Current USFWS Avoidance, Minimization, and Compensation Measures for Valley Elderberry Longhorn Beetle.

The mitigation for O&M impacts will be offset by developing off-site mitigation sites designed in accordance with the 2017 VELB Framework (USFWS 2017). In addition, each year the local maintaining agencies will document the amount of VELB habitat trimmed and report that number to USACE to ensure compliance with the USFWS Biological Opinion (BO). If the local maintaining agencies need to exceed the amount of VELB habitat which needs to be trimmed or affected due to routine maintenance, then they will request USACE reinitiate consultation on the USFWS BO for those actions.

The Project Partners will implement the following measures in accordance with the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017) to reduce effects on valley elderberry longhorn beetle:

- Fencing. All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible.
- Avoidance area. To the extent feasible, activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) will be avoided within 20 feet from the drip-line of the shrub, depending on the type of activity.
- Worker education. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of valley elderberry longhorn beetle, its host plant and habitat, the need to avoid damaging elderberry shrubs, and the possible penalties for noncompliance.
- Construction monitoring. A qualified biologist will monitor the work area at appropriate intervals to assure that all avoidance and minimization measures are implemented.
- Timing. To the extent feasible, activities within 165 feet of an elderberry shrub will be conducted outside of the valley elderberry longhorn beetle flight season (March to July).
- Trimming. To the extent feasible, elderberry shrub trimming will occur between November and February and avoid the removal of any branches or stems greater than or equal to 1-inch in diameter.
- Chemical Usage. Herbicides will not be used within the drip-line, and insecticides will not be used within 100 feet of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.

- Mowing. Weed removal with machinery within the drip-line of elderberry shrubs will be limited to the season when adults are not active (August to February) and will avoid damaging the shrub.
- Transplanting. To the extent feasible, elderberry shrubs will be transplanted when the shrubs are dormant (November through the first 2 weeks in February) and after they have lost their leaves. Exit-hole surveys will be completed immediately before transplanting. A qualified biologist will be on-site for the duration of transplanting activities to assure compliance with avoidance and minimization measures and other conservation measures.
- Compensation. Effects will be compensated at ratios ranging from 1:1 to 3:1, depending on the compensation approach and circumstances of the affected shrubs. Affected area will be re-vegetated with appropriate native plants. Mitigation can include onsite restoration, in-lieu fee payment, off-site mitigation and/or purchase of mitigation credits from a resource agency approved mitigation bank. Mitigation as required in accordance with the Endangered Species Act consultation with USFWS, may be applied to satisfy the compensation standard.

Timing: Before and during, and after construction

Responsibility: Before and during Construction Project Partners; During O&M Phase Non-Federal Partners

Mitigation Measure TURTLE-1: Implement Measures to Protect Northwestern Pond Turtle (CEQA only)

The mitigation measure previously identified for northwestern Pond turtle and adopted for the ARCF 2016 Project has been augmented to address nesting sites. The Project Partners will implement the following measures, to avoid and minimize effects on northwestern Pond turtle:

- Ground disturbance (including vegetation removal) in suitable upland habitat within 500 feet of aquatic habitat for northwestern pond turtle will be minimized, to greatest extent feasible. The target period for vegetation removal in these areas will be mid-April to mid-May) when potential for turtle strikes and direct impacts are lowest, if practical with combined seasonal limitations on construction (e.g., nesting birds, VELB, flood season, etc.).
- The following measures may be implemented, where feasible, to minimize potential for heavy equipment to destroy northwestern pond turtle nests and to encounter hatchling turtles.
 - Placing artificial ground cover that prevents female turtles from excavating nests in most likely nesting areas where construction activities will occur before the following hatchling turtle emergence period.
 - Fencing most likely nesting areas to exclude access by female turtles and/or enclose hatchlings after emergence. If active nests and hatchlings may be present,

the fenced area will be inspected daily by a qualified biologist and hatchling turtles will be captured and relocated to suitable habitat at a pre-determined location.

- A qualified biologist will conduct preconstruction surveys.
- A qualified biologist will be present during initial ground disturbance and in-water work to search for western pond turtles and minimize encounters with heavy equipment.
- If northwestern pond turtles or nests are observed on land within the construction footprint during project activities, work will stop within approximately 200 feet of the turtle, and a qualified biologist will be notified immediately. If possible, the turtle will be allowed to leave on its own and the qualified biologist will remain in the area until the biologist deems his or her presence no longer necessary to ensure that the turtle is not harmed. Alternatively, with prior CDFW approval, the qualified biologist may capture and relocate the turtle unharmed to suitable habitat at a pre-determined location.
- If a northwestern pond turtle nest is unintentionally uncovered during project activities, work will stop in the vicinity of the nest and will appropriate next steps, depending on the circumstances, will be determined by a qualified biologist. These may include fencing and buffering the nest and/or rescue, rehabilitation, and relocation of affected turtles.

Timing: Before and during construction

Responsibility: Non-Federal Project Partners

Mitigation Measure BUOW-1: Implement Measures to Protect Burrowing Owl.

The Project Partners will implement the following measures to reduce effects on burrowing owl:

- Prior to the implementation of construction, surveys will be conducted to determine the presence of burrows or signs of burrowing owl at project sites that provide suitable habitat. A habitat assessment and any proceeding surveys will be conducted in accordance with Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFG 2012).
- If burrowing owls are observed, coordination with the California Department of Fish and Wildlife (CDFW) will be initiated regarding impact avoidance and minimization measures to be implemented. At a minimum, these measures will include implementing protective buffers around occupied burrows during the duration of the breeding/juvenile rearing season and biological monitoring of active burrows, per the 2012 Staff Report on Burrowing Owl Mitigation, to ensure that construction activities do not result in adverse effects on nesting burrowing owls. To the extent feasible, destruction of occupied burrows will also be avoided outside the nesting season.

- If burrows known to be occupied at least seasonally by burrowing owls are within the project footprint and burrow destruction cannot be avoided, an exclusion plan will be developed and implemented in coordination with CDFW. Exclusion will not be conducted during the breeding season, unless 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.
- If exclusion is conducted, each occupied burrow that is destroyed will be replaced with at least one artificial burrow on a suitable portion of the project site that will not be subject to project impacts or O&M activities that could adversely affect burrowing owl. Artificial burrows will be installed within 330 feet of the destroyed occupied burrow(s) and within suitable foraging habitat. Monitoring will be conducted to determine if artificial burrows are occupied followed exclusion from and destruction of the occupied burrow.
- If occupied or suitable burrows are present, all on-site construction personnel will be instructed on the potential presence of burrowing owls, identification of these owls and their habitat, and the importance of minimizing impacts on burrowing owls and their habitat.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure BADGER-1: Implement Measures to Avoid and Minimize Effects on American Badger. (CEQA only)

The Non-Federal Partners will implement the following measures to avoid and minimize effects on American badger.

- The Non-Federal Partners will conduct pre-construction clearance surveys for American badgers. These surveys will be conducted within 14 days of the start of any ground-disturbing activity. If no potential American badger dens are present, no further mitigation is necessary.
- If a potential American badger den is discovered but deemed inactive, the qualified biologist will excavate the den during the initial clearance survey to prevent badgers from reoccupying the den during the construction period.
- If found to be present, occupied badger dens will be flagged and ground disturbing activities will be avoided within 50 feet of an occupied den. Maternity dens will be avoided during pup-rearing season (February 15 through July 1) and a minimum 200-foot buffer will be established.
- If avoidance of a non-maternity den is not feasible, badgers will be relocated by carefully evacuating the burrow (either by hand or using mechanized equipment, under the direct supervision of a qualified biologist) before or after the rearing season

(February 15 through July 1). Any relocation of badgers will be coordinated with CDFW.

Timing: Before and during construction

Responsibility: Non-Federal Partners

Mitigation Measure BAT-1: Implement Measures to Protect Maternity Roosts of Special-Status Bats. (CEQA only)

The Non-Federal Partners will implement the following measures to avoid and minimize effects on special-status bats:

- Wherever feasible, USACE will conduct construction activities outside of the pupping season for bats (generally April 1 to August 31).
- Project Partners or their designated environmental personnel will identify trees slated for removal that contain suitable bat roosting habitat. Trees indicated for removal that are not identified as suitable bat habitat can be removed using normal methods.
- Live trees that are indicated to contain roosting habitat shall be removed in a two-phase process. The first day, under the supervision of the biological monitor, remove limbs and branches that do not contain cavities, cracks, crevices, or deep bark fissures that can provide roosting habitat. On the second day remove the remainder of tree by gently lowering the tree to the ground, under the supervision of the biological monitor and leave material undisturbed for 48 hours. If it is not feasible to remove a tree using the two-phased approach, limbs containing habitat features should be removed and gently lowered to the ground in a location where they are not likely to be crushed or disturbed by the felling of the tree and left undisturbed for the next 48 hours.
- Standing dead trees or snags with habitat features should be removed over a single day by gently lowering the tree or snag to the ground. The tree or snag should be left undisturbed on the site for the next 48 hours.
- For trees containing suitable bat roosting habitat that will be trimmed, trimming shall be conducted in the presence of a biological monitor. If trimming results in the removal of vegetation that contains potential bat habitat, vegetation should be gently lowered to the ground and left near the tree for 48 hours prior to removal, if feasible. If the vegetation cannot be left for 48 hours, the biological monitor shall survey the vegetation for presence of bats. If any bats are found within the vegetation, the vegetation must be left for 48 hours.
- If removal of trees must occur during the bat pupping season, within 30 days of tree removal activities, all trees to be removed will be surveyed by a qualified biological monitor for the presence of features that may function as special-status bat maternity roosting habitat. Trees that do not contain potential special-status maternity roosting habitat may be removed. For trees that contain suitable special-status bat maternity roosting habitat, surveys for active maternity roosts shall be conducted by the

designated biological monitor in trees designated for removal. The surveys shall be conducted from dusk until dark.

- If any special-status species bat maternity roost is located, appropriate buffers must be established by clearly marking the buffer area. The buffer area must be a minimum of 100 feet outside the tree containing the maternity roost. No contract activities shall commence within the buffer areas until the end of pupping season (September 1) or the biological monitor confirms that the maternity roost is no longer active.
- If construction activities must occur within the buffer, the biological monitor must monitor activities either continuously or periodically during the work, which will be determined by the biological monitor. The biological monitor will be empowered to stop activities that, in their opinion, may cause roost failure. If construction activities are stopped, the biological monitor will inform USACE, and activities will only resume in the buffer if the biologist determines they will not cause roost failure.

Timing: Before and during construction.

Responsibility: Non-Federal Partners.

Mitigation Measure PLANT-1: Implement Measures to Protect Special-Status Plants. (CEQA only)

The Non-Federal Partners will implement the following measures, to avoid and minimize effects on special-status plants:

- Preconstruction surveys will be conducted by a qualified botanist in suitable habitat to determine the presence of any special-status plants. Surveys will be conducted at an appropriate time of year during which the species are likely to be detected, which will likely be during the blooming period.
- The botanists will conduct a floristic survey that follows the CDFW botanical survey guidelines (California Department of Fish and Wildlife 2018). All plant species observed will be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions.
- If special-status plant species are found during preconstruction surveys, Project Partners will redesign or modify proposed project components, if necessary, to avoid indirect or direct effects on special-status plants to the extent feasible.
- If the plants are found during construction the habitat will be marked or fenced as an avoidance area during construction. A buffer of 25 feet will be established. If a buffer of 25 feet is not possible, the next maximum possible distance will be fenced off as a buffer.
- If direct impacts cannot be avoided, the plants (including their root balls or rhizomes if applicable) may be transplanted to an appropriate location under the supervision of a qualified biologist or landscape architect, if the species is known to transplant effectively. The qualified biologist or landscape architect will coordinate with CDFW

regarding transplantation techniques and locations prior to implementation of transplantation efforts.

Timing: Before and during construction

Responsibility: Non-Federal Partners

Mitigation Measure SHRIMP-1: Implement Measures to Avoid and Minimize Effects on Vernal Pool Fairy Shrimp and Tadpole Shrimp.

The following measures, from the 2004 Biological Opinion from the Magpie Creek Flood Control Project as stated on page 185 of the ARCF GRR Final EIS/EIR, will be implemented to avoid and minimize impacts to vernal pool fairy shrimp and vernal pool tadpole shrimp in the vicinity of the Magpie Creek Project construction area.

- Preservation component: For every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within a Service-approved ecosystem preservation bank or, based on Service evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the project site or another nonbank site as approved by the Service.
- Creation component: For every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a Service-approved habitat creation bank or, based on Service evaluation of site-specific conservation values, two acres of vernal pool habitat will be created and monitored on the project site or another non-bank site as approved by the Service.
- Listed vernal pool crustacean habitat and associated uplands utilized as on-site compensation will be protected from adverse effects and managed in perpetuity or until the Corps, the applicant, and the Service agree on a process to exchange such areas for credits within a Service-approved conservation banking system. Off-site conservation at a Service-approved non-bank location will be protected and managed in perpetuity through a Service approved conservation easement, Service-approved management plan, and a sufficient endowment fund to manage the site in perpetuity in accordance with the management plan.
- If habitat is avoided (preserved) on site, then a Service-approved biologist (monitor) will inspect any construction-related activities at the proposed project site to ensure that no unnecessary take of listed species or destruction of their habitat occurs. The biologist will have the authority to stop all activities that may result in such take or destruction until appropriate corrective measures have been completed. The biologist also will be required to immediately report any unauthorized impacts to the Service and the California Department of Fish and Game.
- Adequate fencing will be placed and maintained around any avoided (preserved) vernal pool habitat to prevent impacts from vehicles.

- All on-site construction personnel will receive instruction regarding the presence of listed species and the importance of avoiding impacts to these species and their habitat.
- The applicant will ensure that activities that are inconsistent with the maintenance of the suitability of remaining habitat and associated on-site watershed are prohibited. This includes, but is not limited to: (i) alteration of existing topography or any other alteration or uses for any purposes, including the exploration for or development of mineral extraction; (ii) placement of any new structures on these parcels; (iii) dumping, burning, and/or burying of rubbish, garbage, or any other wastes or fill materials; (iv) building of any new roads or trails; (v) killing, removal, alteration, or replacement of any existing native vegetation; (vi) placement of storm water drains; (vii) fire protection activities not required to protect existing structures at the project site; and (viii) use of pesticides or other toxic chemicals.
- Prior to any earth-moving activities at the proposed project site, the Project Partners shall purchase vernal pool preservation credits within a Service-approved ecosystem preservation bank or fund account.

Timing: Before construction.

Responsibility: Project Partners.

Mitigation Measure GGS-1: Implement Measures to Avoid, Minimize and Compensate Impacts on Giant Garter Snake.

If the project is implemented, USACE will implement the following measures to minimize effects on giant garter snakes and habitat that occurs within 200 feet of any construction activity. These measures are based on USFWS guidelines for restoration and standard avoidance measures included as appendices in USFWS (1997):

- Unless approved otherwise by USFWS, construction will be initiated only during the giant garter snakes' active period (May 1–October 1, when they are able to move away from disturbance).
- Construction personnel will participate in USFWS-approved worker environmental awareness program.
- Giant garter snake survey will be conducted 24 hours prior to construction in potential habitat. Should there be any interruption in work for greater than 2 weeks, a biologist will survey the project area again no later than 24 hours prior to the restart of work.
- Giant garter snakes encountered during construction activities will be allowed to move away from construction activities on their own.
- Movement of heavy equipment to and from the construction site will be restricted to established roadways. Stockpiling of construction materials will be restricted to

designated staging areas, which will be located more than 200 feet away from giant garter snake aquatic habitat.

- Giant garter snake habitat within 200 feet of construction activities will be designated as an environmentally sensitive area and delineated with signs or appropriate fencing. This area will be avoided by all construction personnel.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure CR-1: Resolve Adverse Effects through Programmatic Agreement and Historic Properties Treatment Plan (HPTP).

For Historic Properties which will be adversely affected by implementation of the MCP, American River Erosion Contract 3B North and South, American River Erosion Contract 4B, and American River Contract 4A, (pending concurrence of eligibility and finding of effect in the ARCF PA consultation process), Project Partners shall consult with the SHPO and interested Native American Tribes in accordance with the ARCF PA and associated HPMP to develop a HPTP. The HPTP shall specify measures that will be implemented to resolve the adverse effects to the Historic Properties and shall constitute mitigation for the effects to these resources. Project Partners shall implement the terms described in the HPTP.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure CR-2: Prepare an Archaeological Discovery Plan and Archaeological Monitoring Plan.

In accordance with the procedures described in Section 9.2 of the ARCF HPMP, a discovery plan shall be prepared by Project Partners and included in the construction contractor's specifications. The discovery plan shall specify what actions are required to be taken by the contractor in the event of an archaeological discovery and describe what actions USACE may take in the event of a discovery.

In accordance with the procedures described in Section 9.3.9 of the ARCF HPMP, an archaeological monitoring plan shall be developed for the MCP, American River Erosion Contract 3B North and South, American River Erosion Contract 4B, and American River Contract 4A. This plan shall identify the locations of known Historic Properties as well as sensitive areas designated for archaeological monitoring and shall include methods and procedures for monitoring and the procedures to be followed in the event of a discovery of archaeological materials.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure CR-3: Conduct Cultural Resources Awareness Training.

In accordance with the procedures described in Section 9.1 of the ARCF HPMP, Project Partners shall require the contractor to provide a cultural resources and Tribal cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training shall be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology (36 CFR Part 61), as well as culturally affiliated Native American Tribes. Project Partners may invite Native American representatives from interested culturally affiliated Native American Tribes to participate. The training shall be conducted before any project-related construction activities begin in the APE and shall include relevant information regarding sensitive cultural resources and Tribal Cultural Resources, including applicable regulations, protocols for avoidance, and consequences of violating Federal and State laws and regulations.

The training shall also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal Cultural Resources that could be located in the APE and shall outline what to do and who to contact if any potential cultural resources or Tribal Cultural Resources are encountered. The training shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure CR-4: Implement Procedures for Inadvertent Discovery of Cultural Material.

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, and building remain); Tribal Cultural Resources; sacred sites; or landscapes is made at any time during project-related construction activities, the Project Partners and other interested parties, shall develop appropriate protection and avoidance measures where feasible. These procedures shall be developed in accordance with the ARCF PA and HPMP, which specifies procedures for post-review discoveries. Additional measures, such as development of HPTPs prepared in accordance with the PA and HPMP, may be necessary if avoidance or protection is not possible.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure CR-5: In the Event that Tribal Cultural Resources are Discovered Prior to or During Construction, Implement Procedures to Evaluate

Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Adverse Effects.

California Native American Tribes that are traditionally and culturally affiliated with the geographic area in which the project is located may have expertise concerning their Tribal Cultural Resources (California PRC Section 21080.3.1). As was done during EIR preparation, culturally affiliated Tribes shall be further consulted concerning Tribal Cultural Resources that may be impacted, if these types of resources are discovered prior to or during construction. Further consultation with culturally affiliated Tribes shall focus on identifying measures to avoid or minimize impacts on any such resources discovered during construction. If Tribal Cultural Resources are identified in the APE prior to or during construction, the following performance standards shall be met before proceeding with construction and associated activities that may result in damage to or destruction of Tribal Cultural Resources:

- Each identified Tribal Cultural Resource will be evaluated for CRHR eligibility through application of established eligibility criteria (CCR 15064.636), in consultation with interested Native American Tribes.
- If a Tribal Cultural Resource is determined to be eligible for listing in the CRHR, the Project Partners will avoid damaging the Tribal Cultural Resource in accordance with California PRC Section 21084.3, if feasible. If CVFPB determines that the project may cause a substantial adverse change to a Tribal Cultural Resource and measures are not otherwise identified in the consultation process, the following are examples of mitigation steps capable of avoiding or substantially lessening potential significant impacts to a Tribal Cultural Resource or alternatives that will avoid significant impacts to a Tribal Cultural Resource. These measures may be considered to avoid or minimize significant adverse impacts:
 - i. Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - ii. Treat the resource with culturally appropriate dignity, taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - a. Protect the cultural character and integrity of the resource.
 - b. Protect the traditional use of the resource.
 - c. Protect the confidentiality of the resource.
 - d. Establish permanent conservation easements or other interests in real estate, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.
 - e. Protect the resource.

Timing:	Before and during construction
Responsibility:	Project Partners

How is it being fulfilled?

VEG-1 –The recommended compensatory mitigation is included in the Mitigation Ratio section below. This compensatory mitigation is being completed through the inclusion of planting benches and plantings within the construction footprint (onsite), within the lower American River Parkway at the American River Mitigation Site and the Sacramento River Mitigation Sites (Offsite) and through the purchase of Mitigation Bank Credits. Onsite is preferred by the Resource Agencies. The Mitigation Bank Credits are approved by the Resource Agencies before they can be sold to the public. Offsite locations and planting plans have been coordinated with Resource Agencies throughout the design process. The replacement vegetation is composed of only native species that are appropriate for the site elevation and conditions. Once planted the mitigation sites are managed for three to five years by the original contractor, then managed, monitored and reported on to meet performance and success criteria for up to 10 years. The Performance and success criteria are included below in **Table 6**, they are also discussed in Master Response 15 and in the 2015 The Habitat Mitigation Monitoring and Adaptive Management Plan (HMMAMP). Afterwards, annual monitoring with adaptive management actions will occur in accordance with the habitat management plans and the OMRR&R manuals. New Plantings, planting on launchable features, native seed mixes for hydroseeding and site-specific tree assessments are discussed further in Master Response 3.

VEG-2 – As the project development teams work through the design development intentional decisions are made to reduce impacts to tress, and riparian habitat. **Tables 1-4** below show the impact reduction that has been accomplished over time. As each contract is different, each has a different set of refinements that applied to reduce these impacts. Some designs involve reducing the footprint of the bank protection, others it is realigning access and haul routes to existing maintenance roads. Many cases the launchable trench concept that was previously described has been determined to be more impactful to riparian habitat than its alternative the launchable toe. Each contract PDT evaluated the work sites separately to determine where it would be appropriate to include planting benches and soil filled rock to facilitate vegetation recruitment and habitat regrowth. During construction, areas where trees will be protected are required to be fenced or flagged, A biologist is onsite full time watching for any wildlife and vegetation interactions that do not comply with the contract specifications.

WATERS 1 - A state 401 programmatic order (WDID 5A34CR00819) was received on July 13, 2021, for the ARCF project, the updated proposed actions, construction schedule and mitigation sites will need to be documented in an amendment with the Central Valley Water Board. The current permit includes additional avoidance and minimizations measures, and general conditions that the contractor completing the work is required to follow. The 401 permit also requires that mitigation achieve a ratio of 1:1 for permanent impacts. Mitigation may be accomplished through habitat replacement (on-site), enhancement of degraded habitat, off-site mitigation at an established mitigation bank, contribution of in-lieu fees, or other methods acceptable to the regulatory agencies, ensuring there is no net loss of functions and services to WOUS of the United States. If compensation is provided through permittee-responsible

mitigation with additional NEPA and CEQA documentation. Compensatory mitigation will be completed through onsite mitigation and two large mitigation sites, one on the Sacramento River and the other on the American River. These mitigation sites are being designed to reconnect floodplain, expanding continued flow and circulation of waters resulting in a net gain of waters of the state.

Summarized Avoidance and Minimization requirements:

- Work between July 1 and November 30.
- Staging and Storage in previously disturbed uplands, landside of the levee when feasible.
- Only disturb ground and vegetation where necessary.
- Stockpile on landside of levee when feasible, include storm water best management practices.
- Install sediment barriers.
- Stabilize slopes with plant materials or temporary structures until slopes stabilize.
- Conduct background water testing prior to construction.
- Monitor turbidity during construction – do not exceed the Basin Plan turbidity objectives.

A Federal 404 and Section 10 permit would typically be required for the project's action area. However, as this is a Federally funded project by USACE, Regulatory Division is not allowed to permit other sections of USACE, therefore there is no Federal Regulatory permit of record. The Civil Works component of USACE is still required to analyze the impacts to WOUS as well as the navigability of the Sacramento River. This analysis can be found in the 404(B)(1) Appendix E of the 2016 FEIS/EIR as well as the 404(B)(1) included as Appendix K to this 2025 Final SEIS/SEIR. In summary, there would be no reduction of the flow, circulation, or extent of waters. The water itself will continue to be contained between the Federal levees and be operated in accordance with the flood protection operations.

MR 5-2 Mitigation Ratios

After the Project Partners have worked through the avoidance and minimization measures to the maximum extent possible, the remaining, unavoidable impacts often require compensatory mitigation. For the Endangered Species Act, compensatory mitigation can be accomplished in form of 1) replacing or creating habitat within the construction footprint (onsite mitigation), 2) purchasing credits from an approved conservation bank, 3) purchasing credits from an approved in-lieu fee program or 4) identifying a location outside of the construction footprint that is valuable to the affected species and within the same watershed as the effected species then either creating or restoring habitat (offsite mitigation).

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act Report (CAR; 08ESMF00-2013-CPA-0020) is dated October 5, 2015. This document, in the Recommendations section outlines a 2:1 compensatory

mitigation ratio for the loss of oak woodland, riparian forest, riparian scrub-shrub, and emergent wetland habitats.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) Biological Opinion (08ESMF00-2014-F-0518-R003) is dated March 31, 2021. This document describes unavoidable impacts to Federally listed species need to be mitigated at ratios determined by the resource agency: Delta Smelt – 3:1, Western Yellow Billed Cuckoo – 2:1, and Valley Elderberry Longhorn Beetle – Per the 2017 Framework or 3:1 including transplanting eligible shrubs.

National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) Biological Opinion (WCRO-2020-03082) is dated May 12, 2021. This document describes unavoidable impacts to Federally listed species need to be mitigated at ratios determined by the resource agency. Those ratios are dependent on timing and location. So, any compensatory mitigation completed before or during construction has a 1:1 ratio, any compensatory mitigation completed after construction has a 2:1 ratio. However, the distance from impacts also needs to be considered. Any compensatory mitigation that is completed between 0 and 20 miles of impact does not change the ratio, any compensatory mitigation that is between 20 and 40 miles of impacts increases by 0.50 and any compensatory mitigation that is between 40 and 47 miles of the impacts increases by 0.75.

MR 5-3 Habitat and Impacts

How Much Have Unavoidable Impacts Been Reduced?

Through coordination with technical advisory committees, completion of site investigations, and design refinements the project delivery teams have reduced the construction footprints and the number of impacts to species and habitat over time. Note that between the 2015 BO and the 2021 BO three major calculation changes were made: 1) the resource agencies and project partners agreed to change from linear feet of Shaded Riverine Aquatic Habitat to slope acreage of impacted habitat below the ordinary high water mark. 2) Green Sturgeon and Salmonid impacts were combined rather than being separated as they utilize the same habitat. 3), it was decided to update the ARCF project to be in compliance with the 2017 Valley Elderberry Longhorn Beetle Framework, changing impact calculations from stem counts to area. Tables 1 and 3 illustrates the reduction of estimated impacts to listed species by contract between the 2015 Biological Opinions (BOs), 2021 BOs and the most recently available percent designs. You can see that on LAR Contract 3A the reduction in VELB estimated impacts resulted in an increase of NMFS estimated impacts, because the project was shifted further into the river to avoid impacts to trees. American River Erosion Contract 4A is in the alternatives selection phase, so habitat impact estimates for the different design phases cannot be provided. Tables 2 and 4 recombine each contract's estimated impacts to give a total by species, then compares this estimated total to the 2021 BO estimates, providing a percent change across each species overtime. It is worth noting that the impacts to wetlands increased from 2021 and cannot be described as a percent change as they were not anticipated in the 2021 BO. Also, Impact estimates in the Draft SEIS/SEIR are higher than current impact estimates due to the continued design refinement as the document was written, these tables have been updated since the Draft SEIS/SEIR was published.

Table 1. American River Erosion - Reduction of Impacts by Contract

Contract	Species	2015 Estimate	2021 Estimate (acres)	35% (acres)	95% (acres)
All	VELB	3,139 stems	28.89		
	YBCU	65 acres	72		
	NMFS	45,367 lf SRA*	97.89		
	Wetlands	2.5 acres	0		
1	VELB			-	0.25
	YBCU			-	10.45
	NMFS			-	8.50
2	VELB			-	8.25
	YBCU			-	18.45
	NMFS			-	1.00
3A	VELB			2.75	1.75
	YBCU			5.00	2.75
	NMFS			5.50	7.00
3B	VELB			32	8
	YBCU			29	7
	NMFS			35	19
4A	VELB			N/A	N/A
	YBCU			N/A	N/A
	NMFS			0	0
	Wetlands			0	1
4B	VELB			N/A	N/A
	YBCU			N/A	N/A
	NMFS			0.00	0.00
	Wetlands			0.00	0.00

*Numbers have been rounded to the nearest acre. LAR Contract 4A habitat impact estimates are unavailable due to alternative selection. LAR Contract 4B is still in conceptual design and is going through additional analysis. SRA stands for Shaded Riverine Aquatic (SRA) Habitat.

Table 2. American River Erosion - Summary

Contract	Species	95% Totals	Change from 2021	Units
All	VELB	18	37.00	% Reduced
	YBCU	40	44.00	% Reduced
	NMFS	36	63.00	% Reduced
	Wetlands	2	NA**	Increased

*Numbers have been rounded to account for estimates.

Table 3. Sacramento River Erosion - Reduction of Impacts by Contract

Contract	Species	2015 Estimate	2021 Estimate	35% (acres)	95% (acres)
All	VELB	163 stems	10.43		
	YBCU	168 acres	181.8		
	NMFS	51,804 lf SRA*	67.28		
	Green Sturgeon*	20 acres			

Contract	Species	2015 Estimate	2021 Estimate	35% (acres)	95% (acres)
	Delta Smelt	46	30		
1	VELB			-	0
	YBCU			-	1.25
	NMFS			-	3.00
	Delta Smelt			-	0.75
2	VELB			1.25	0
	YBCU			33.25	1.75
	NMFS			65.25	32.25
	Delta Smelt			15.75	11.00
3	VELB			0	0
	YBCU			30	
	NMFS			61	27.00
	Delta Smelt			15	12
4	VELB			0	0
	YBCU			2	1
	NMFS			3.25	3.25
	Delta Smelt			-	1.00

* Numbers have been rounded to nearest 0.25 acre. SRA stands for Shaded Riverine Aquatic (SRA) Habitat.

Table 4. Sacramento River Erosion - Summary

Contract	Species	95% Totals	Percent Change from 2021	Units
All	VELB	0	100.00	% Reduced
	YBCU	43.84	98.00	% Reduced
	NMFS	665.68	2.00	% Reduced
	Delta Smelt	24.25	19.00	% Reduced

*Numbers have been rounded to account for estimations

MR 5-4 Onsite Mitigation

Replanting vegetation along the erosion protection sites on both the Sacramento River and American River is part of the projects efforts to reduce impacts to recreation, aesthetics, water quality and wildlife habitat. The onsite vegetation is required to comply with USACE policies and guidance for levee conditions and maintenance, also the onsite vegetation cannot be counterproductive to the erosion protection work. Landscape architects and engineers worked together on the planting bench design and planting plans to ensure all the constraints were met. The planting lists were tailored for the specific site elevations, based on vegetation that worked well in the past and had input from local tribes. Removal of vegetation was unavoidable to sure up the underlying material to reduce the risk of levee failures during large storm events. However, in 8-10 years these sites will blend into the rest of the parkway corridor.

Table 5. Example Native Species Planted on Site

Common Name	Scientific Name
Alder	Alnus rhombifolia

Common Name	Scientific Name
Arroyo willow	Salix lasiolepis
Baltic rush	Juncus Balticus
Box elder	Acer negundo
Buttonbush	Cephalanthus occidentalis
California barley	Hordeum brachyantherum ssp. Californicum
California mugwort	Artemisia douglasiana
Common bog rush	Juncus effusus
Oregon Ash	Frainus latifolia
Sandbar willow	Salix exigua
Santa Barbra care	Carex bararea
Slender hairgrass	Deschampsia elongata
Slender wheatgrass	Elymus trachycaulus
Spike bentgrass	Agrostis exarta
Western cottonwood	Populus fremontii
Western Goldenrod	Elymus occidentalis
Western ragweed	Ambrosia psilostachya
Western Sycamore	Platanus racemosa
Wild Rose	Rosa Californica

MR 5-5 Offsite Mitigation

Compensatory mitigation ratios were greater than 1:1 so additional mitigation location were needed to fulfill the requirements set forth by USFWS, NMFS, and the State Water Board. The offsite mitigation is occurring at the Sacramento River Mitigation Site (SRMS), across the river from Rio Vista, the Lower American River Mitigation Site (ARMS), next door to Discovery Park, at five upland locations specifically designed for Valley Elderberry longhorn Beetle, and at Service approved conservation banks. The goals and objectives of the offsite mitigation were to expand/improve habitat corridors, create/enhance existing wildlife habitat, replace what was impacted by the project construction and exist in perpetuity. Landscape Architects and ecosystem/restoration biologists are working together to design the mitigation sites to fit into the surrounding environments, need minimal operation and maintenance once established, and in general positively contribute to the riparian habitat.

MR 5-6 Site Maintenance and Management

Short Term

The short-term management of on and off-site mitigation is made up of two parts. The first part 3-5 years will be the responsibility of the regreening contractor, doing the maintenance and management and USACE, doing oversight and monitoring / reporting. The second part from 3/5 to 8/10 years is fully the responsibility of USACE and any contractor they may hire. The short-term maintenance activities include but are not limited to ensuring plant survival, functional and regular irrigation, vandalism/trash clean up, installing or removing fencing resulting from browsing, mowing, weed and invasive species management and monitoring. Dead plants must be replaced, per contract specifications. Also required during the short-term period is site monitoring and reporting to the resource agencies to ensure that site performance and success criteria are being met. The performance and success criteria have not been finalized yet, however

the draft performance standards for onsite mitigation are included in Table 6. This information is also discussed in Master Response 15.

Table 6. Draft Onsite Planting Performance Standards (Subject to Change)

Monitoring Indicator	Measurable Objective	Monitoring Frequency
Woody plant survival	Year 1: 90% Year 2: 80% Year 3: 75% (irrigation removed at end of year and no more replacement planting) Year 4: 70% Year 5: 60%	Years 1–5
Tree height	Document height to nearest foot	Years 1-8
Woody plant vigor	Years 1 - 4: Average vigor of 2.0 or greater Year 5: Average vigor of 3.0 or greater (see Table 4-2)	Years 1-5
Average combined canopy cover by native riparian tree and shrub species, by planting zone	Year 5: 25% Year 6: 30% Year 7: 35% Year 8: 40%	Years 5-8
Shaded Riverine Aquatic cover – instream Cover	Presence/absence of IWM relative to post-construction baseline (see Table 4-3)	Years 1-8
Shaded Riverine Aquatic cover – overhead cover	% of summer Water Surface Elevation (WSEL) bank line intercepted by canopy cover Year 5: 20% Year 6: 25% Year 7: 30% Year 8: 40%	Years 5–8
Woody Invasive Plant Species Cover	Years 1-8: less than 15%	Years 1-8

Long Term

The long-term management of on and off-site mitigation is the responsibility of the non-Federal partners in coordination with the local maintaining agencies and any contractor they may hire. The long-term period begins when the site has met the performance and success requirements at years 8/10 and extends through the life of the project. USACE planning policy considers the life of the project to be 50 years, however the resource agencies define the life of the project to be perpetuity. The long-term maintenance activities are based around ensuring that the site is still providing habitat. This is accomplished by ongoing management and maintenance of the site as well of situational adaptive management actions. Actions can include but are not limited to: fallen or falling tree removal for public safety, reacting to erosion by adding matting, soil or plants, allowing volunteer native plant growth to remain onsite, selective pruning for inspections or fire breaks, removing trash that acquires through human placement or high flow events, and monitoring.

Habitat Mitigation Monitoring and Adaptive Management Plan

The Habitat Mitigation Monitoring and Adaptive Management Plan (HMMAMP) was included as Appendix I of the 2016 ARCF GRR EIS/EIREIS/EIR to discuss the compensatory mitigation strategy, location, timing, habitats, performance and success criteria for those mitigation sites. Sense then, USACE policy has been updated to include some additional requirements. In order to comply with the new policy and resource agencies, individual Habitat Management Plans are being written for each on and off-site mitigation location. Guidance in these individual documents will be incorporated into the larger flood risk management feature operations and maintenance manual.

MR 6: Public Health and Safety Impacts from Construction

Several comments expressed concern regarding public health and safety, especially regarding air emissions, noise pollution, and vibrations. Specific concerns that were identified in comments included construction-related noise and vibration (including potential structural damage due to vibrations), use of staging areas, and safety impacts on residences located adjacent to construction sites and children that attend O.W. Erlewine Elementary School and visit Larchmont Community Park. Air quality concerns included human health effects from air emissions, mitigation of air pollutants, and potential impacts from use of rock material containing naturally occurring asbestos (NOA). Impacts related to air quality, noise, and vibration are addressed in detail in the impact analysis of the Draft SEIS/SEIR in Section 3.5, “Air Quality,” and Section 3.7, “Noise and Vibration,” in Appendix B “Detailed Analysis.”

MR 6-1 Summary of Construction Activities and Vibration Effects

The construction buffer refers to all areas within the Proposed Action where construction activities identified in Chapter 2, “Project Description,” would occur (this terminology has been updated for the Final SEIS/SEIR to more clearly define where work would occur, and where permanent improvements would be constructed). Staging areas are dedicated temporary locations near construction sites where construction materials, equipment, office structures, storage units, generators, worker vehicles, and portable restroom facilities would be stored during project implementation. Haul traffic may also pass through staging areas. Construction equipment would not be regularly used at the staging areas, as most of the work would be completed within the construction footprint. However typical equipment use expected within the staging areas would include, ramp construction, material loading, water loading, and to allow movement of the equipment to the nearby construction sites. The use of staging areas would generally follow the same work hours as project implementation, 7:00 a.m. to 6:00 p.m. Monday through Saturday, and between the hours of 9:00 a.m. to 6:00 p.m. on Sundays within the city limits, and Monday through Friday from 6:00 a.m. to 8:00 p.m. and Saturday from 7:00 a.m. to 8:00 p.m. in the unincorporated areas of the county. The construction contractor and workers may arrive and depart outside of these hours; however, no project-related construction activities would occur outside of county permitted work hours that would generate significant noise. Staging areas are identified on Figures 3.5.2-3, 3.5.2-6, 3.5.2-8, 3.5.3-1, 3.5.4-1, 3.5.4-2, 3.5.1-1, and 3.5.6-1, and would be used during project implementation, which is anticipated to start with tree clearing in 2025 and finish with regreening in 2028.

MR 6-2 *Summary of Air, Noise, and Vibration Mitigation Measures*

Residences located near project sites would be protected during construction through the incorporation of Mitigation Measures identified in Appendix B Section 3.5, “Air Quality,” on pages 3.5-21 to 3.5-24, and Section 3.7, “Noise and Vibrations,” on pages 3.7-11 to 3.7-12. Mitigation measures identified to reduce impacts related to air quality include AIR-1 through AIR-5, which require implementing control measures such as watering exposed surfaces, street sweeping, limiting vehicle speed on unpaved roads, minimizing idling time, suspending ground disturbing activities if wind speed exceeds 20 miles per hour, planting vegetative ground cover, submitting a complete inventory of all off-road equipment to SMAQMD, use of Tier 4 emissions vehicles, and use of SMAQMD Construction Mitigation Tool to track air quality emissions and mileage traveled. Implementing these measures would reduce impacts related to air quality. Additionally, for emissions of NO_x and ROG that cannot be reduced to less-than-significant levels with control practices, USACE would contribute to SMAQMD and/or BAAQMD’s off-site mitigation fee program to offset construction emissions above the thresholds of significance. The Project Partners are proposing to modify Mitigation Measures AIR-3, AIR-4, and AIR-5

Mitigation measures identified to reduce impacts to noise and vibration include NOI-1, which requires actions that include providing written notice to residents of construction activities, scheduling the loudest construction activities during daytime hours, installing muffling devices on construction equipment, locating stationary noise-generating devices away from residences and sensitive receptors where feasible, limiting engine idling, employing electric or natural gas power equipment as feasible, placing temporary barriers as feasible, and locating staging areas as far as practicable from sensitive receptors. Where construction or staging would occur within 50 feet of occupied buildings, Mitigation Measure NOI-1 requires that USACE prepare a vibration control plan prior to construction, to include vibration monitoring and a requirement to offer pre- and post-construction inspections to identify potential damage to structures. The Draft SEIS/SEIR concluded that implementing these mitigation measures would reduce impacts, but not all impacts could be reduced to a less-than-significant level.

Impacts related to PM_{2.5} and PM₁₀ emissions, noise, and vibration during construction would be reduced by implementing all feasible measures but would remain significant.

Mitigation Measure AIR-3: Implement SMAQMD’s Enhanced Exhaust Control Practices and Require Lower Exhaust Emissions for Construction Equipment.

The Project Partners shall require all off-road diesel-powered equipment used during construction to be zero-emission if reasonably available. If not reasonably available, all off-road equipment shall be equipped with Tier 4 Final or cleaner engines, except for specialized construction equipment in which Tier 4 Final engines are not available. In place of Tier 4 Final engines, off-road equipment can incorporate retrofits such that emissions reductions achieved equal or exceed that of a Tier 4 Final engine. All heavy-duty trucks entering the construction sites must be zero-emission if reasonably available. If not reasonably available, on-road heavy duty trucks must be model year 2014 or later and must meet CARB’s lowest optional low-NO_x standard. Diesel equipment will be required to use renewable diesel fuel, to demonstrate compliance with this requirement:

- The construction contractor shall submit to USACE and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, which will be used an aggregate of 8 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, and the CARB equipment identification number for each piece of equipment. This will include all owned, leased, and subcontracted equipment to be used. The construction contractor shall provide the anticipated construction timeline including start date, and the name and phone numbers of the project manager and the 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 Construction Mitigation Tool can be used to submit this information. The inventory shall be updated and submitted monthly throughout the duration of the project, or as pre-arranged with SMAQMD, except for any 30-day period in which no construction activity occurs. If no construction occurs for any 30-day period, a notification will be sent to SMAQMD stating that no construction occurred.
- The construction contractor shall provide a plan for approval by USACE 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 Tier 4 emissions. 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 Tool 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 in the project area 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 monthly to USACE and SMAQMD. 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 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.
- Use the Construction Mitigation Tool to track PM₁₀ emissions and mileage traveled by on-road trucks, reporting results to USACE and SMAQMD on a monthly basis.

Timing: Before and during construction

Responsibility: Project Partners and construction contractor(s)

Mitigation Measure AIR-4: Use the Air District's Off-site Mitigation Fee to Reduce NOx and PM₁₀ Emissions.

The Project Partners shall implement the measures listed below to reduce NOx and PM₁₀ construction-related emissions.

Pursuant to air district thresholds of significance, if the projected construction-related emissions exceed the NOx and/or PM₁₀ thresholds of significance, based on the equipment inventory and use, USACE shall contribute to SMAQMD's and/or BAAQMD's off-site mitigation fee program sufficiently to offset the amount by which the project's NOx and PM₁₀ emissions exceed the threshold. If emissions for the ARCF 2016 Project in any given year will exceed the *de minimis* threshold of 25 tons per year for NOx, USACE will enter into an agreement with SMAQMD and/or BAAQMD to purchase offsets for all NOx emissions in any year that projected emissions will exceed the threshold. The determination of the estimated mitigation fees shall be conducted in coordination with SMAQMD and/or BAAQMD before any ground disturbance occurs for any phase of project construction. (USACE anticipates purchasing offsets for NOx emissions in 2024 through 2026, because the ARCF 2016 Project is forecast to exceed the *de minimis* threshold. Estimated fees for the Proposed Action are \$37,350 annually to SMAQMD for emissions in the SVAB.) All mitigation fees shall be paid prior to the start of construction activity to allow air districts to obtain emissions reductions for the proposed project. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), USACE shall work with SMAQMD and BAAQMD to ensure emission calculations and fees are adjusted appropriately.

Timing: Before and during construction

Responsibility: Project Partners

Mitigation Measure AIR-5: Implement Marine Engine Standards

Project Partners shall require use of Tier 4 marine engines where locally available and feasible. Due to uncertainty as to the availability of Tier 4 marine engines within the required project timeline, the lowest emission marine engines locally available shall be required, either Tier 3 or Tier 2. The Tier 3 standards reflect the application of technologies to reduce engine PM and NOx emission rates. Tier 4 standards reflect application of high-efficiency catalytic after-treatment technology enabled by the availability of ultra-low sulfur diesel.

Timing: Before and during construction

Responsibility: Project Partners

MR 6-3 Air Emissions and Health Effects

All criteria air pollutants, except for PM_{2.5} would be reduced to less-than-significant levels with the incorporation of feasible mitigation. Diesel particulate matter [DPM], which is a subset of PM_{2.5}, is the primary pollutant of concern regarding indirect health risks to sensitive receptors.

Health risks to sensitive receptors from substantial pollutant concentrations is discussed in Appendix B Section 3.5, “Air Quality,” on pages 3.5-25 to 3.5-26.

The Proposed Action would result in a cumulatively considerable net increase of criteria pollutants, including PM_{2.5}. A project’s generation of a cumulatively considerable net increase of criteria air pollutants does not signify a significant impact related to exposing sensitive receptors to substantial pollutant concentrations. The question of whether the Proposed Action would result in exposing sensitive receptors to substantial pollutions is discussed in Impact 3.5-c, on pages 3.5-25 and 3.5-26.

The assessment of health risks associated with exposure to DPM typically is associated with chronic exposure, in which a 70-year exposure period is often assumed. Although cancer can result from exposure periods of less than 70 years, acute exposure periods (i.e., exposure periods of two to three years) to DPM are not anticipated to result in increased health risk. Construction activities that would require diesel-powered heavy-duty equipment associated with the Proposed Action are not expected to be used for more than two construction seasons at any location. Further, construction activities of the Proposed Action would progress in a linear fashion through the American River Erosion Contract 3B North and South project sites, reducing DPM exposure duration from DPM at any individual receptor. Nevertheless, a Health Risk Assessment (HRA) has been completed for the American River Erosion Contract 3B North and South project component due to the staging and hauling activities proposed in proximity to O.W. Erlewine Elementary School.

The HRA, provided as Appendix J, identified a maximum risk exposure (chances in 1 million for carcinogenic risk) of 6.06. The estimated risk presented here represents the point of maximum exposure (PMI) and does not exceed the SMAQMD-adopted thresholds of significance of an incremental cancer risk of 10 in one million. For chronic hazard risk, the maximum risk exposure would be 0.09, compared to a threshold of 1 in one million. Therefore, values would not exceed the applicable threshold at any other nearby receptors. Thus, no sensitive receptor would be exposed to substantial toxic air contaminant (TAC) concentrations. Because these values do not exceed SMAQMD’s thresholds, exposure of sensitive receptors to TACs would not be considered significant. The discussion in Impact 3.5-c in Appendix B Section 3.5, “Air Quality” has been updated to reflect the results of the HRA.

The California Environmental Protection Agencies, Air Resources board, Asbestos Airborne Toxic Control Measures for Surfacing Applications (ATCM) has exempted rip rap for the use of restricted asbestos containing materials (CalEPA Air Resources Board 2002). According to the most current regulations, the use of restricted material for riprap along waterways for erosion prevention and stabilization should not result in significant asbestos exposures because according to ATCM there would be no vehicular traffic and very little pedestrian access to these surfaces (CalEPA Air Resources Board 2002). However, the current rock quality Specification requirements for American River Erosion Contract 3B prohibit use of undesirable rocks for revetment with low density and detrimental veins, which are common in with high concentration asbestos containing rocks. Consequently, there is a low risk of revetment being brought to the site with high concentrations of asbestos.

MR 7: Public Outreach, and Requests for Documentation

MR 7-1 *Public Process*

Many comments asked questions or expressed concerns related to the public outreach process for the Proposed Action and the Draft SEIS/SEIR. Section 2.3, “Community Outreach, Agency Coordination, and Areas of Known Controversy” in the Draft SEIS/SEIR describes the public scoping process, noticing of the availability of the Draft SEIS/SEIR, and the public meetings scheduled during the public review period, which began on December 22, 2023, and ended on February 23, 2024, after being extended from February 5 in response to public and agency requests (please refer to MR 1). The discussion in this section of the Draft SEIS/SEIR focuses on the noticing that was completed to comply with the requirements of NEPA and CEQA, including publication of the Notice of Availability in the Sacramento Bee and the Federal Register, and posting the Notice of Availability in the State Clearinghouse.

Beyond the required noticing established by NEPA and CEQA as described in Section 2.3 of the Draft SEIS/SEIR, USACE conducted additional outreach to area residents by mailing postcards to more than 15,000 property owners located within reasonable proximity to the Project area.

The mailing list boundaries took into consideration directly impacted neighborhoods that bordered Project area levee segments and extended landward to major roads or highways. The intended purpose was to go beyond formal state and Federal noticing requirements and mail directly to property owners most impacted by Project activity. The postcard described the Proposed Action, provided notice of the availability of the Draft SEIS/SEIR and the start of the 45-day public review period, as well as served as an announcement of two planned virtual public meetings. USACE’s website address, where interested parties could access the document online and find relevant information about how to attend the January 10, and January 16, 2024, public meetings were prominently called out on the postcard. After the close of the public comment period for the Draft SEIS/SEIR, USACE continued its outreach efforts, including presenting at a virtual meeting convened by U.S. Representative Ami Bera on April 8, 2024 and a presentation to the Bank Protection Working Group on April 30, 2024. Please refer also to Appendix G, “Engineering,” which describes previous outreach activities with the Bank Protection Working Group and Lower American River Task Force.

Several commenters requested additional public meetings, including requests for in-person meetings and meetings at the American River Contract 3B project site. No in-person meetings or field meetings are currently proposed. Future public meetings and information sessions related to the Proposed Action will be noticed on the project website (www.sacleveeupgrades.com), although no additional meetings focused on the CEQA or NEPA document are currently proposed.

The CVFPB will consider evidence in the record, including the Final SEIS/SEIR with all appendices, prior to making a decision on whether or not to certify the SEIS/SEIR and approve the process. This will include an informational presentation 1-3 months prior to consideration of the document for certification, and the consideration for certification will take place during a monthly public meeting of the CVFPB, with an opportunity for public comment. The monthly public meeting of the CVFPB is typically held on the fourth Friday of the month located at the

Sacramento City Hall building. Notifications for the meeting can be found at www.cvpfb.ca.gov/meetings/.

MR 7-2 *Discussion of Project Documentation*

This Appendix I, “Public Comments and Responses,” of the Final SEIS/SEIR includes responses to all comments received during the public review period of the document. Comments received verbally during the two public meetings, or recorded by the chat function during the meetings, are also addressed, in Section 1.6, “Responses to Comments at Public Meetings.”

The Final SEIS/SEIR includes Appendix G, “Engineering,” which documents the design process for the improvements included in the Proposed Action, including input received from local experts, the Technical Resources Advisory Committee, and the Bank Protection Working Group. Appendix G includes a reference list of supporting documentation that was relied upon in the development of the project design.

Several commenters expressed frustration or confusion regarding the organization of the SEIS/SEIR document, and described difficulties with navigating the document and finding specific analyses. The document organization was a compromise, intended to meet page limit requirements specified by NEPA while also incorporating the analysis and detail required by CEQA. Therefore, environmental and regulatory information, along with detailed analyses, were incorporated in the document as Appendix B. In an effort to clarify this organization and help readers navigate the Final SEIS/SEIR document, we have updated the Table of Contents to list the individual topic sections incorporated in Appendix B, and Appendix B will be packaged separately and prominently, rather than being incorporated in the same PDF file as the main section of the document.

Consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act is documented in the Biological Opinions (BOs) prepared by these agencies, included in Appendix L, “2025 Biological Assessments and Biological Opinions.” The currently applicable BOs are available on the Proposed Action webpage (www.sacleveeupgrades.com).

Some comments expressed concern about the legibility or usability of the document by people with disabilities or auditory impairments. The draft SEIS/SEIR and the final SEIS/SEIR are formatted in accordance with Section 508 of the Americans with Disabilities Act to facilitate comparable access to information for agency employees and members of the public with disabilities. The Project Partners also provided the document in alternative formats (hard copy) when requested.

Several comments expressed concerns or objections related to the size and legibility of maps presented in virtual public meetings, or the absence of detailed information on project footprint or tree removal. Additional mapping is provided in the Draft SEIS/SEIR document, and further clarification and mapping was added to the Final SEIS/SEIR document based on other comments received. Several cross sections illustrating proposed improvements were also added to the Final SEIS/SEIR document. The updated mapping and project information includes more detailed information than was available at the time that the Draft SEIS/SEIR was prepared and includes mapping that illustrates all project features and affected areas. The presentations were also made

available on the Proposed Action website (www.sacleveeupgrades.com) following the public meetings.

Some comments requested highly specific data that USACE cannot feasibly provide. For example, USACE does not release detailed project specifications or designs that might compromise the procurement process for construction contractors. These specific requests will be identified in individual comment responses, and specific explanations provided. Other commenters requested data identifying specific trees that would be removed. Please refer to MR 15 for detailed discussion of tree impacts; figures have been provided identifying the areas where tree removal would be required, and tables identifying the characteristics of trees being removed.

MR 8: Wild and Scenic Rivers Act

A number of commentors expressed concerns about ARCF 2016 Project compliance with the Federal and state Wild and Scenic Rivers Acts (WSRAs). Comments ranged from concerns about specific recreation experiences, like aesthetics and safe river access, to concerns about values like maintaining free-flowing conditions. Some commentors offered their opinion that designs were not consistent with the WSRAs and/or with the American River Parkway Plan (Parkway Plan). This master response addresses these comments and, where appropriate, refers the reader to other master responses, to the new Appendix G, “Engineering,” and/or to Appendix H, “Wild and Scenic Rivers Act Compliance” for additional details.

MR 8-1: Lower American River and the Federal and State Wild and Scenic Rivers Acts

The Lower American River (LAR) was designated as a Wild and Scenic River under Federal Wild and Scenic Rivers Act (WSRA, 16 § 1273 (2a)) in 1981. This designation was based upon its unique recreational and anadromous fisheries values. The LAR was designated as a “Recreational River” under the California Wild and Scenic Rivers Act in 1972. The Federal WSRA is summarized in Section 6.1.21 of the SEIS/SEIR. The State WSRA is summarized in Section 6.2.18 of the SEIS/SEIR.

MR 8-2: Key Federal Agencies with Jurisdiction on the Lower American River

Chapter 6 of the SEIS/SEIS reviews the Federal and state laws, regulations, and Federal executive orders applicable to the Project. Federal projects undertaken within the LAR must meet the requirements of the WSRA, Endangered Species Act, and Clean Water Act, and other environmental laws and regulations. The National Park Service (NPS) administers the WSRA for the LAR and issues determinations on the consistency of a project with the WSRA (i.e., consistency determination or determination of adverse effect). The National Marine Fisheries Service (NMFS) administers the Federal Endangered Species Act for Federally listed anadromous fish. U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act for all other Federally listed fish, plants, and wildlife. The Central Valley Regional Water Quality Control Board administers the Clean Water Act Section 401 program. Sacramento County Regional Parks Department (Regional Parks) administers the American River Parkway based upon the American River Parkway Plan. In making their determination of consistency, the

NPS considers the perspectives of these regulating agencies, with particular attention to the views of the NMFS and Regional Parks.

MR 8-3: The American River Parkway Plan

The American River Parkway Plan (2008) is the state WSRA management plan for the Lower American River. The NPS also recognizes this plan when considering consistency determinations under the Federal WSRA. Regional Parks administers the plan, manages the Parkway, and determines consistency under the state Wild and Scenic Rivers Act. The NPS coordinates with Regional Parks and considers their perspective when making Federal WSRA Consistency Determinations. The NPS may condition the Federal Consistency Determination based upon input from Regional Parks. Both NPS and Regional Parks are invited to participate in ARCF 2016 Project design reviews for the LAR project elements. Their input has substantively influenced the current designs (please see Appendix H, WSRA). The Parkway Plan may be accessed at American River Parkway Plan (saccounty.gov). The Parkway Plan is discussed in section 6.2.18 and in various resource-specific sections of the SEIS/SEIR (in particular sections 2.4.1 “2.4.1 Applicable Laws, Regulations, Policies, and Plans” and 2.4.2.4 “Effects Analysis” of Appendix B).

Goals and Policies Related to Flood Risk Management

The Parkway Plan identifies balancing goals, including flood control (i.e., flood risk management), as a policy priority. Parkway Plan Concept Policy 1.1 addresses this balancing:

The American River Parkway is a unique regional asset that shall be managed to balance the goals of controlling flooding; preserving and enhancing native vegetation, native fish species, the naturalistic open space and environmental quality within the urban environment; maintaining and improving water flow and quality; providing adequate habitat connectivity and travel corridors to support migratory and resident wildlife; providing recreational opportunities; and ensuring public safety.

Flood Control Policies are enumerated in policies 4.9 through 4.18. Policies of particular interest to this project are provided below. A review of these policies shows the intended integration of flood risk management, including erosion protection, within the American River Parkway.

4.9 Flood management agencies should continue to maintain, and improve when required, the reliability of the existing public flood-control system along the lower American River to meet the need to provide a high level of flood protection to the heavily urbanized floodplain along the lower American River consistent with other major urban areas. This effort is expected to include raising and strengthening the levees as necessary to safely contain very high flows in the river (up to 160,000 cubic feet per second) for a sustained period.

4.10 Flood control projects, including levee protection projects and vegetation removal for flood control purposes, shall be designed to avoid or minimize adverse impacts on the Parkway, including impacts to wildlife and wildlife corridors. To the extent that adverse impacts are unavoidable, appropriate feasible compensatory mitigation shall be part of

the project. Such mitigation should be close to the site of the adverse impact, unless such mitigation creates other undesirable impacts.

4.12 Vegetation in the Parkway should be appropriately managed to maintain the structural integrity and conveyance capacity of the flood control system, consistent with the need to provide a high level of flood protection to the heavily urbanized floodplain along the lower American River and in a manner that preserves the environmental, aesthetic, and recreational quality of the Parkway.

4.16 Bank scour and erosion shall be proactively managed to protect public levees and infrastructure, such as bridges, piers, power line, habitat and recreational resources. These erosion control projects, which may include efforts to anchor berms and banks with rock revetment, shall be designed to minimize damage to riparian vegetation and wildlife habitat, and should include a revegetation program that screens the project from public view, provides for a naturalistic appearance to the site, and restores affected habitat values.

4.18 It is recognized that flood control agencies have the authority to take action(s) to prevent or respond to flood emergencies occurring in or adjacent to the Parkway. In the event that these action(s) have an adverse impact on biological resources in excess of the estimated impacts of the projected flood damage to such resources, the agency(ies) undertaking the emergency work will implement feasible compensatory mitigation measures pursuant to Policies 3.1 and 3.2. Nothing in this Policy shall be construed to interfere with the existing authority of flood control agencies to prevent or respond to an emergency occurring in or adjacent to the Parkway.

MR 8-4: Design Development Consistent with the Wild and Scenic Rivers Act

Alternatives development and screening are discussed in Section 3.3, “Alternatives Development and Screening,” of the SEIS/SEIR. Appendix G, “Engineering,” has been added to provide additional design-development process and rationale. Appendix H, Wild and Scenic Rivers Act Compliance” discusses the collaboration and coordination and the guidance provided by NPS for design development and consistency analyses in WSRA-designated rivers and how the Project has incorporated this guidance into design development in Sections 1 and 2. Design development for the LAR elements of the ARCF 2016 Project has been highly collaborative among the Project Partners, outside experts, and regulatory agencies including NPS, NMFS, USFWS, and Regional Parks. The LAR design teams coordinate with NPS and other regulatory agencies throughout the design process and specifically when designs are at 35 percent, 65 percent, and 95 percent. This is accomplished through standing interagency forums convened by others, such as the Technical Resource Agency Committee (TRAC), and WSRA-focused coordination meetings hosted by Sacramento District. This collaborative process results in an iterative conversation between the design team and other agencies that includes presentation of the designs, receipt of suggestions and other feedback from reviewing agencies, design adjustment and engineering analyses, and a new agency review.

Design team members also completed NPS-recommended technical training and follow the procedures identified in the training and in NPS guidance to ensure the project is developed consistent with the requirements of the WSRA. Best practices are incorporated into the project based upon NPS recommendations and universal avoidance and minimization measures. Additional information about the design approach and methods are found in Appendix G, “Engineering Appendix.” Further discussion of NPS guidance and best management practices incorporated into the project is provided in Appendix H, “Wild and Scenic Rivers Act Compliance.”

MR 8-5: Federal Wild and Scenic Rivers Act Consistency Review

The NPS is the WSRA administering agency for the Lower American River (LAR). NPS conducts consistency reviews and makes consistency determinations. NPS requests that designs reach at least 95 percent before USACE requests a consistency determination. Once 95 percent designs are available, USACE will complete a Consistency Analysis for that contract/segment following the template and guidance provided by NPS and transmits it to the NPS with a request for their review and Consistency Determination. Typically, a draft Consistency Analysis is provided for comment prior to finalizing and formally transmitting the Consistency Analysis. These Consistency Analyses follow the template provided by NPS for this project. The Wild and Scenic Rivers Act Consistency Analysis completed for each project analyzes the impact of the project on free-flowing conditions, water quality, anadromous fish and fisheries, recreation, and aesthetics. Effects on other values are evaluated under recreation and/or aesthetics, as appropriate. Designs have been developed and refined to avoid and minimize adverse effects on these values (refer to Master Response 3-1 for specific details on what was done to minimize tree and habitat impacts for LAR Contract 3B). Best management practices have been incorporated into the design and into the construction process. Each project within the overall ARCF 2016 Project is analyzed for consistency based upon specific factors including effects on free-flowing conditions, water quality, anadromous fish and fisheries, recreation, and aesthetics.

Appendix H, “Wild and Scenic Rivers Act Compliance,” has been added to the Final SEIS/SEIR to provide additional more detailed information about the ARCF 2016 Project compliance with the WSRA. Section 1 of the appendix describes the collaboration and coordination specifically related to WSRA compliance. Section 2 describes the best management practices (BMPS) recommended by the NPS and discusses how the Project has incorporated these BMPS. Section 3 provides our draft and final Consistency Analyses, as appropriate, and the Consistency Determinations received to date. As part of the USACE Consistency Analyses, USACE follows the NPS-recommended report format that ensures we address each of the values recognized in the Federal WSRA designation.

MR 8-6: Comments Related to Recreation

A number of commentors expressed concern that the project would be inconsistent with recreation-related requirements of the Parkway Plan. Section 4.2.2, “Recreation,” of the SEIS/SEIR addresses recreation. Responses to specific concerns are summarized herein while more detailed responses are provided as part of MR 4, Contract 3B Impacts to Recreation Access of the Parkway.

Erosion Protection and Recreation Uses

Some commenters offered the opinion that the proposed erosion protection would “destroy recreation uses” of the Parkway and that this is prohibited by the Parkway Plan. Design development has considered and incorporated, to the extent feasible, measures to avoid and minimize adverse effects to official recreation facilities and to the overall recreation experience. This includes focused engineering to identify site specific locations that require rock for erosion protection. This enabled the team to reduce the number of miles of erosion work with rock needed in comparison with what was authorized based upon the 2016 General Reevaluation Report and Final EIS/EIR. Every effort is being made to reduce the use of rock and to reduce the visibility of rock where used, while remaining within minimum engineering safety standards. Rock used within LAR Contract 3B will be covered with soil, or soil filled rock will be used, or the surface will be choked with smaller rocks creating a more natural and walkable surface, or under a planting bench. The collaborative design process, which has included NPS and Regional Parks, has addressed recreation concerns throughout the design process. While recreation will be disrupted during construction, access will be restored following construction and vegetation establishment. Official recreation facilities affected by project construction will be restored to their pre-project condition following construction. Informal “social” trails/paths initiated by the public and not authorized by Regional Parks would not be restored to pre-project conditions if affected by project implementation. Unless public behavior changes, unofficial paths would likely be established or reestablished consistent with public visitor preferences once construction is complete. It is important to note that the Parkway Plan recognizes the importance of balancing objectives and explicitly acknowledges the importance of flood risk management, including erosion protection, in the Parkway. Additional discussion of project impacts to recreation access are provided in Contract 3B MR 4, Impacts to Recreation Access of the Parkway.

Long Term Quality of the Recreation Experience

Some commentors expressed concern that the Project would diminish of the recreation experience in the Parkway long term. The recreation effects of the proposed action are described in Section 4.2.2, “Recreation of the SEIS. Mitigation measures are identified in SEIS Table 4.2.2-2 and more fully described in Appendix B, “Recreation.” We do not anticipate a long-term diminishment of the recreation experience. Once construction is complete native trees, shrubs, grasses and forbs will be planted or seeded with the goal of reestablishing native riparian forest and woodland. Eight to ten years after planting, vegetation is expected to be sufficiently developed to obscure most of the underlying ground surface. Trees are expected to reach a mature canopy within about 15 to 20 years. At that point the aesthetic will blend with, and be similar to, existing forest and woodland in the Parkway. Official recreation trails affected by the project will be restored in place to pre-project conditions or in their realigned location to the applicable trail standards. See also MR 3-3, 3-4, 4-1, and 15, and Appendix G, “Engineering,” Section 2.6.4, “Revegetation of Sites.”

Access to the Parkway, Recreation Trails, and the River

The American River Parkway will continue to provide long term public parkland with natural and recreational features in close proximity to the city of Sacramento and adjoining communities. During construction, access will be restricted to ensure the safety of both recreationists and construction workers. The need to restrict access during construction is

discussed in various places throughout the SEIS. The Jedidiah Smith Memorial Trail will be detoured when closed during construction (see Section 4.2.2.2, subsection “American River Erosion Contract 4A). Equestrian trails and hiking trails will only be detours when safe to do so, and it is anticipated that many of these trails will be closed during construction. Areas of the Parkway that are not under construction will remain available consistent with Sacramento County Parks regulations and policies. Once construction is complete, trails will be restored in place to pre-project conditions or constructed to a similar standard in a new realigned location when it is not feasible to return the trail to its original location and opened once again to public use. Access to some off-trail areas will be restricted during plant establishment and reopened once plants are established. Unofficial trails (i.e., “social trails”) are discouraged within the American River Parkway to maintain public safety and healthy wildlife habitat and will not be replaced by the Project. See also MR 4-1.

Safety

The American River Parkway Plan identifies approved and maintained recreational access points to and from the American River. Once construction is complete, these areas will again be safely available for public use consistent with the requirements and policies of Regional Parks. See also MR 4-1, 4-2, and 15. The levees along the LAR are integral to the flood risk management system protecting the Sacramento metropolitan area. Flooding is a significant life safety and health concern. Section 1.3 of the SEIS discusses the project background, authority, and need. Section 1.5 states “The Sacramento metropolitan area is one of the most at-risk areas for flooding in the United States with an unacceptably high risk from levee failure that threatens public safety, property, and critical infrastructure throughout the study area.”

MR 8-7: Comments Related to Vegetation, Wildlife, and other Resources

Minimize Damage to Riparian Vegetation and Wildlife

Several commentors noted that the Parkway Plan requires that erosion protection must be designed “to minimize damage to riparian vegetation and wildlife habitat.” Much of the collaborative design process has focused on minimizing the project footprint and avoiding and minimizing impacts on vegetation, particularly heritage trees and native species, consistent with achieving flood risk management objectives. MR 2 and MR 3 provide a detailed discussion of the erosion risk analysis, riprap and vegetation removal. Appendix G, “Engineering,” has been added to provide additional information about the engineering design development and criteria, including why erosion protection in general, and rock in particular, is necessary in certain locations along the Lower American River.

Temporary impacts to wildlife are anticipated during construction. These effects are described in the SEIS/SEIR. Section 4.4.1.2.2, Table 4.4.1-3, and Appendix B, Section 4.1, “Vegetation and Wildlife” of the SEIS/SEIR describe Project effects on wildlife and measures to mitigate those effects. Pre-construction surveys will be conducted to ensure that adverse effects on Federal and state listed species and other special status species like migratory birds and bats, are avoided or minimized. Animals and birds are expected to relocate temporarily to parts of the Parkway that are not under construction. Some may relocate to smaller creeks and sloughs or to the Sacramento River, Sacramento and/or Yolo Bypass. Birds and animals preferring early

successional stage vegetation are expected to recolonize the area initially. As on-site revegetation and compensatory habitat mitigation mature, wildlife preferring more mature vegetation are expected to reoccupy the area. Please see MR 5 and MR 15 for additional discussion.

Carefully Protect Riparian Vegetation

Some commenters expressed concern that the Project might result in riparian vegetation not being carefully protected, which was a characteristic noted when evaluating the LAR for inclusion in the Federal Wild and Scenic River system. The riparian forest and woodland within the Parkway will continue to be protected consistent with the American River Parkway Plan, Endangered Species Act, and WSRA. However, to reduce flood risk, erosion protection is required and vegetation within the construction footprint must be removed. The design footprint has been carefully selected to balance and minimize impacts to in-water impacts (fish), riparian and upland habitat impacts, as well as aesthetic and recreational impacts (total trees). Once construction is complete, an appropriate mix of native trees, shrubs, grasses, and forbs will be planted on site and/or elsewhere in the Parkway to mitigate for the vegetation removed to accomplish construction. Disturbed earth will be revegetated, at a minimum with grasses and forbs. The new plantings will be protected as part of the Parkway and consistent with the Endangered Species Act, National Environmental Policy Act, and the Parkway Plan. See also MR 3-1.

Long Term Effects on Mature Riparian Forests

Some commentors expressed concern that the Project would have a long-term adverse effect on mature riparian forests in the Parkway. Collaboration with other local, state, and Federal agencies and site-specific engineering has resulted in designs that avoid and minimize impacts to mature riparian forest and woodland to the maximum extent feasible. Nevertheless, some impacts are unavoidable. In the SEIS/SEIR, the largest reasonably potential construction footprint was analyzed for effects on vegetation and wildlife and described in the Section 4.4.1 of the SEIS/SEIR. As a normal part of design development, designs evolve as they progress from the 35 percent design through the 100 percent design. This is true for the American River Erosion Contract 3B, which had the difficult task of balancing the need to minimize impacts to trees while meeting flood risk management objectives. At the time the Draft SEIS/SEIR was published the designs for LAR 3B were still being refined as part of the normal design development process. Since publication of the Draft SEIS/SEIR design refinements have reduced impacts to VELB/yellow billed cuckoo/Riparian habitat and fish habitat. Updated impact acreages have been added into Sections 4.4.1 and 4.4.2 of the Final SEIS/SEIR. Following construction of project structural features, a mix of native trees, shrubs, and forbs will be planted and/or seeded. In time these plantings will achieve maturity and provide the same or similar ecological and aesthetic benefits as the existing vegetation. Additional discussion is provided in MR 5 and MR 15.

Protect and Expand Native Vegetation and Habitat

One commentator cited the Parkway Plan policy 3.2 and expressed concern that the Project is not consistent with this policy. Policy 3.2 states “Agencies managing the Parkway shall protect, enhance and expand the Parkway’s native willow, cottonwood, and valley oak-dominated riparian and upland woodlands that provide important shaded riverine aquatic habitat (SRA),

seasonal floodplain, and riparian habitats; and the native live oak and blue oak woodlands and grasslands that provide important terrestrial and upland habitats.” The Project Partners refer the commentor to Policy 4.10, which specifically addresses flood risk management projects and vegetation, and MR 8-3. The ARCF 2016 Project is authorized for flood risk management. It is not authorized to enhance habitat beyond what is required and justified for compensatory mitigation. The Project Partners have worked closely with Regional Parks and other LAR stakeholders to avoid and minimize effects on these habitats to the extent feasible and consistent with achieving the flood risk management objectives. Where these habitats would be affected, compensatory plantings will be accomplished on site and/or in other parts of the Parkway.

Maintain Free-flowing Conditions

The LAR is a highly altered river reach. Upstream reaches have been dammed and flows regulated. Portions of the LAR have been realigned, deepened, and leveed. The Sacramento Metropolitan Area is among the most at-risk community from flooding in the nation. The LAR and the flood risk management features located along it have been, and will continue to be, integral to the flood risk management system reducing risks to life-safety, critical infrastructure, and the economic well-being of the area. The Project Partners have concluded that project effects on free-flowing conditions have been avoided and minimized to the maximum extent feasible consistent with flood risk management objectives. In previous consistency determinations for the ARCF 2016 Project, NPS has concurred. Project effects on free-flowing conditions are addressed within each Consistency Analysis. Please see Appendix H, “Wild and Scenic Rivers Act Compliance,” Section 3.

MR 8-8: Comments on Parkway Plan for Public Notices

One commenter noted that the Parkway Plan requires that public notice is required for projects that are inconsistent with the goals, policies, or land use designations of the Parkway Plan. Based upon analysis conducted, the Project Partners have concluded the project is consistent with the Parkway Plan. The Project Partners have designed the project to be consistent with the goals and policies of the Parkway Plan. Regional Parks administers the Parkway Plan and determines if proposed projects are consistent with that plan. They are responsible for coordinating with the Commissions, City Council, and the Board of Supervisors, as appropriate, including following any requirements to post information or provide public notices.

MR 9: American River Mitigation Site

This master response answers various comments submitted about the ARMS site, including inquiries about existing habitat, the ecological benefits of anticipated from restoring the site, the concerns with impacts on local wildlife and wildlife viewing opportunities, and a general desire for a clearer profile of the ARMS. (Additional ARMS information can be found in the Government’s specific response to the Sacramento County Department of County Parks comment letter).

MR 9-1 Site History

The former Urrutia property is on a floodplain terrace that is elevated above the low-flow channel of the Lower American River (LAR), with a narrow band of riparian vegetation along the river, and invasive upland vegetation over most of the site. These site characteristics are

prevalent along the LAR because of hydraulic mining in the upper watershed during the late 1800s. Historical mining activities deposited large volumes of sediment into the LAR and adjacent floodplains, raising the channel and floodplain elevations. Once mining ceased, the river began to down cut and erode, lowering the LAR main channel bottom, largely disconnecting the river from its floodplain. As a result, the river flows no longer spread onto the LAR floodplain during moderate flood events (5-year to 10-year), which is a healthy river system characteristic and facilitates the regeneration of riparian vegetation. Even during high flows, the steep river slopes provide few shallow flooded areas which are ideal habitat for juvenile migratory fish such as salmon and steelhead (Sacramento County 2008⁴).

The previous property owners operated the site as a sand and gravel mine beginning in 1966, which removed the Gold Rush-era sediments from the center of the site, creating a steep-sided pond. Mining at the site occurred pursuant to a City of Sacramento Special Permit, issued in 1966, and State of California Reclamation Board Permit Number 5445, also first issued in 1966 and periodically renewed. Reclamation Board permit conditions precluded excavation of the pond further south because it could weaken the berm between the pond and the LAR. After mining operations ceased, the previous property owners used the site for sorting, distributing, and recycling earth and construction debris (Sacramento County 2008).

Since 1985, Sacramento County and the City of Sacramento have agreed that the existing use of the site conflicts with the American River Parkway Plan and that the site should be made a part of the publicly accessible American River Parkway. Restoration of the site, for habitat values and to ensure the site would be a contributing part of the floodplain management and flood control system, was identified as being consistent with implementation of the American River Parkway Plan. To bring the property into consistency with the American River Parkway Plan, City of Sacramento and the Sacramento Area Flood Control Agency (SAFCA), explored acquisition, restoration, and enhancement of the Urrutia property in 2008. The goal of the 2008 project was “to restore the riparian habitat values of the site in order that the site may be a contributing environmental and recreational feature of the American River Parkway (Sacramento County 2008).”

The City of Sacramento 2008 conceptual project had three main components:

1. Acquisition of the property by the City of Sacramento
2. Reclamation of the site by the City and SAFCA pursuant to the Surface Mining and Reclamation Act (SMARA). Reclamation was defined as removal of any hazardous materials and soils, un-useable structures and equipment, and site contouring and revegetation to restore the site and protect public safety, including:
 - a. Clearance and removal of existing non-historic structures and equipment remaining onsite after purchase.
 - b. Remediation of hazardous materials identified during site investigations. Limited site-specific data was available prior to development of the 2008 project.

⁴ http://sacramento.granicus.com/MetaViewer.php?view_id=22&clip_id=1587&meta_id=155038

- c. Stabilization of slopes along the river and pond (maximum of 3:1) to increase slope stability and public recreation.
 - d. Excavation and grading of pond slopes, along with placement of fill, below the summer water surface elevation, into the pond to create more stable and gentler slopes; as well as provide shoreline variation for aesthetic appeal and improved habitat quality. This approach was cited as being consistent with the intended reclaimed use of public recreation and SMARA requirements. Based on the 2008 conceptual plan, the projected fill limits, below the winter water surface elevation (WSE), extended across the majority of the pond (Figure 1). The lateral projected fill extent was approximately 325 feet to the north for a pond depth of -16 feet, and 165 feet for a pond depth of -26 feet (Figure 2). Peninsulas and coves were also considered for incorporation into the pond reclamation design to create a more natural appearance and greater habitat diversity.
3. Enhancement of the site to restore and enhance the riverine and riparian habitat values of the site as part of the American River Parkway and the American River natural habitat. This 2008 project element included:
- a. New riparian plantings (cottonwood, willow, Oregon ash, other riparian species) were proposed on the lowered berms, riverbank, and upper pond slopes. The conceptual design was intended to address SMARA general requirements, which state that wildlife habitat should be at least as good as the pre-mining habitat, include the use of native plant species and vegetation to prevent erosion, and establish vegetation densities and species similar to local undisturbed natural habitats.
 - i. Pre-mining conditions are difficult to ascertain because alterations predate available aerial imagery; however, based on a historical topographic map from 1902 it appears the LAR main channel coincided with the location of the existing pond (Figure 3). A map from 1906, showing the historical condition of the Urrutia property, suggests a creek may have once flowed across the property, joining the LAR downstream of the site; and that there were two areas along the creek that may have seasonally ponded water, which are mapped as blue polygons on Figure 4 (Regional Parks 2024⁵). Topographic maps from 1911 suggest that between 1906 and 1911 the LAR main river channel was realigned, south of the Urrutia property, to its approximate current position (Figure 5). A 1928 aerial image shows the vegetative conditions of the site, although some clearing and grading had begun in the northern portion of the site. In the image, the remanent river channel is visible in the center of the property, along with the riparian communities that likely dominated the site prior to land conversion (Figure 6).

⁵ Regional Parks. 2024. Comments on the Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report for the 2016 American River Watershed Common Features Project, Sacramento, CA.

- b. Removal of invasive species by chemical or mechanical means and replanting with native species.
- c. Pond design and management for mosquito control.
- d. Approximately 10 acres of uplands were expected to be seeded and managed as native grassland, 10 acres were proposed for grading and planting as marsh and wetland, 25 acres of riparian vegetation enhancement, and 20 acres of restored shaded riverine habitat.
- e. Walking trails, overlooks, benches, and interpretive signage were listed as features that may also be provided by the 2008 project.

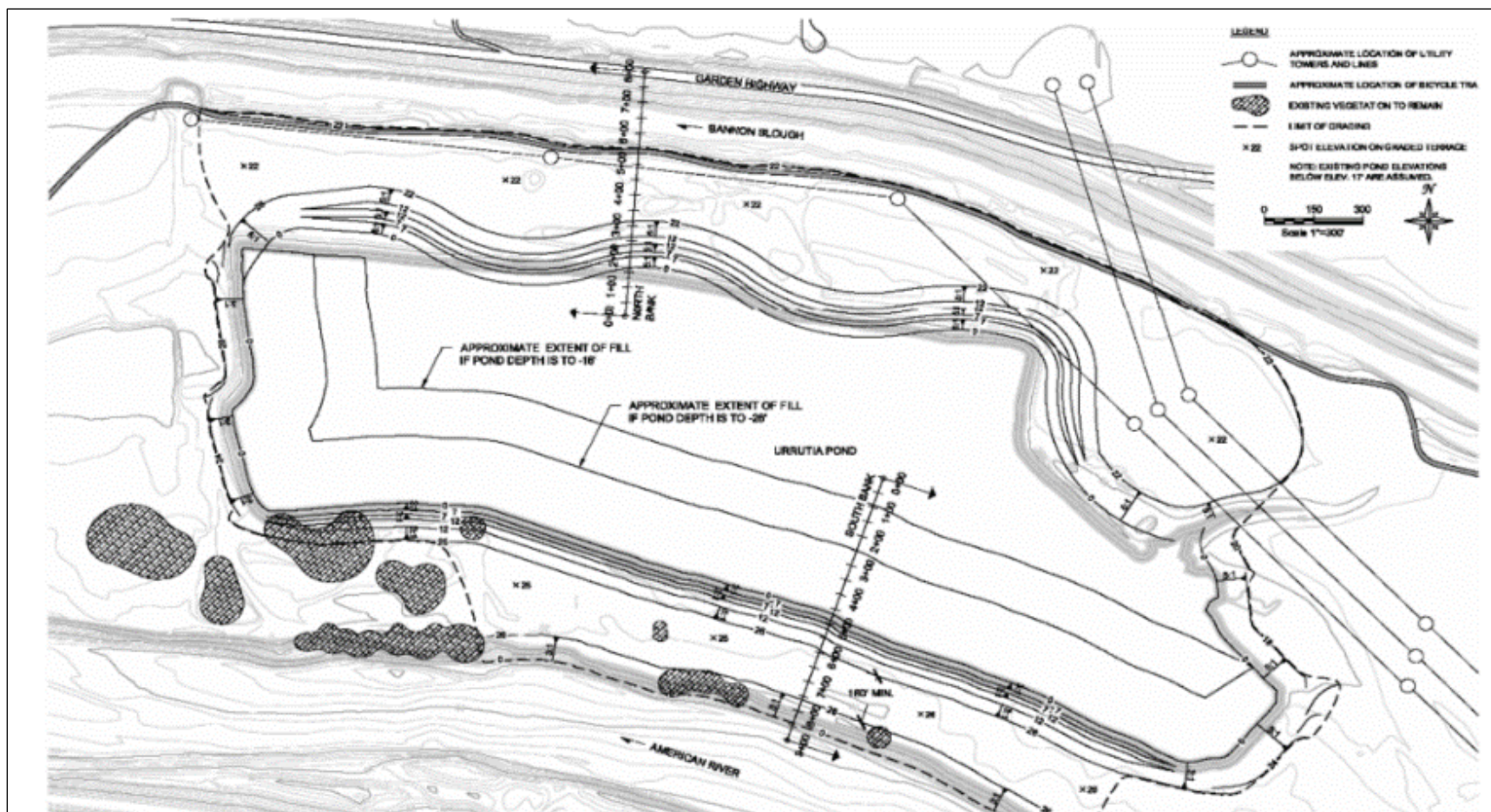


Figure 1. Sacramento County 2008 Urrutia Site Restoration Conceptual Plan

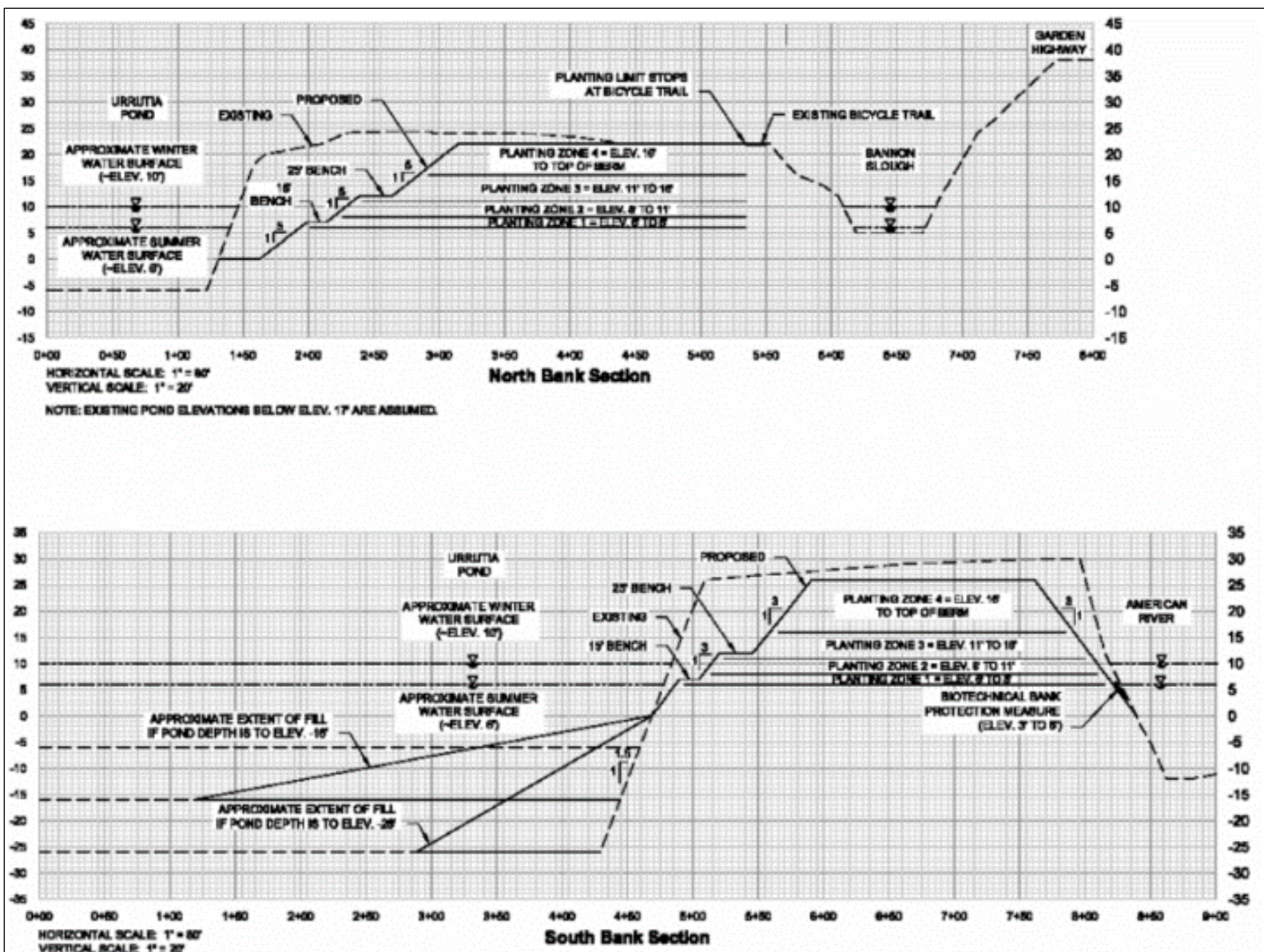
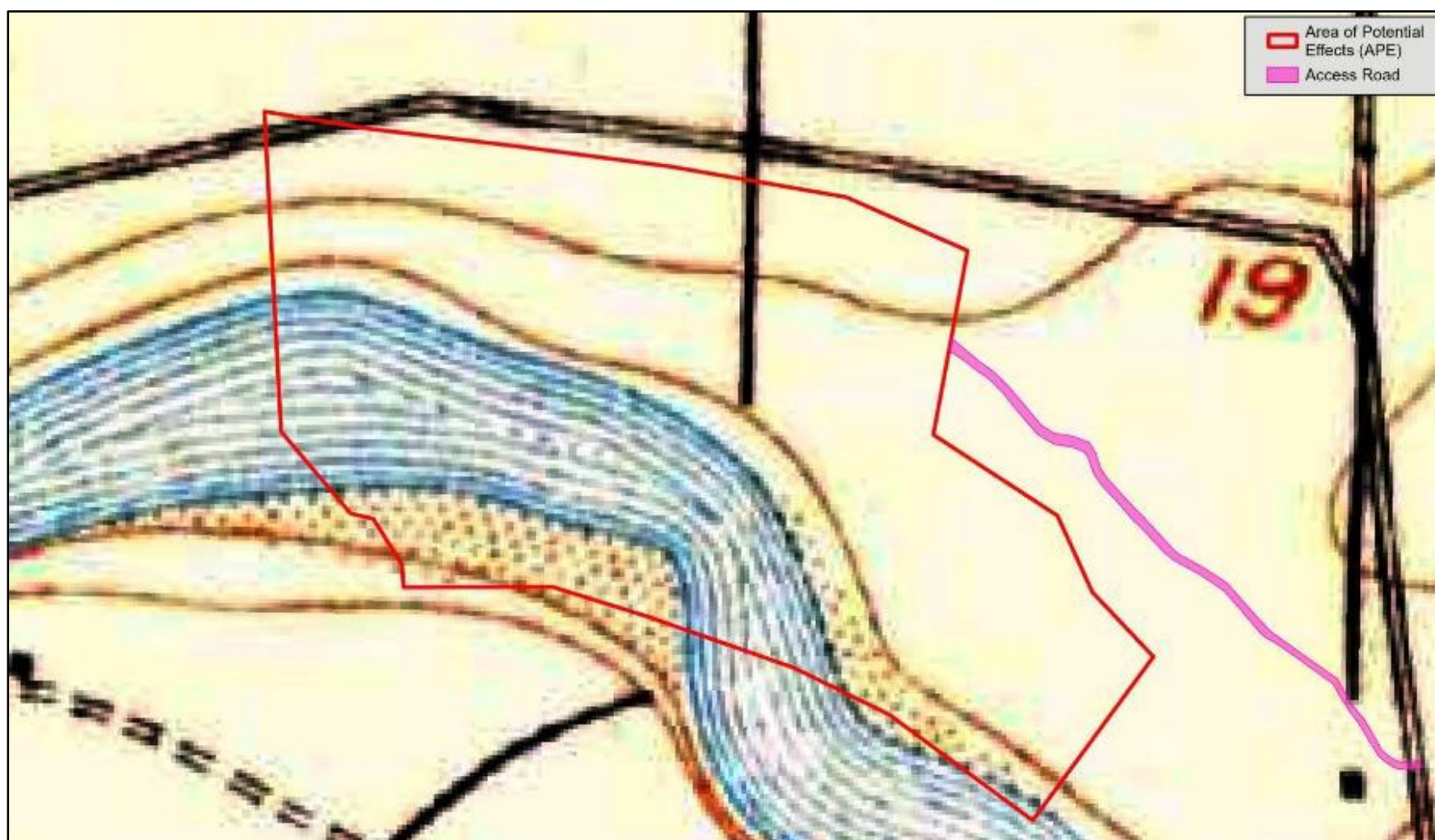


Figure 2. Sacramento County 2008 Urrutia Site Restoration Conceptual Cross Sections



Source: <https://www.historicaerials.com/viewer>

Figure 3. 1902 Topographic Map



Source: Regional Parks 2024

Figure 4. 1906 Map



Source: <https://www.historicaerials.com/viewer>

Figure 6. 1928 Aerial Imagery

MR 9-2 Project Purpose and Need of ARMS

USACE is required to provide onsite and offsite compensatory mitigation, on the LAR, to offset impacts on Federally listed species and their habitats associated with the construction of the ARCF 2016 project. The ARCF 2016 project will result in impacts on National Marine Fisheries Service (NMFS)-regulated habitats in the LAR for Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*O. mykiss*) – collectively referred to as salmonids. In addition, the ARCF 2016 project will result in impacts on U.S. Fish and Wildlife Service (USFWS)-regulated habitats for the western yellow-billed cuckoo (YBCU, *Coccyzus americanus*) and valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*) on the LAR. As a result, USACE and the non-Federal sponsors (NFS) – SAFCA, the California Department of Water Resources, and the California Central Valley Flood Protection Board – explored multiple sites that could be restored and enhanced to generate the requisite ARCF compensatory mitigation. Target compensatory mitigation acreages are: salmonids 66-76 acres, YBCU 55-62 acres, and VELB 10-15 acres.

One of the foundational principles of habitat conservation planning is to protect large, contiguous areas wherever possible because larger patches typically provide greater habitat diversity and quality, which results in higher species diversity and abundance (Groves 2003⁶, Bentrup 2008⁷). These conservation principles are recognized by USFWS and NMFS, and likely drove the requirement in the NMFS 2021 Biological Opinion (BO), to establish a large mitigation site on the LAR to offset impacts on salmonids resulting from implementation of the ARCF LAR erosion contracts. Previously, the Arden Pond site was identified and evaluated in the NMFS 2021 BO as the large American River Mitigation Site (ARMS); however, the Project Partners halted their consideration of the Arden Pond site and pursued the Urrutia property, based on opposition by the landowner, Sacramento County Regional Parks and public comments received on the 2021 ARCF LAR Contract 2 Supplemental Environmental Impact Statement (SEIS)/Supplemental Environmental Impact Report (SEIR)⁸.

MR 9-3 Feasibility Study and Coordination

Upon identification of the Urrutia property as a potential location for the ARMS, USACE began to evaluate the feasibility of reclaiming and restoring the property to enhance its fish and wildlife habitat value; accommodate the development of future historical and cultural interpretive facilities; and support picnicking, hiking, and wildlife viewing. Through this effort five initial concepts were developed, prior to collection of site-specific data, to determine if the site could be restored and enhanced to generate the target salmonid, YBCU, and VELB compensatory mitigation acreages, while providing the greatest cross section of benefit to species that rely upon the LAR for all or part of their life histories. The five concepts were presented to the Technical Resource Advisory Committee (TRAC) on April 6, 2022. Two concepts consisted primarily of terminal backwater channels, two of flowthrough systems with side and backwater channels, and one consisted of ring channels that created habitat islands. During the TRAC meeting it was requested that another concept be developed that retained a portion of the existing pond, to be

⁶ Groves, C. (2003). Drafting a conservation blueprint: a practitioner's guide to planning for biodiversity. Island Press.

⁷ Bentrup, G. 2008. Conservation buffers: design guidelines for buffers, corridors, and greenways. Gen. Tech. Rep. SRS-109. Asheville, NC: Department of Agriculture, Forest Service, Southern Research Station. 110 p.

⁸ https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/Documents/AmericanRiver/ARCF_ARC2_Final-SEIS-SEIR_Sep2021.pdf?ver=pDiYurBZ38lozpSLPYC7nA%3d%3d

used for recreational purposes post-project, and that the creation of habitat islands be avoided due to public safety and enforcement concerns.

After the April 2022 TRAC meeting, USACE narrowed the number of concepts down to three for further development: one terminal backwater only concept, one backwater and flowthrough side channel concept, and a backwater/flowthrough concept with retention of 8-acres of the existing pond. All concepts included the construction of two inlets to the LAR main river channel and achieved the target compensatory mitigation acreages. On August 24, 2022, these three concepts were presented to USFWS and NMFS. Both agencies favored the flowthrough system for hydraulic performance and because it restored the entire pond, providing the greatest habitat value for Federally protected species, particularly salmonids because the concept minimized stranding and predator risk to the greatest extent practicable. On August 31, 2022, these same concepts were presented to Regional Parks; however, Regional Parks refrained from providing feedback, citing a reluctance to weigh in on the concepts until the due diligence phase of site investigations were completed for the site. In the fall of 2022, SAFCA entered the due diligence period to inform property acquisition and initiated a series of preliminary site investigations to gain a better understanding of the site conditions and accommodations that would need to be made by SAFCA to clean the site prior to construction, as well as inform the design and long-term property management/ownership.

MR 9-4 *Preliminary Site Investigations*

Geotechnical explorations and geophysical investigations, environmental site assessments, and cultural and biological resources surveys began in October 2022 to review the feasibility of land acquisition by SAFCA and inform the mitigation design. Additional site investigations will continue, as needed, throughout design development. These assessments provided robust data for the site and resulted in the following key findings:

- High permeability seepage paths exist through the embankment between the main channel of the LAR and pond due to the presence of large construction debris, resulting in hydraulic connectivity with the river; however, the debris was not found to contain hazardous waste.
- Bathymetry survey shows large debris at the east and west ends of the pond (12 targets total). Water level during the bathymetry survey was approximately 4.5 feet above mean sea level, and the pond depth varied between 5 feet and 15 feet.
- There are a few (2-3) dry land areas that may require removal of impacted soil. Investigations are ongoing; some supplemental investigations were completed in May 2022 and analysis results are pending. Work plan for site cleanup is in development with the Central Valley Regional Water Quality Control Board (Water Board).
- Sensitive cultural resources in upland areas are scattered around the pond.
- A new bald eagle nest was established on the property in December 2022, in a large sycamore tree on the embankment between the existing pond and LAR main channel. To understand the potential effects of the project on the bald eagle pair, USACE met with USFWS on March 22, 2023. In that meeting, USFWS indicated that construction activities could occur within 660 feet of the nest, during the bald eagle nesting season (late December

to early July), with receipt of a disturbance permit from USFWS prior to construction. However, avoidance and minimization of permanent impacts and recreational access features within 330 feet of the nest, were encouraged.

Figure 7 depicts the approximate lateral extents of buried debris and fill areas identified for avoidance/consideration during design, the bald eagle nest and associated USFWS regulatory buffers identified in the National Bald Eagle Management Guidelines⁹ (330-feet and 660-feet); along with the approximate extent of the historical marina inlet channel, which was constructed when the former property owners conceptualized developing the site as a marina off the LAR main channel. The marina construction is visible in 1971¹⁰ aerial imagery through 1993 imagery¹¹. Figure 8 shows the marina construction, likely at its peak, in 1971.

⁹ https://www.fws.gov/sites/default/files/documents/national-bald-eagle-management-guidelines_0.pdf

¹⁰ <https://www.historicaerials.com/viewer>

¹¹ <https://earth.google.com/>



Source: <https://www.historicaerials.com/viewer>

Figure 8. 1971 Aerial Imagery Showing Historical Marina and Channel Construction

MR 9-5 Concept Refinement

Feedback received on the three concepts from USFWS and NMFS in August 2022 was combined with data from the preliminary site investigations to re-evaluate and refine the concepts. The two inlet, flowthrough system was removed from further development by the USACE design team to minimize conversion of upland habitats to aquatic around the eagle nest, which would create a habitat island; limit encroachment into the historical marina channel area and avoid sensitive cultural and tribal resource areas. Additionally, the construction of the inlets is the only project action that may result in the take of special-status fishes, as the existing pond does not provide suitable habitat for these species; therefore, the construction of two inlets could result in increased levels of take, as opposed to a single inlet. As a result, concepts containing terminal backwater only channels were deemed to be the most feasible configuration for the site. To address these conflicts and still achieve the target compensatory mitigation acreages, a single inlet backwater only concept was developed that minimizes encroachment into the bald eagle buffers, excavation in the historical channel and embankment, as well as effects on sensitive cultural remains (Figure 9). The single inlet backwater channel concept was then modified to retain 22 acres of the existing pond, to address comments received at the April 2022 TRAC meeting as well as from Regional Parks in December 2022¹² (Figure 10). The concept retaining a portion of the existing pond would not achieve the target compensatory mitigation acreages. Table 7 provides a summary of the mitigation acreages that may be generated for the focal species by these two concepts.

Table 7. Summary of Mitigation Acreages Generated by Concept

Concept	Salmonids	YBCU	VELB
One Inlet Backwater Concept	72	55	28
One Inlet + Pond Backwater Concept	47	29	22
Target Acreages	66-76	55-62	10-15

Grading would occur to create and enhance backwater floodplain habitats, remove non-native vegetation and seed bank, and improve connectivity to the main river channel for both project concepts. Excavation would be required to create the inlet connection to the main river channel. Both concepts require import of fill material because the bottom of the existing pond is between 5 and 15 feet lower than the bottom elevations of the backwater channels and habitat areas. Additionally, grading was developed with an effort to minimize disturbances to existing habitat and culturally sensitive resources, increasing import volumes. Grading and placing fill to raise the pond bottom elevation to create habitat diversity is necessary to improve habitat for the greatest cross section of species by providing variable inundation depths at the range of average WSEs.

¹² On December 30, 2022, Regional Parks issued a letter in response to the USACE SEIS/SEIR Notice of Intent for the ARCF 2016 Project. The letter focused on consistency with the Discovery Park Area Plan in the Parkway Plan and evaluating the consequences of eliminating the open water habitat provided by the existing pond to protect salmonids from periodic stranding, against preserving a substantial (±30 acres) portion of the open water habitat and mitigating but not eliminating the existing salmonid stranding risk.

MR 9-6 *Concept Evaluation*

The project design team met on multiple occasions to review and discuss the design concepts under consideration and to select the preferred concept. The preferred concept aims to fulfill the following:

- Achieve the target compensatory mitigation acreages;
- Minimize salmonid stranding risk and environmental effects;
- Avoid disturbances to site constraints identified during the preliminary site investigations, to the greatest extent practicable;
- Maximize habitat value provided by the proposed project for the greatest variety of special-status species;
- Reduce risks to public safety and long-term management risks; and
- Align with the Parkway Plan and Lower American River Natural Resources Management Plan (NRMP).

Both concepts have some general features in common, they would:

- Generate habitat for salmonids, YBCU and VELB;
- Provide a direct connection to the LAR;
- Include a diverse planting palette;
- Lay back and stabilize existing slopes;
- Remove and cover debris; and
- Incorporate instream woody material (IWM) and habitat benches that would restore floodplain habitat for salmonids and other aquatic-dependent species at various WSEs.

In addition, the site would continue to accommodate flood waters from the LAR main channel and Steelhead Creek. Both concepts include design configurations (e.g., gradual slopes and target elevations) that consider river dynamics and adaptive management of the features. Lastly, restoration to native floodplain wetland and riparian habitats proposed for both concepts is consistent with naturalization of the site as described in the Parkway Plan and NRMP.

Retention of a portion of the pond post-project would maintain a stranding risk for salmonids, as well as create preferred habitat conditions (i.e., slow flowing, deep water) for non-native predatory fishes that negatively impact native salmonid populations. In addition, the portion of the pond remaining would need to have the existing debris and materials capped to address any public health and safety concerns associated with potential post-project recreational activities, as well as generate increased long-term maintenance challenges associated with the berm, vegetation removal, sedimentation, and water quality. The concept that proposes to restore the entire pond to riverine and riparian habitat generates the needed compensatory mitigation acreages, has the greatest minimization of salmonid stranding risk, maximizes habitat value for

special-status species, and aligns with the Parkway Plan and NRMP. Therefore, the project design team removed the concept retaining the pond from further consideration because it did not meet the project objectives.

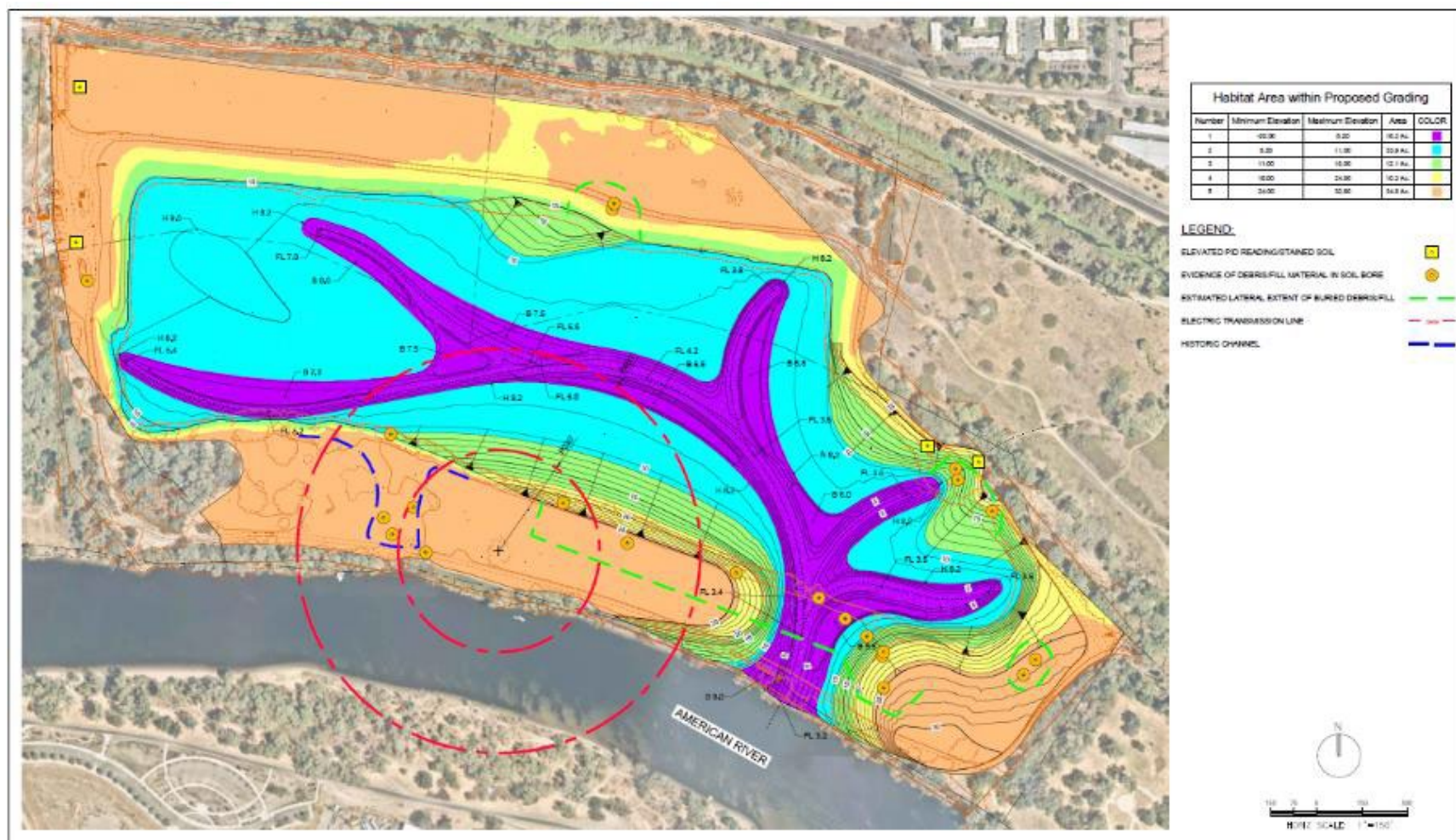


Figure 9. ARMS One Inlet Backwater Concept

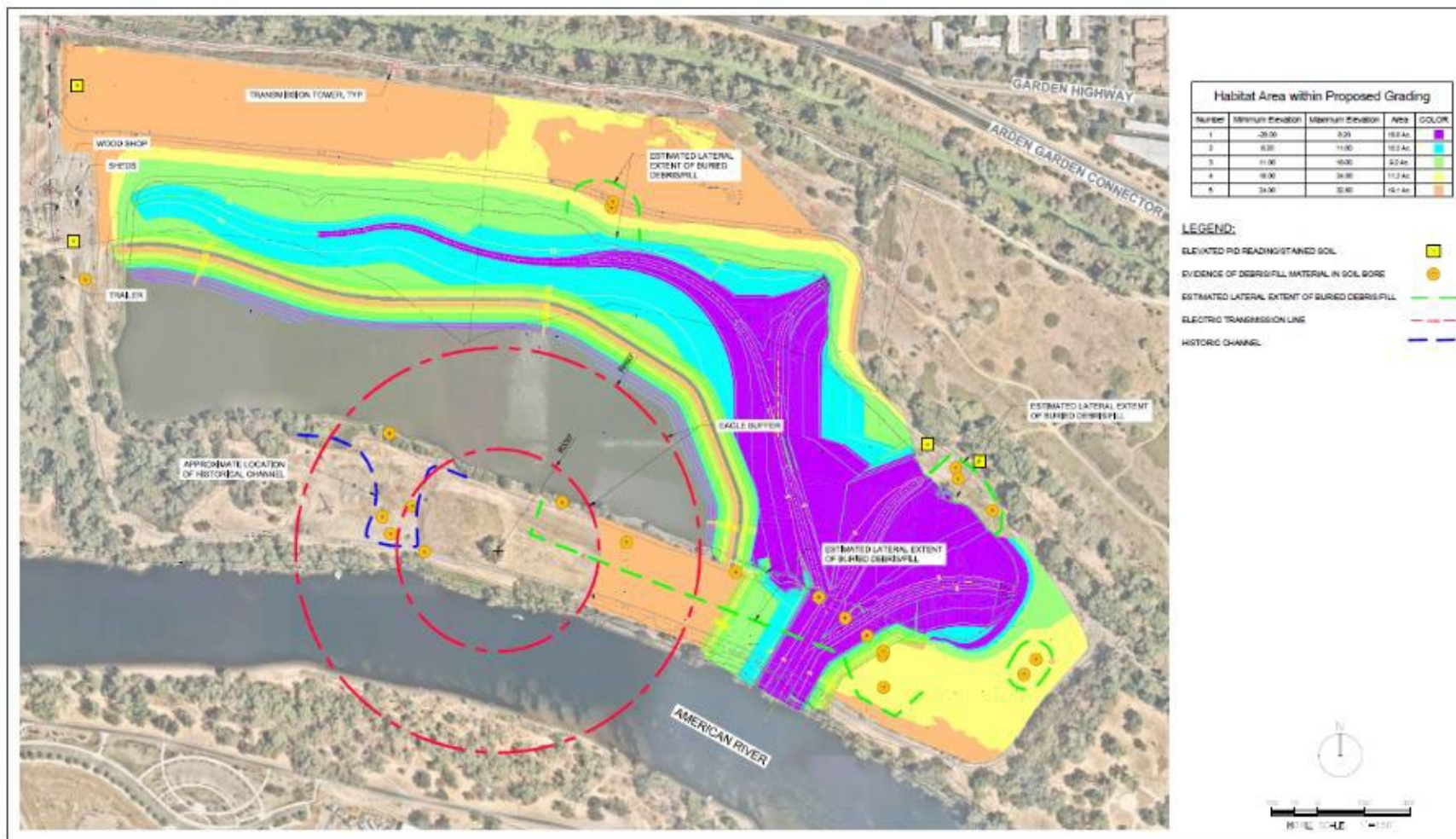


Figure 10. ARMS One Inlet + 22-acre Pond Backwater Concept (SEIS/SEIR Alternative 4b)

MR 9-7 ARMS 35 percent Civil Design

After removing the concept that included retention of a portion of the existing pond, 35 percent design of the one inlet, backwater concept was completed. The proposed design would create a backwater channel that connects to the main channel of the LAR via a single inlet located at the southeast limits of the site. Habitat benches along the channel would be incorporated into the design to provide shallow water salmonid habitat at various WSEs. The benches would be continuous with gradual slopes and a positive gradient toward the main river channel to reduce stranding risks as water levels drop.

Site grading includes creation of backwater floodplain habitats, removal of non-native vegetation and seed bank, inclusion of IWM, and improved connectivity to the main river channel. Excavation would be required to provide connection to the main river channel. The import of material and grading of the pond bottom is necessary to cover existing debris, improve rearing habitat for salmonids by reducing inundation depths, provide habitat heterogeneity to benefit the greatest cross section of species, and set elevations that provide an opportunity for seasonal wetland and riparian vegetation establishment and recruitment. The design requires import of material because the bottom of the existing pond varies between 5 and 15 feet lower than the bottom elevations of the backwater channels and habitat zones.

Habitat Zones

The LAR is characterized by highly variable WSEs, both intra- and interannually. Most of the LAR, including adjacent to the ARMS, is highly incised such that areas directly adjacent to the river that previously routinely flooded are now hydrologically disconnected from the river in all but the highest flows. The most appropriate local reference site for determining expected vegetation zonation under the current grading concept is the RM 0.5 restoration site, at Discovery Park. The RM 0.5 project was implemented by SAFCA, with site grading completed in summer 2017 and planting completed in fall 2017. This site is located approximately 0.7 mile downstream of the ARMS and involved setting back the incised riverbank to create floodplain benches and two backwater inlets, with variable topography within elevation ranges that are frequently inundated. The project included installation of IWM, riparian planting and seeding, and elderberry plantings and transplants for VELB mitigation. Observations and lessons learned from the RM 0.5 restoration site, including established habitats and natural vegetation recruitment patterns, have informed the 35 percent design of the ARMS.

Table 8 provides a summary of each habitat zone's elevation ranges, anticipated hydrology/ecology, and characteristic vegetation. The plant palette will continue to be refined through coordination with the Tribes and resource agencies on locally appropriate species, along with establishment and long-term management approaches.

LAR Main Channel Embankment

Post-project, the site would be connected to the LAR through excavation of a portion of the embankment adjacent to the main channel. The Sacramento County 2008 conceptual Urrutia restoration project acknowledged that under existing conditions, flooding events during which Steelhead Creek and the LAR temporarily connect with the existing pond, allow juvenile salmonids to enter the pond. In this condition, a portion of the displaced salmonids may escape

as waters recede, but after connections dry up the remainder would be stranded and perish. Improved connectivity between the LAR and pond was an action recognized as reducing this adverse effect on salmonids (Sacramento County 2008). Construction of the inlet from the LAR channel would also facilitate future recreational access to the site by non-motorized watercraft.

The grading along the inlet from the main LAR channel would be designed to 3:1 maximum slope. The embankment adjacent to the main channel and the backwater channels would incorporate IWM and/or vegetation, where possible, at lower gradients to minimize soil losses due to wave erosion. Grading and IWM would protect against wave energy and promote deposition, which increases soil volume and enhances ongoing riparian vegetation recruitment. Benches would be incorporated to provide habitat variability. The benches would be incorporated at slopes of 2 percent or flatter where feasible.

Backwater Channels & Bench Designs

Backwater channels would be incorporated into the design to provide expanded habitat for salmonids and other special-status aquatic species. The channels would be designed with wider, flatter benches than incorporated along the main channel. The benches would be set at varying elevations and slopes, intended to provide habitat function over a wider range of flow regimes and tidal fluctuations. A previous evaluation of revegetated bank protection sites along the Sacramento River and LAR determined that vegetation on benches that are closer in elevation to the average annual low WSE have been observed to exhibit fewer signs of water stress and secondary stresses from nutrient limitations, disease, or heat stress (SAFCA 2022). Benches with quality soil and planting zones within 4 feet of the low WSE showed much greater success with vegetation establishment (SAFCA 2022).

Instream Woody Material

The primary purpose of IWM is to enhance the quality of fish and wildlife habitat values by adding refugia and increasing instream cover at low to moderate flows, promoting bank stability and protection against wave or wake energy during the establishment period, and encouraging sediment deposition. The presence of IWM helps connect stream/river channel habitats to their floodplain by helping push high flows into the adjacent floodplain, along with small amounts of sediment and nutrients the water is carrying. IWM are also used as basking and perching sites for reptiles and birds and creates cover for fish and other aquatic organisms. IWM also helps feed the aquatic food chain from the bottom up. IWM provides a surface for algae to grow on and often traps smaller sticks, leaves, and other organic material, all of which are food sources for a variety of aquatic macroinvertebrates. Aquatic macroinvertebrates are an important element of fish diets, and by improving the habitat for aquatic macroinvertebrates, streams can support more diverse fish and aquatic-dependent wildlife populations.

Approximately 80 pieces of IWM are proposed for addition to the site to increase overall habitat functions and values for aquatic-dependent wildlife. IWM would be placed across a range of habitat zones such that they would be inundated and available for aquatic-dependent wildlife at a variety of WSEs. Stability calculations would be performed on the proposed IWM to check stability during low and high flows. The design criteria outlined in the *Instream Woody Material*

Installation and Monitoring guidance manual (ICF International 2010¹³) would be implemented when designing IWM used for erosion control purposes, while less robust anchoring methods would be used for IWM installed for habitat purposes only. IWM for habitat would be anchored using methodologies similar to those implemented by the Water Forum on LAR salmonid habitat restoration and gravel augmentation projects upstream, which is characterized by the use of untreated telephone poles and rope. Figure 11 shows the installation and potential anchoring mechanisms proposed for habitat-specific IWM.

¹³ ICF International. 2010. Instream Woody Material Installation and Monitoring Guidance Manual.

Table 8. ARMS Habitat Zone Characterization Summary

Habitat Zone	Color Band ¹⁴	Elevation Range (NAVD ¹⁵ 88)	Acreage	Zone Hydrology/Ecology	Characteristic Vegetation
Zone 1 - Open Water/ Wetland Transition	purple	up to 8.2 ft	16.2	Subject to prolonged inundation and potential wave wash erosion, especially near river inlet. At the adjacent LAR RM 0.5 restoration site (reference site), this elevation zone supports no vegetation at riverbank likely due to scour and boat wake erosion; however seasonal herbaceous wetland vegetation establishes within this elevation zone in graded "backwater areas" that are more depositional than erosional environments. This vegetation composition and cover varies year to year depending on recent flood regime and duration of inundation. In some years, may be predominantly shallow water to bare ground/mud flat until sufficient period of dry down has occurred by late summer/fall.	Annual and perennial herbaceous seasonal wetland species, including sedges, rushes, knotweed, willowherb, etc.
Zone 2 - Lower Riparian	blue	8.2 to 11 ft	33.9	This zone supports dense willow scrub vegetation at the adjacent LAR RM 0.5 reference site, most of which rapidly established via natural recruitment during favorable low-flow years after site grading. Willow scrub vegetation is also likely to establish readily in first few years post breach without active planting.	Sandbar willow and other willow species, buttonbush, white alder
Zone 3 - Mid-elevation Riparian	green	11 to 18 ft	12	This elevation zone supports mixed mid-elevation riparian woodland and willow scrub vegetation at the adjacent LAR RM 0.5 reference site, much of which established via natural recruitment during favorable years within 2 years of site grading. Diverse mid-elevation riparian/willow scrub vegetation likely to establish readily throughout this zone in first few years post breach without active planting.	Diverse willow assemblage, white alder, Fremont's cottonwood, boxelder, western sycamore, Oregon ash, mulefat, California wild rose, California blackberry
Zone 4 – Upper Riparian	yellow	18 to 24 ft	9.5	This elevation zone supports mixed high-elevation riparian woodland at the adjacent LAR RM 0.5 reference site. This area experiences relatively infrequent and short duration inundation; 24 ft elevation is the modeled maximum WSE during a 2-year flow event; thus, this zone is the highest elevation zone that is considered salmonid floodplain habitat.	Valley oak, western sycamore, coast live oak, Oregon ash, Northern California black walnut, boxelder, redbud, mulefat, Fremont's cottonwood, California wild grape, blue elderberry, milkweed, diverse native seed mix supporting pollinator habitat

¹⁴ color band corresponds to legend on Figure 9 and Figure 10

¹⁵ North American Vertical Datum (NAVD) of 1988

Habitat Zone	Color Band ¹⁴	Elevation Range (NAVD ¹⁵⁸⁸)	Acreage	Zone Hydrology/Ecology	Characteristic Vegetation
Zone 5 - Upland	orange	Above 24 ft	28.2	This elevation zone supports similar upland riparian and oak woodland vegetation (including oak, elderberry, cottonwood, and mulefat) as Zone 4 at nearby reference sites, including the LAR RM 0.5 reference site and woodland vegetation occurring at this elevation on the Urrutia site. This zone experiences infrequent inundation of short durations.	Valley oak, blue elderberry, western sycamore, coast live oak, Fremont's cottonwood, redbud, mugwort, California wild grape, milkweed, diverse native seed mix supporting pollinator habitat



Photo Source: Summer Pardo, October 13, 2023

Figure 11: Habitat IWM Anchoring Example

Species Design Criteria

The following species criteria were considered during in the civil design:

- Salmonids: 0.5- to 2.5-foot depths and 0.0- to 2 feet/second velocities. Optimizing available habitat during the critically dry summer and fall WSEs; as well as, providing habitat at adequate depths in the backwater channels considering the 1.5 to 2.8 feet of daily tidal exchange anticipated.
- YBCU: the 2021 USFWS BO does not establish specific performance parameters for YBCU compensatory mitigation design; therefore, existing published literature was reviewed to define design criteria. These data show that YBCU nest and forage in vegetatively dense stands (more than 150 trees per 2.5 acres) of cottonwoods and willows. YBCU data suggests nesting substrate preference for willows, particularly overhanging water, and cottonwoods for foraging (Anderson and Layman 1989¹⁶, Hammond 2011¹⁷). This species also requires relatively large (50 acres or greater), continuous patches of structurally complex riparian habitat (National Parks Service 2014¹⁸)
- VELB: Maximize the number of stems between 0.8 inches and 4.7 inches (USFWS 2021 BO)

Hydrology

The LAR is characterized by highly variable WSEs, both intra- and interannually. A wide range of elevations along the riverbank can, in some years, experience prolonged exposed and dry

¹⁶ Anderson, B.W. and S.A. Layman. 1989. Creating habitat for the yellow-billed cuckoo (*Coccyzus americanus*). U.S. Department of Agriculture Forest Service General Technical Report PSW 110.

¹⁷ Hammond, J.E. Thesis: It was Built...Did they Come? Habitat Characteristics of Yellow-billed cuckoo in Restored Riparian Forests along the Sacramento River, California.

¹⁸<https://www.nps.gov/articles/western-yellow-billed-cuckoo.htm#:~:text=Western%20yellow%2Dbilled%20cuckoos%20require,be%20important%20for%20nesting%20success.>

conditions throughout much of the year or may experience prolonged deep inundation for up to 5 to 6 months a year depending on snowpack and dam releases. The site is just upstream of the confluence of the LAR and the Sacramento River, and the hydrology of the site is strongly influenced by both backwater effects and tidal influence (daily tidal exchange varies between 1.5 to 2.8 ft) coming from the larger Sacramento River at the confluence.

Figure 12 shows the anticipated post-construction hydrograph based on 20 years of WSE data in which all data were analyzed to create an average stage elevation curve, for comparison with an average of the highest 5 years of stage data and the lowest 5 years to generate curves for high and low water conditions. As can be seen in Figure 12, the average annual high-water elevation is 15 feet NAVD 88, which would typically occur in March, and an average low between 6 feet and 7 feet NAVD 88 from mid-October to early December, at which point the WSE would begin to rise. Depths of 0 to 20 feet and velocities of 0 to 0.2 feet/second were calculated by the hydraulic model throughout the backwater channel for likely flow of 3,900 cubic feet per second and stages 4.6 feet to 23.72 feet. Daily tidal exchange ranges are also estimated at 1.5 to 2.8 feet. These data, along with reference site observations, were used to inform the design elevations and habitat zones.

Because of the highly variable nature of the anticipated post-construction WSEs, available and suitable salmonid habitat would only represent a fraction of the inundated extents in any given month, because shallow water habitats would be transitory as the WSEs ascend and descend throughout the year. Figure 13 through Figure 18 show the anticipated lateral extent of inundation in plan view and cross section. These figures were adapted from a presentation given by the USACE design team to the LAR Task Force on December 12, 2023¹⁹. Figure 19 through Figure 24 provide a series of 3D visual renderings of the anticipated 20-year post-construction condition, when riparian woodland canopy would be fully developed. The target percent cover of woody vegetation in these zones is in draft and still being discussed and evaluated. In a meeting on December 6, 2023, with representatives from USFWS, NMFS, National Park Service (NPS), and Regional Parks it was requested that the target percent cover of woody vegetation be increased to 70 percent cover; as a result, target percent cover standards per habitat zone would be refined as the design progresses.

As can be seen from the figure series, the water depths and wetted extents vary from month to month. In average winter and early spring months (mid-December through April) the site would have a wetted extent similar to the extent of the existing pond, at $\pm 50 - 55$ acres of wetted habitat with water depths ranging from 2 feet to 9 feet. In this condition, areas with water depths up to 2.5 feet would provide suitable habitat for salmonids, which would represent a smaller proportion of the overall wetted habitat acreage. As the WSEs descend in later summer and fall months, depths and wetted extents also decrease proportionally, such that in the driest months of October to mid-December roughly 12 acres of wetted habitat would be available, with water depths ranging from 1 foot to 3 feet; therefore, a smaller portion of this wetted extent would be available for rearing salmonids in this timeframe. During a USACE--led coordination meeting with NMFS, USFWS, NPS, Regional Parks, Water Forum, and Camp Pollock²⁰ on October 4, 2023, in which the design team provided an update on the results of the preliminary site investigations, along with design considerations and modifications, NMFS requested that

¹⁹ <https://waterforum.org/wp-content/uploads/LARTF-Dec-2023-Slides.pdf>

²⁰ Representatives from NPS and Regional Parks did not attend this meeting but were included on the invitation.

USACE explore expanding the lowest habitat zone (Zone 1 – Open Water/Seasonal Wetland) such that during the October to mid-December timeframe, wetted habitat acreage would be closer to 20 acres (Figure 18). This modification will be explored in subsequent design phases.

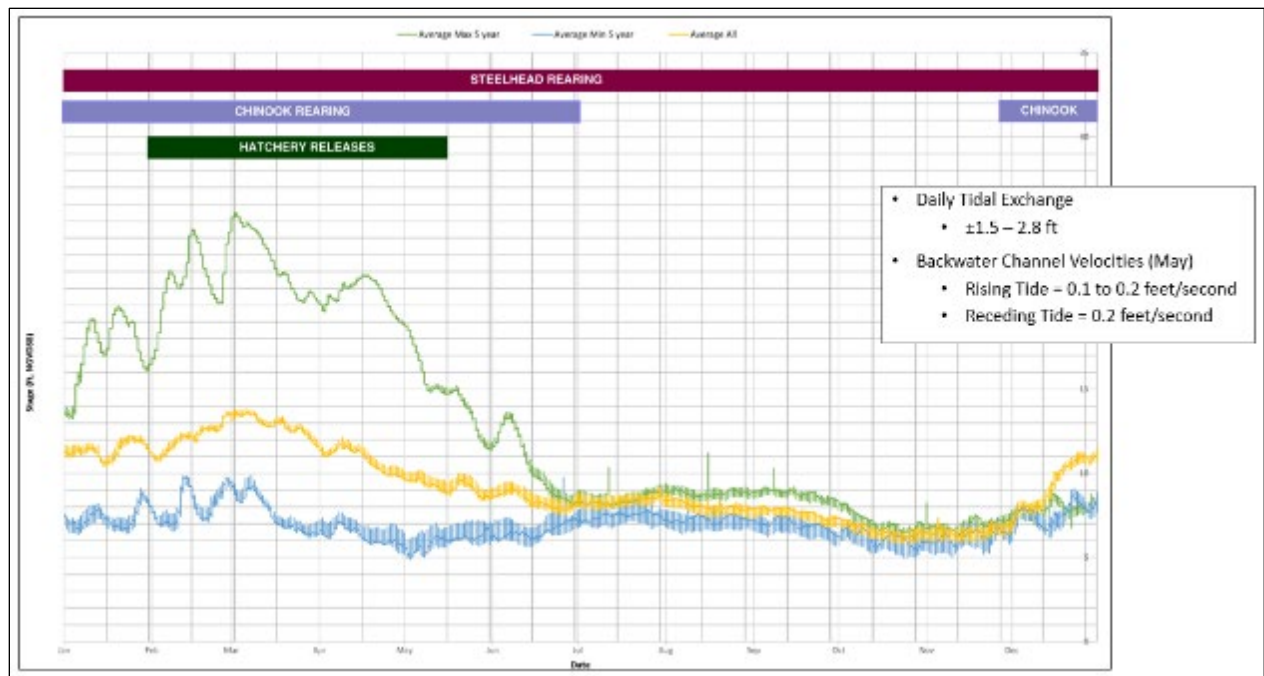


Figure 12. Anticipated Post-Construction Hydrograph

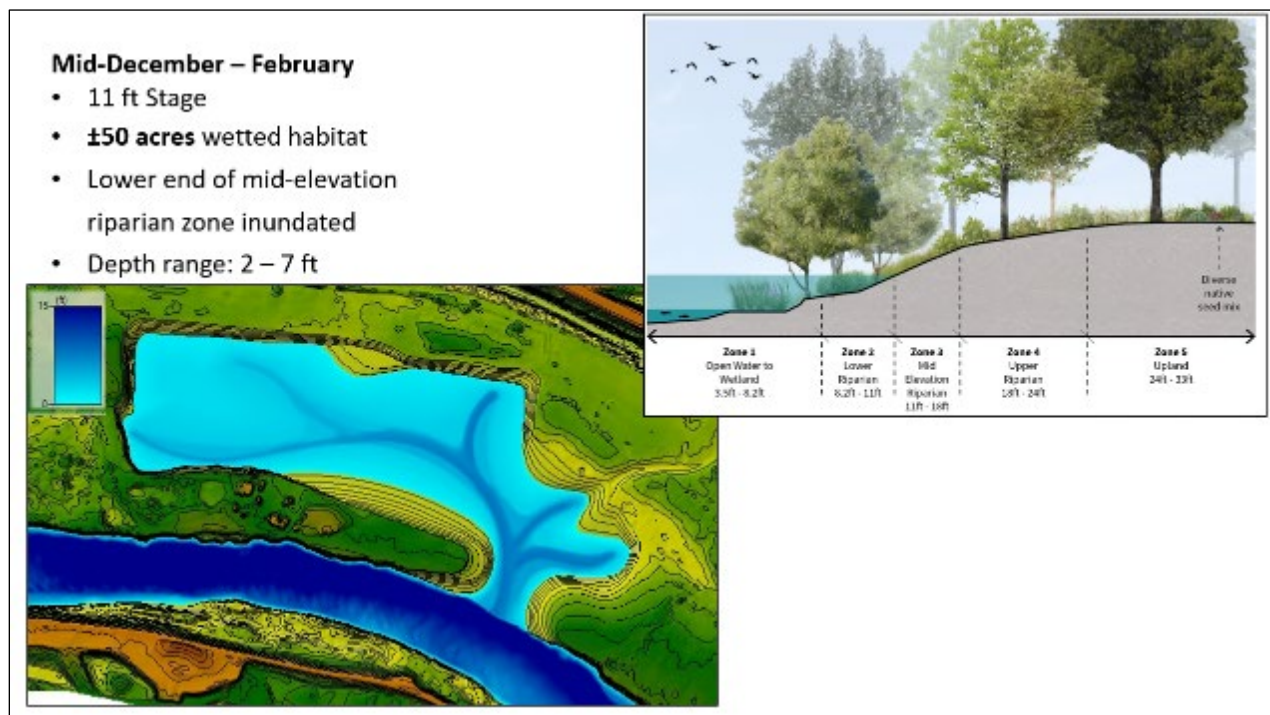


Figure 13. Mid-December through February Average Inundation Extents

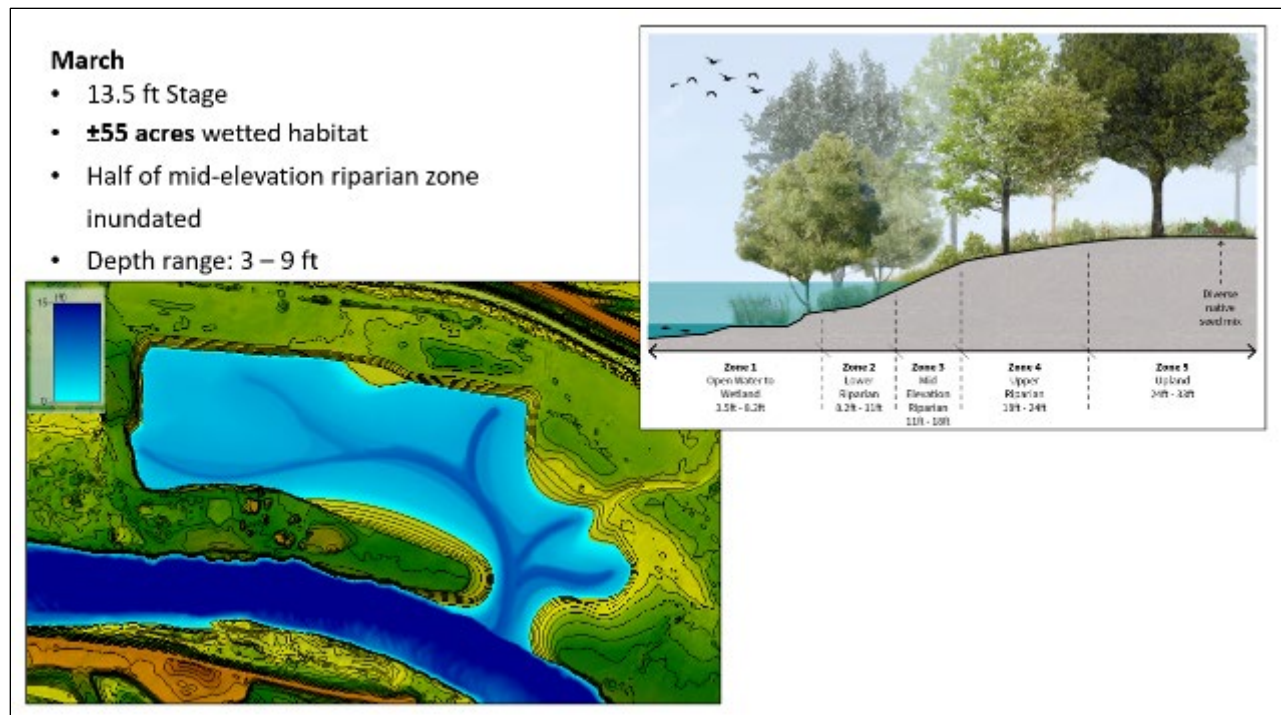


Figure 14. March Average Inundation Extents

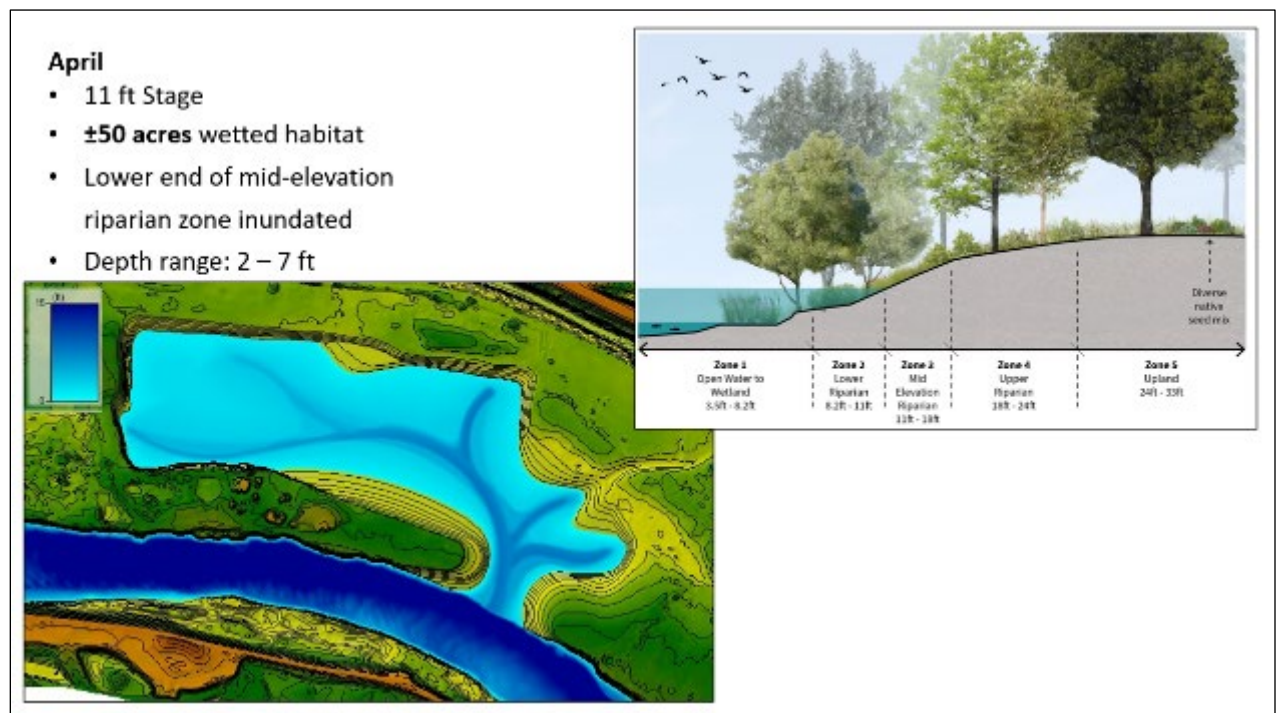


Figure 15. April Average Inundation Extents

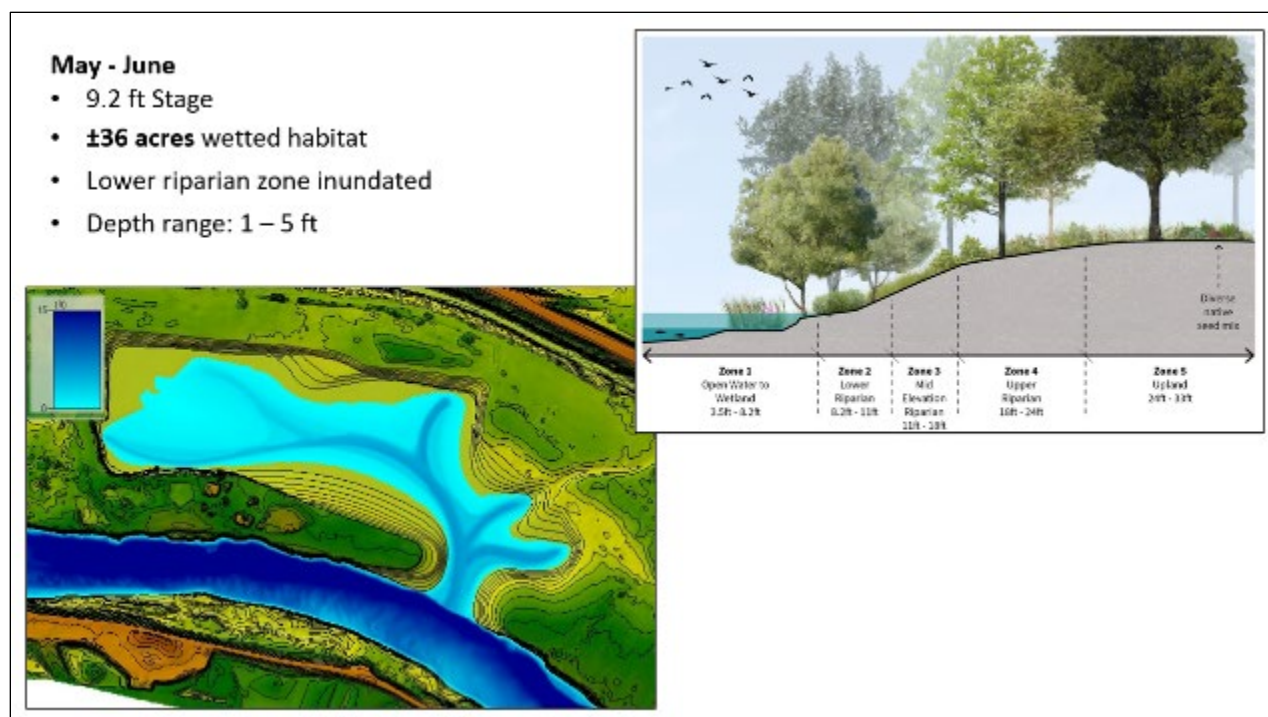


Figure 16. May through June Average Inundation Extents

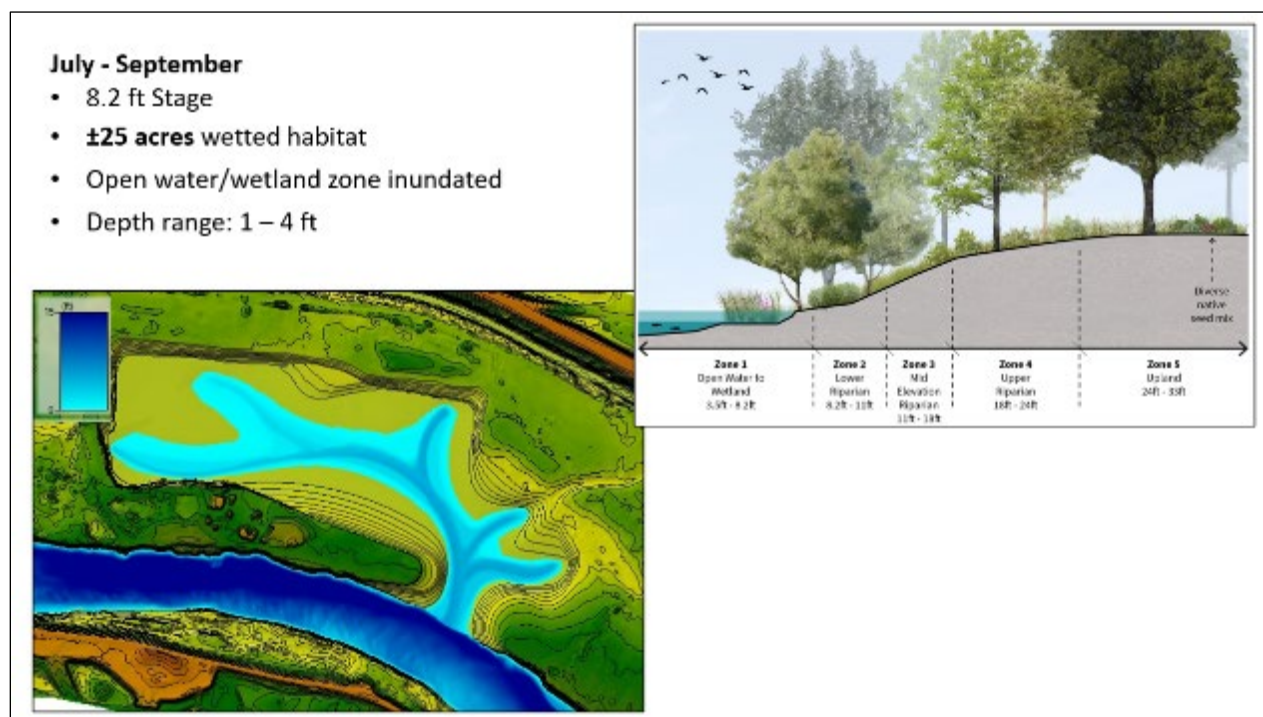


Figure 17. July through September Average Inundation Extents

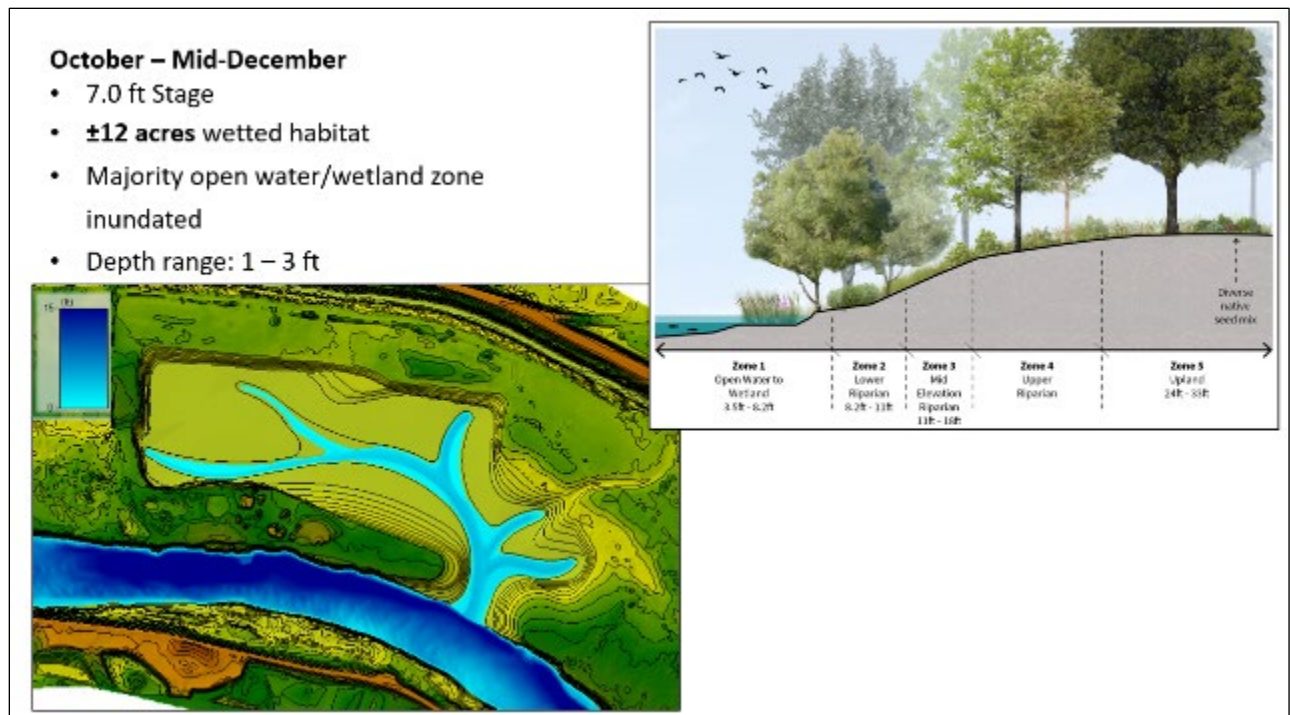


Figure 18. October through mid-December Average Inundation Extents

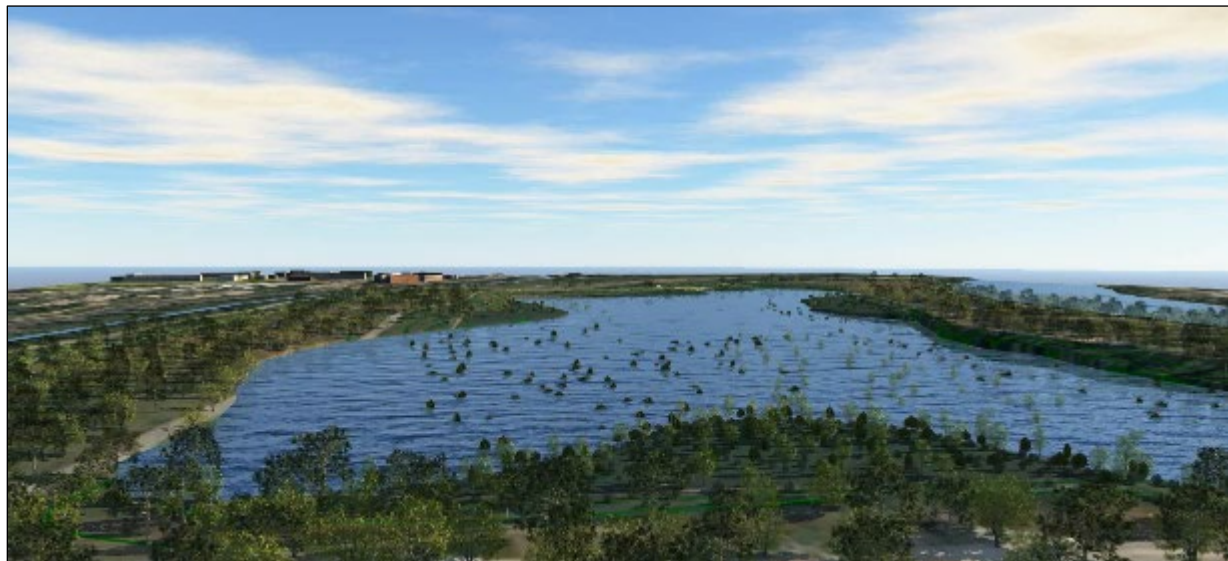


Figure 19. Mid-December through April 3D Visual Simulation of Anticipated Post-Construction Condition (Facing East)

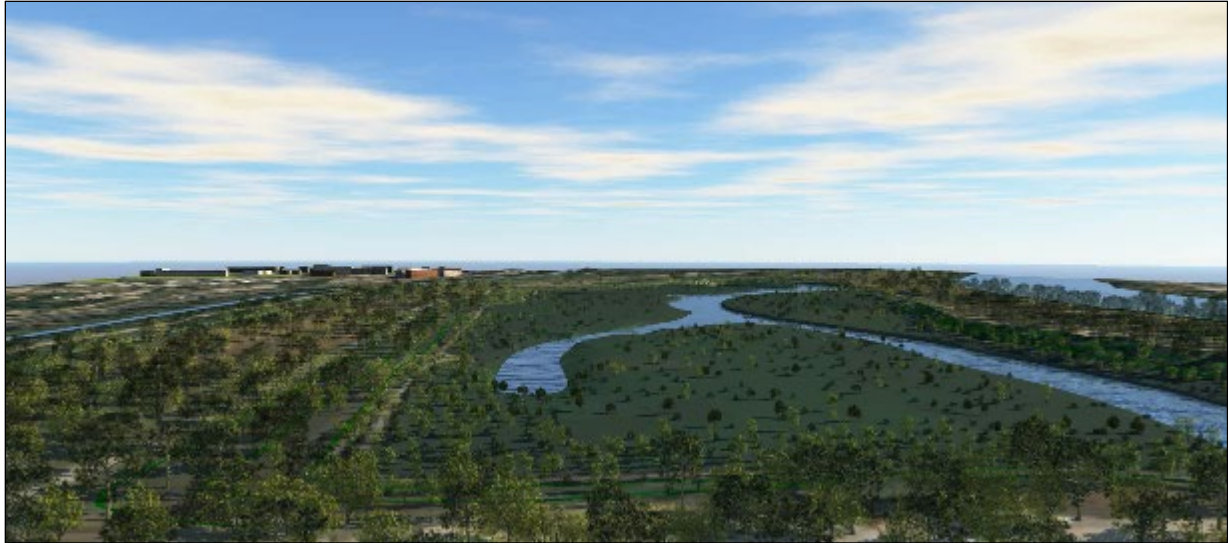


Figure 20. October through Mid-December 3D Visual Simulation of Anticipated Post-Construction Condition (*Facing East*)



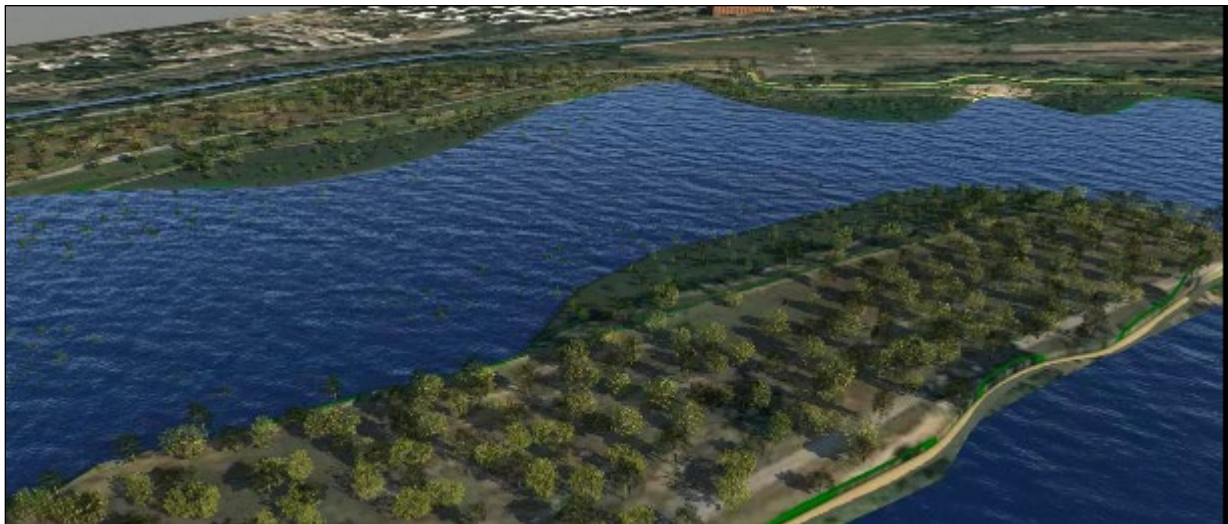
Note: the green line at the bottom of the image is the property boundary

Figure 21. Mid-December through April 3D Visual Simulation of Anticipated Post-Construction Condition (*Facing West*)



Note: the green line at the bottom of the image is the property boundary

Figure 22. October through Mid-December 3D Visual Simulation of Anticipated Post-Construction Condition (*Facing West*)



Note: the green/yellow lines at the bottom of the image are the property boundary

Figure 23. Mid-December through April 3D Visual Simulation of Anticipated Post-Construction Condition (*Facing North*)



Note: the green/yellow lines at the bottom of the image are the property boundary

Figure 24. October through Mid-December 3D Visual Simulation of Anticipated Post-Construction Condition (*Facing North*)

MR 9-10 Construction Sequencing

Construction activities are anticipated to take place by land with materials hauled onsite by truck. Initial material import would be incrementally placed and compacted in the existing pond, over three construction seasons, to form a working platform. Additional material would continue to be brought to the site and spread into the pond, advancing the footprint of new fill serving as the working platform. The working platform would need to be temporarily overbuilt in some areas to provide 4 feet of clearance above the WSE to avoid the need for extensive dewatering. The temporary fills for overbuild would be later excavated to establish final grades. With this incremental approach to placement of fill in the pond to raise the bottom elevations and improve slope stability/safety, it is anticipated that a portion of the pond would remain available to wildlife in the area over the winter rainy season, until the last season when the final pond section is graded and the inlet to the LAR established.

Dewatering the pond would facilitate fill placement; however, it is unknown the extent to which dewatering would be necessary or possible at this stage of design. The site may be difficult to dewater effectively or completely considering potentially high rates of under seepage due to LAR proximity. It is anticipated that no matter the eventual capacity to dewater the site, some dewatering would be done to control water during fill operations. Dewatering the pond is expected to require a temporary cofferdam such as an inflatable bladder. Water would then be pumped and discharged to land before draining to the LAR. A dewatering plan would be developed by the contractor and the contractor would be responsible for obtaining a Construction General Permit from the Central Valley Regional Water Quality Control Board prior to initiating dewatering activities.

MR 9-11 Existing and Proposed Habitat Values

This section provides supplemental analysis of the effects on biological resources habitat values from implementation of the proposed project including vegetation communities, trees, aquatic resources, special-status plant and wildlife species, common wildlife, and wildlife movement. An analysis of project implementation effects on diving duck habitat is provided under the Common Wildlife sub-heading, and effects on their movement are also addressed in this section in response to public comments focused on this species group. This analysis is based on the 35 percent design and would be updated as the design progresses into subsequent phases and through continued coordination with USFWS, NMFS, NPS, and Regional Parks.

Vegetation Communities

Biologists conducted multiple field investigations between mid-December 2023 and mid-February 2024 for the purposes of collecting site-specific data to characterize existing vegetation communities and evaluate those communities for their potential to support special-status species and be used by common wildlife. Those field investigations identified six primary vegetation communities: annual grassland, disturbed/developed, Himalayan blackberry thicket, pond, riverine, and riparian woodland (Table 4, Figure 25). The riparian woodland vegetation community was further categorized into eight alliances: Fremont cottonwood woodland, Fremont cottonwood – Goodding’s black willow woodland, mixed riparian woodland, non-native woodland, northern California black walnut woodland, and valley oak woodland. Table 3 characterizes each community identified onsite and provides the existing acreage. The vegetation descriptions provided in Table 3 are generally consistent with vegetation alliances described in the *Manual of California Vegetation* (Sawyer et al. 2009²¹), which aligns with the classification system used by the Survey of California Vegetation Classification and Mapping Standards.

²¹ Sawyer, John O., T. Keeler-Wolf, and J. M. Evens. 2009. *A Manual of California Vegetation – Second Edition*. California Native Plant Society Press. Sacramento, CA.

Table 9. Existing Vegetation Community Characterization

Vegetation Community	Existing Acreage	Characterization
Annual Grassland	41.1	Dominated by invasive and nonnative species including bromes (<i>Bromus</i> sp.), black mustard (<i>Brassica nigra</i>), Bermuda grass (<i>Cynodon dactylon</i>), and short-pod mustard (<i>Hirschfeldia incana</i>). Portions of this habitat along the north margin of the lake; however, have a dense patch of stinkwort (<i>Dittrichia graveolens</i>) with a mixture of horseweed (<i>Erigeron canadensis</i>), Indian sweetclover (<i>Melilotus indicus</i>), milk thistle (<i>Silybum marianum</i>), Buenos Aires vervain (<i>Verbena bonariensis</i>), and others at relatively low cover.
Developed/Disturbed	10.9	Existing home, storage, stockpile area, and access roads.
Himalayan Blackberry Thicket	3.9	Dense monotypic patches of Himalayan blackberry (<i>Rubus armeniacus</i>). Scattered associates include arroyo willow (<i>Salix lasiolepis</i>) and tree-of-heaven (<i>Ailanthus altissima</i>).
Pond	55.3	Existing mining pit
Riverine	0.1	Lower American River
Riparian Woodland		
<i>Fremont Cottonwood Woodland</i>	1.9	Dominated by box elder (<i>Acer negundo</i>), Fremont's cottonwood (<i>Populus fremontii</i>), and Goodding's black willow (<i>Salix gooddingii</i>) in the tree layer, with no cover in the shrub layer and smilo grass (<i>Stipa miliacea</i>), Buenos Aires vervain, bromes, and milk thistle in the herb layer.
<i>Fremont Cottonwood - Goodding's Black Willow Woodland</i>	0.9	Canopy co-dominated by Fremont's cottonwood and Goodding's black willow, along with other low canopy willow species such as arroyo willow. The understory is primarily open with small stands of milk thistle.
<i>Fremont Cottonwood - Valley Oak Woodland</i>	0.6	Canopy co-dominated by Fremont's cottonwood and valley oak (<i>Quercus lobata</i>). The understory is similar to other riparian woodland areas with more encroachment of annual grassland species.
<i>Goodding's Black Willow Woodland</i>	1.1	Dominated by Goodding's black willow in the tree layer, with some low canopy arroyo willow and Hinds' willow (<i>Salix exigua</i> var. <i>hindsiana</i>) associates. The understory is vegetated with wild radish (<i>Raphanus sativus</i>), crab grass, cocklebur (<i>Xanthium strumarium</i>), and sweetclover.
<i>Mixed Riparian Woodland</i>	3.9	Dominated by box elder, Fremont's cottonwood, western sycamore (<i>Platanus racemosa</i>), and valley oak in the tree layer; California rose (<i>Rosa californica</i>) and California grape (<i>Vitis californica</i>) in the shrub layer; and smilo grass, bromes, mustards, and curly dock (<i>Rumex crispus</i>) in the herb layer. This area also has patches of non-native perennial vegetation consisting of black locust (<i>Robinia pseudoacacia</i>), tree-of-heaven, giant reed (<i>Arundo donax</i>), and Chinese elm (<i>Ulmus parvifolia</i>).
<i>Non-native Woodland</i>	0.2	Dominated by black locust with an open understory. The overstory also contains sparse occurrences of tree-of-heaven, with an understory of Smilo grass and poison hemlock (<i>Conium maculatum</i>).
<i>Northern California Black Walnut</i>	0.5	Canopy dominated by Northern California black walnut (<i>Juglans hindsii</i>). Associates and understory species similar to Fremont cottonwood woodland.
<i>Valley Oak Woodland</i>	0.6	Open canopy dominated by valley oak. Irregular occurrences of Fremont's cottonwood and coast live oak (<i>Quercus agrifolia</i>). Understory is densely vegetated with annual grassland species.
Total Acreage	121.0	



Figure 25. ARMS Existing Vegetation Communities

The ARMS design was carefully developed to minimize impacts on existing native vegetation to the greatest extent practicable. Based on the proposed grading footprint and habitat zone extents some conversion of existing habitats to others would occur. The following is a summary of those effects; acreages associated with these type conversions are provided in Table 4.

- 13 acres of annual grassland habitats would experience a type conversion to open water/wetland transition and riparian habitats, leaving 28.2 acres for reclamation and enhancement. The upland community structure (Zone 5) is still in development; however, the overall concept would be to create a more open savanna-type mosaic with elderberry habitat clusters containing native associates as identified in Table 4 for Zone 5 - Upland. A large proportion of this type conversion is the result of the LAR inlet construction.
- 1.5 acres of disturbed/developed habitats would experience a type conversion to open water/wetland transition and riparian habitats, leaving 9.4 acres available for future development of additional recreational facilities (parking areas, walking trails, overlooks, benches, interpretive signage, other ancillary structures). Habitats within disturbed/developed areas would also be included in the overall enhancement strategy to replace existing nonnative, invasive herbaceous cover with native, pollinator-friendly species.
- 3.9 acres of Himalayan blackberry would remain largely untouched. Currently, these habitat areas are not proposed for enhancement due to the habitat value provided to nesting birds and other wildlife species utilizing the LAR riparian corridor.
- 40.4 acres of the existing pond would experience a type conversion to riparian habitats; however, it is important to note that the vast majority of this type conversion is associated with the establishment of a lower riparian zone (32.6 acres). The lower riparian zone would inundate annually to nearly the same lateral extents as in the existing condition (55 acres), and at depths from 2 feet to 3 feet from mid-December through April. On a 2-year recurrence interval the inundation extents would reach 64 acres, with depth ranges from 15 feet to 20 feet (Figure 26).
- 0.1 acre of riverine habitat would be temporarily impacted by the LAR inlet construction; however, this is not a type conversion. Ultimately, the project would increase available habitat for special-status fishes and other aquatic wildlife dependent on the LAR and this community structure by 71.5 acres. Currently, downstream of Watt Avenue, the LAR does not provide suitable rearing habitat for salmonids, which has been identified as a limiting factor for the overall population success of LAR steelhead (Thorpe 2020²²). The proposed project would substantially increase the availability of this critical habitat component for salmonids.
- 2.1 acres of riparian woodland communities would experience a type conversion to uplands, while 0.1 acre would be converted to open water/wetland transition. These type conversions are largely associated with grading for slope stability and safety, to establish maximum 3:1 slopes.

Ultimately the proposed project would enhance 28.2 acres of uplands to promote native, pollinator-friendly herbaceous cover; result in a net increase in riparian vegetative cover and

²²<https://scholars.csus.edu/esploro/outputs/graduate/Steelhead-Oncorhynchus-mykiss-rearing-habitat-heterogeneity/99257831040801671>

diversity by 45.8 acres; supporting YBCU and VELB; as well as expand critical rearing habitat in the lower reach of the LAR for salmonids and other special-status fishes by 71.5 acres.

Table 10. Estimated Type Conversion and Grading Effects Summary

Vegetation Community	Zone 1 (acres)	Zone 2 (acres)	Zone 3 (acres)	Zone 4 (acres)	Zone 5 (acres)	Undisturbed (acres)	Totals (acres)
Annual Grassland	1.4	0.5	4.0	7.1	28.2		41.1
Disturbed/Developed	0.1	0.0	0.4	1.0		9.4	10.9
Himalayan Blackberry Thicket						3.9	3.9
Pond	14.9	32.6	7.0	0.8			55.3
Riverine	0.1						0.1
Riparian Woodland							
Goodding's Black Willow Woodland	0.1	0.0	0.1	0.5	0.3		1.1
Fremont Cottonwood - Goodding's Black Willow Woodland					0.1	0.8	0.8
Fremont Cottonwood Woodland			0.0	0.2	0.4	1.3	1.9
Fremont Cottonwood - Valley Oak Woodland						0.6	0.6
Mixed Riparian Woodland		0.1	0.4	0.5	1.3	1.7	3.8
Non-native Woodland					0.0	0.2	0.2
Northern California Black Walnut Woodland						0.5	0.5
Valley Oak Woodland				0.0	0.1	0.6	0.6

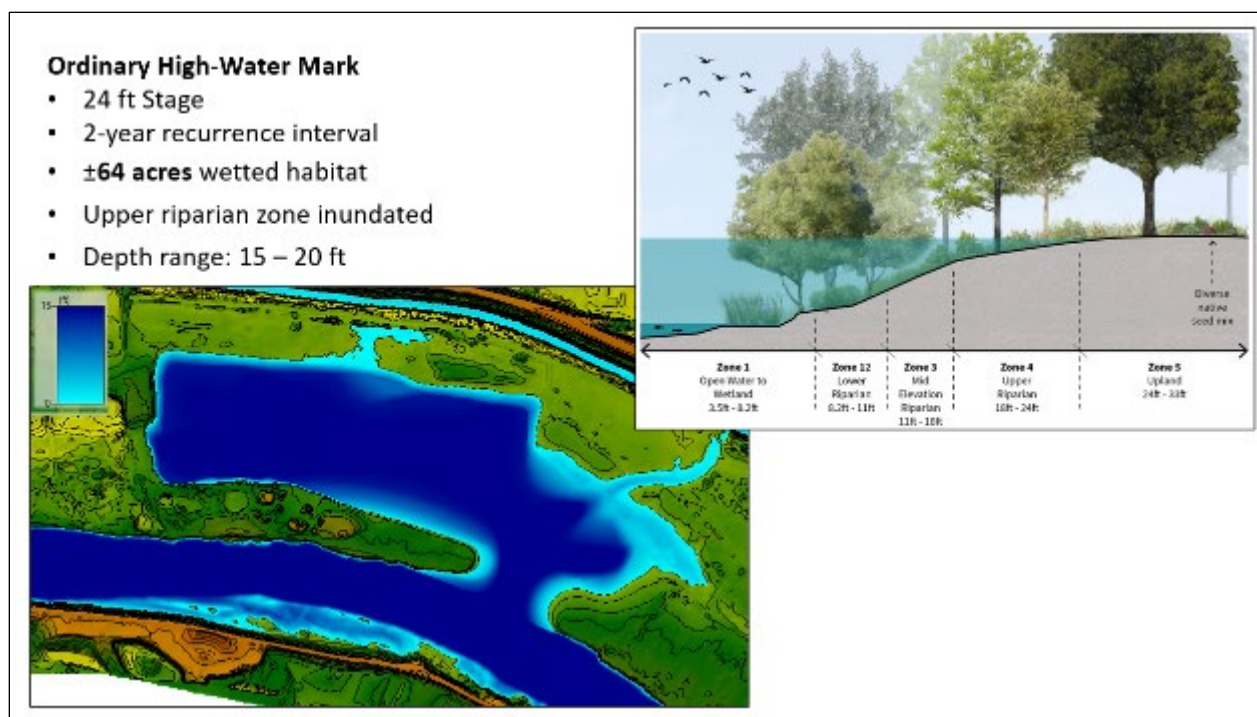


Figure 26. 2-year Inundation Extents

Trees

All trees onsite with a diameter at breast height²³ (dbh) of 6 inches or greater were mapped by qualified biologists and a certified arborist. In addition, all willows (*Salix* spp.) with at least one 4-inch dbh stem were included in the survey to further capture native riparian trees. Some additional trees, rooted outside the property boundary, but with substantial canopy overhanging, were also mapped. Data collected for each tree included the species, dbh by stem, estimated dripline radius, health and structural integrity rating, and other notes where appropriate. Follow-up surveys have been conducted to collect additional data on deciduous trees that were not identifiable to species due to a lack of foliage, and to collect additional data points on oaks and other native trees with a dbh of 4 inches or greater, to be in compliance with Sacramento County arborist requirements²⁴.

Based on currently available data, which captures all mature trees onsite, and the 35 percent design 144 trees are projected for removed in association with the proposed site grading, with the dominant species being Goodding's black willow (Table 5). Most trees proposed for removal (71%) are willows that would be replaced and expanded in the post-construction condition. The early successional habitat value provided by the lower riparian community types is anticipated to achieve functional habitat replacement within 3 to 5 years of construction completion. An estimated 18 valley oaks would be removed during construction activities, with only two of those individuals exceeding 30 inches aggregate dbh. Valley oaks have a moderate growth rate of up to 4 feet per year (CalScape 2024²⁵). As a result, within the 8-year establishment period for the

²³ Also known as diameter at standard height (dsh) as used in the Sacramento City Code.

²⁴ <https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Arborist%20Report%20Submittal%20Requirements.pdf>

²⁵ [https://calscape.org/Quercus-lobata-\(Valley-Oak\)](https://calscape.org/Quercus-lobata-(Valley-Oak))

onsite vegetation after construction, valley oaks would be expected to reach heights up to 32 feet, thereby functionally replacing many habitat values. Lastly, an estimated 11 Fremont cottonwood trees would be removed during construction; however, this species is known for rapid growth rates – 25 feet to 30 feet per year have been documented (Flora of North America 2019²⁶) – so habitat values would be functionally replaced within the 8-year establishment period. Tree impact numbers are not anticipated to change significantly (>5%) in each size class as design progresses and/or minor conflicts are identified during construction.

Table 11. Estimated Tree Removal

Scientific Name	Common Name	Aggregate DBH ≤10"	Aggregate DBH 10-30"	Aggregate DBH ≥30"	Total Count
Acer negundo	Box elder	3			3
Eucalyptus sp.	Gum tree		1		1
Morus alba	White mulberry			1	1
Populus fremontii	Fremont cottonwood	2	5	4	11
Quercus agrifolia	Coast live oak		2	1	3
Quercus lobata	Valley oak	4	12	2	18
Robinia pseudoacacia	Black locust	1			1
Salix exigua var. hindsiana	Hinds' willow		1		1
Salix gooddingii	Goodding's black willow	33	60	9	102
Ulmus parvifolia	Chinese elm	1			1
	Unknown ornamental	1	1		2
Total Number Trees Removed					144

Aquatic Resources

Aquatic resources were delineated by qualified biologists and a Professional Wetland Scientist on January 12 and February 8, 2024. The delineation used the routine determination method as described in Part IV, Section D, of the *Corps of Engineers Wetland Delineation Manual* (USACE Manual; Environmental Laboratory 1987²⁷). The USACE Manual was used in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Version 2.0* (Supplement; Environmental Laboratory 2008²⁸), and the USACE Interim Version of the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (Cold Regions Research and Engineering Laboratory 2022²⁹). For areas in which the USACE Manual and the Supplement differ, the Supplement was followed.

A total of 55.3 acres of pond were mapped onsite. No other potentially jurisdictional aquatic resources were identified. The pond is largely unvegetated, with Goodding's black willow on the

²⁶ [Flora of North America](https://www.wildflower.org/plants/result.php?id_plant=pofr2#:~:text=A%20fast%2Dgrowing%20riparian%20tree,of%20large%2C%20widely%20spreading%20branches.) (2019) Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA. https://www.wildflower.org/plants/result.php?id_plant=pofr2#:~:text=A%20fast%2Dgrowing%20riparian%20tree,of%20large%2C%20widely%20spreading%20branches.

²⁷ Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. USACE Waterways Experiment Station, Vicksburg, MS.

²⁸ Environmental Laboratory. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Technical Report ERDC/EL TR-08-28. USACE, Cold Regions Research and Engineering Laboratory. Hanover, NH.

²⁹ Environmental Laboratory. 2022. *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams, Interim Version*. USACE, Cold Regions Research and Engineering Laboratory. Hanover, NH.

fringe of the southern bank and mixed riparian woodland in the southwestern corner (Figure 25). In its current condition, the pond lacks a continuous surface connection to the LAR under normal conditions; as a result, a hydrologic connection between the LAR and existing pond only occurs during high flow events that exceed and overtop the LAR embankment. The existing pond does, however, align with the historical LAR main channel (Figure 3), which is defined as a traditional navigable water by USACE.

On May 25, 2023, the U.S. Supreme Court rendered a decision on the *Sackett vs. U.S. Environmental Protection Agency* (EPA) case regarding waters of the U.S. In that decision, the U.S. Supreme Court determined that the Clean Water Act extends only to wetlands that have a continuous surface connection with a relatively permanent body of water, which is connected to traditional navigable waters, such that it's difficult to determine where the water ends, and the wetland begins. The EPA and USACE subsequently released the *Revised Definition of "Waters of the United States;"* *Conforming* rule (88 Federal Register 61964) on September 8, 2023, to reflect these changes. Based on the Sackett decision, the existing pond may be considered isolated due to the absence of a continuous surface connection to the LAR. However, it is the experience of qualified biologists that USACE may consider the existing pond waters of the U.S. because the pond appears to have been a modification of historical Section 10 traditional navigable waters.

The proposed project would restore the existing pond to a traditional navigable water and expand the extent of waters of the U.S. through the LAR inlet construction. As a result, there would be a net gain in waters of the U.S. as opposed to a net loss.

Special-status Species

Seven special-status plants and 28 special-status wildlife species were determined to have the potential to occur in the vicinity of the ARMS project site based on the SEIS/SEIR conclusions. Of the seven special-status plants identified as having the potential to occur, suitable habitat is only present for three species. Table 6 provides a crosswalk of the special-status plants that have the potential to occur with the existing vegetation communities. Twenty-eight special-status wildlife were determined to have the potential to occur in the vicinity of the ARMS project site based on the SEIS/SEIR conclusions. For wildlife, the existing annual grassland habitats have the potential to support the highest number of special-status species (16), followed by riverine (13), riparian woodland (11), pond (3), and Himalayan blackberry thicket (2). Table 7 crosswalks special-status wildlife that have the potential to occur in the vicinity of the ARMS project site with existing vegetation communities.

Special-status Plants

Of the seven special-status plants identified in Table 6, only three have the potential to occur in existing onsite habitats; however, the likelihood is considered low due to the predominance of nonnative invasive species. None of these species have been observed onsite to date. Post-project, habitat conditions would be improved and could support all seven special-status plants identified in Table 6. Annual grassland habitats remaining after site grading and construction is complete would be enhanced to control the cover of target nonnative, invasive vegetation and promote the establishment and recruitment of native, pollinator-friendly herbaceous species. Bristly sedge and pappose tarplant would both have increased potential to occur post-

construction due to the proposed annual grassland enhancement activities. Expansion and enhancement of seasonal wetland (zone 1) and lower riparian (zone 2) habitats would also increase the potential for Peruvian dodder, Boggs Lake hedge-hyssop, woolly rose-mallow, Mason's lilaeopsis, and Sanford's arrowhead to recruit and establish onsite post-construction by creating suitable marshy habitats for these species, which are currently absent from the site. As a result, the proposed project would increase habitat suitability from three special-status plants to seven.

Special-status Invertebrates

Three special-status invertebrates were identified as having the potential to occur in the existing onsite vegetation communities: Crotch bumblebee, monarch butterfly, and VELB. All three species would be associated with the annual grassland habitats, while VELB is also associated with riparian woodland habitats (Table 7). Crotch bumblebee prefers milkweed, dusty maiden (*Chaenactis douglasii*), lupine (*Lupinus* spp.), medic (*Medicago* spp.), phacelia (*Phacelia* spp.), sage (*Salvia* spp.), clarkia (*Clarkia* spp.), poppies (*Eschscholzia* spp.), and wild buckwheat (*Eriogonum* spp.) as food sources. Monarchs require milkweed as a larval host plant along with a diverse assemblage of nectar plants such as bur marigold (*Bidens laevis*), bluedicks (*Dichelostemma capitatum*), western goldenrod (*Euthamia occidentalis*), common sunflower (*Helianthus annuus*), coyote mint (*Monardella villosa*), mulefat, coyote brush (*Baccharis pilularis*), and common buttonbush (*Cephalanthus occidentalis*). VELB rely upon elderberry as a host plant.

Except for elderberry shrubs, none of the aforementioned plant species have been identified onsite to date. In the existing condition, the annual grassland community is highly disturbed from historical site activities, is dominated by non-native and invasive species, and lacks the plant diversity typically required to support these species; therefore, the current grassland community structure does not contain the requisite characteristics to support robust populations of these species. It is important to note that full floristic surveys have not been completed to date and annual species may have been missed. The proposed annual grassland enhancement activities would increase the habitat value for the bumblebee and monarch in the post-construction condition.

The existing elderberry shrubs identified could support VELB. Impacts on these shrubs have been minimized to three (ELD-8, ELD-9, and ELD-10) individuals along the LAR main river embankment (Figure 25). These shrubs would be translocated onsite to upland and riparian habitats proposed for enhancement. In the post-construction condition, habitat values for VELB would be increased over the existing condition by expanding available habitat (10-15 acres) and creating continuity with adjacent occupied habitats at Discovery Park and Camp Pollock.

Special-status Fishes

In its current condition, the site provides minimal value for the 10 special-status fishes identified in Table 7 as having the potential to utilize riverine habitats in the LAR, because only 0.1 acre of habitat currently exists within the property boundary. The existing pond is also recognized as a nonnative, piscivorous fish predator source and stranding risk during LAR high flow events. Currently, the narrow band of riparian vegetation along the LAR is the only habitat for salmonids and other special-status fishes. Additionally, downstream of Watt Avenue the LAR does not

provide suitable rearing habitat for salmonids, which has been identified as a limiting factor for the overall population success of LAR steelhead (Thorpe 2020). As a result, the proposed restoration of the ARMS to mimic pre-mining floodplain conditions consisting of dynamic backwater channel, wetland, and riparian habitats would expand this critical habitat component for salmonids and other special-status fishes. Post-project, available suitable habitat for 10 special-status fishes, reliant upon LAR channel and floodplain habitats for all or part of their life cycle, would increase by 71.5 acres.

Table 12. Special-status Plants Existing Vegetation Community Associations

Scientific Name	Common Name	Annual Grassland	Developed Disturbed	Himalayan Blackberry Thicket	Pond	Riverine	Riparian Woodland
Carex comosa	bristly sedge	X			X		
Centromadia parryi ssp. parryi	pappose tarplant	X					
Cuscuta obtusiflora var. glandulosa	Peruvian dodder						
Gratiola heterosepala	Boggs Lake hedge-hyssop						
Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow					X	X
Lilaeopsis masonii	Mason's lilaeopsis						
Sagittaria sanfordii	Sanford's arrowhead						

Note: "x" demarcates existing communities in which the species could occur.

Table 13. Special-status Wildlife Existing Vegetation Community Associations

Wildlife Species Scientific Name	Wildlife Species Common Name	Annual Grassland Habitat Type	Developed/ Disturbed Habitat Type	Himalayan Blackberry Thicket Habitat Type	Riverine Habitat Type	Pond Habitat Type	Riparian Woodland Habitat Type
<i>Bombus crotchii</i>	Crotch bumblebee	X					
<i>Danaus plexippus</i>	monarch	X					
<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	X					X
<i>Acipenser medirostris</i>	green sturgeon					X	
<i>Acipenser transmontanus</i>	white sturgeon					X	
<i>Lampetra ayresii</i>	river lamprey					X	
<i>Lavinia exilicauda</i>	hitch					X	
<i>Hesperoleucus symmetricus</i>	California roach					X	
<i>Mylopharodon conocephalus</i>	hardhead					X	
<i>Oncorhynchus tshawytscha</i>	chinook salmon (Central Valley spring-run ESU)					X	
<i>Oncorhynchus tshawytscha</i>	chinook salmon (Sacramento River winter-run ESU)					X	
<i>Oncorhynchus tshawytscha</i>	chinook salmon (Central Valley fall / late fall-run ESU)					X	
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail					X	
<i>Emys marmorata</i>	western pond turtle	X			X	X	X
<i>Agelaius tricolor</i>	tricolored blackbird	X		X			
<i>Ammodramus savannarum</i>	grasshopper sparrow	X					
<i>Athene cunicularia</i>	burrowing owl	X					
<i>Buteo swainsoni</i>	Swainson's hawk	X					X

Wildlife Species Scientific Name	Wildlife Species Common Name	Annual Grassland Habitat Type	Developed/ Disturbed Habitat Type	Himalayan Blackberry Thicket Habitat Type	Riverine Habitat Type	Pond Habitat Type	Riparian Woodland Habitat Type
Circus hudsonius	northern harrier	X					
Elanus leucurus	white-tailed kite	X					X
Falco peregrinus anatum	American peregrine falcon (foraging)	X			X	X	X
Haliaeetus leucocephalus	bald eagle	X			X	X	X
Melospiza melodia	song sparrow (Modesto population)			X			X
Progne subis	purple martin	X					X
Setophaga petechia	yellow warbler			X			X
Xanthocephalus xanthocephalus	yellow-headed blackbird (foraging)	X					
Lasiurus blossevillii	western red bat						X
Taxidea taxus	American badger	X					X

Note: "x" demarcates existing communities in which the species could occur.

Special-status Reptiles

Western pond turtle was identified as the only special-status reptile with the potential to utilize existing onsite habitats (annual grassland, pond, riverine, and riparian woodland) for nesting, basking, foraging, and brumation (inactivity during low temperatures). Protocol-level surveys have not been performed to date; therefore, presence is assumed in all onsite suitable habitats. Western pond turtles have been determined to do best in habitats with a large amount of emergent basking sites (rocks, IWM, emergent and floating mats of aquatic vegetation), native plants and shrubs, access to uplands, and lower disturbance regimes from grazing, agriculture, industrial and recreational activities (Yarnal 2019³⁰, USGS 2006³¹). Existing habitat value is limited by the pond's very narrow littoral shelf with limited basking and highly compacted uplands with asphalt/construction debris at the surface from historical site activities.

Post-construction upland and riparian habitat conditions would be improved in a manner beneficial to sustaining healthy, viable populations of pond turtle. Removal of asphalt, debris, and compacted soils; combined with the control of target nonnative, invasive vegetation and establishment/recruitment of native, pollinator-friendly herbaceous species would enhance upland habitats that may be utilized by pond turtles for nesting. The addition of 80-90 pieces of IWM would increase basking site availability significantly over the existing condition, in which basking sites are limited due to the narrow littoral shelf.

Construction-related effects on pond turtles are expected to include initial site grading, fill placement in the pond, and dewatering. Initial site grading activities would occur to the greatest extent practicable, between August 1 and November 30 to minimize conflicts with nesting, brumating, and hatchling turtles (Stevens 2024³²). Fill placement in the pond would occur incrementally over three construction seasons, leaving some open water habitat available throughout construction, as described in the Construction Sequencing section above. Lastly, trapping and relocation would occur before and during dewatering and in-water work activities commence in each construction season in accordance with Mitigation Measure FISH-3, "Implement Measures to Avoid and Minimize Effects on Listed Fish Species."

Implementation of Mitigation Measure TURTLE-1 would serve to minimize construction-related conflicts with pond turtles. When combined with the proposed reclamation, restoration, and enhancement activities, habitat value for western pond turtles is expected to increase post-project, due to the expansion of more native floodplain habitats, introduction of a significant amount of IWM that could be used for basking habitat, and soil amendments that could improve upland nesting habitat conditions.

Special-status Birds

The 12 special-status birds identified in Table 7 as having the potential to occur are largely associated with the annual grassland and riparian communities. The existing annual grassland habitats are dominated by nonnative, invasive species which provide limited habitat value for native plant and wildlife species; however, these areas provide opportunities for habitat

³⁰ Yarnal, Cristina, "Best Management Practices for the Conservation of Western Pond Turtle Populations in California" (2019). Master's Projects and Capstones. 976. <https://repository.usfca.edu/cgi/viewcontent.cgi?article=2149&context=capstone>

³¹ https://sdmmp.com/upload/SDMMP_Repository/0/4fnpv18xm0sqtw29j7d3rz56bkychg.pdf

³² Stevens, M. 2024. Comments on the Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report for the 2016 American River Watershed Common Features Project, Sacramento CA

restoration efforts that would support native species. (Sacramento County 2021). The proposed project would enhance the onsite annual grassland habitats through control of target nonnative, invasive species and establishment of native, pollinator-friendly herbaceous cover that provides essential elements for the survival of many wildlife species, including special-status birds.

Aquatic and riparian habitats also play a critical role in providing food, water, movement corridors, protection from predators, nesting, and thermal cover for a multitude of species, while supporting the greatest diversity of wildlife because they contain a wider diversity of plant species and vegetative structure (Sacramento County 2021³³). As a result, the creation of backwater habitat and increase in riparian habitat structural complexity and diversity is anticipated to promote the expansion of riparian associated avifauna onsite post-project, including YBCU which relies upon large continuous stands of riparian vegetation (greater than 120 acres in size) for nesting. Currently the Urrutia property creates a gap in riparian habitat coverage along the Parkway due to historical land alterations; however, once established the riparian corridor connectivity through this portion of the Parkway would be restored.

Lastly, coordination with USFWS to date has determined that the proposed habitat type conversions are not anticipated to adversely affect the nesting bald eagle pair; however, if construction activities would occur within the 660-foot buffer during nesting season, then a disturbance permit from USFWS would be required prior to construction.

Special-status Mammals

The two special-status mammals identified as having the potential to occur onsite – western red bat and American badger – are largely associated with riparian habitats, although badger also have an association with grasslands. Post-restoration, riparian habitats would expand by 40.4 acres, thus expanding available habitat for special-status mammals. Expanded riparian habitats would support additional roosting for western red bats and enhanced grasslands and habitat diversity would likely support more robust insect populations for bat foraging.

Common Wildlife

The LAR riparian corridor supports more than 220 bird species, including 45 species of nesting birds, and 20 mammal species. Additionally, resident and migratory fish and wildlife use the LAR as travel and migration corridors. The existing habitats are heavily disturbed due to previous land conversion, mining activities, staging and processing of construction debris and materials, along with modern uses by the previous property owners; however, a variety of common wildlife species utilize the site in its existing condition. Table 8 provides a summary of wildlife associations for each vegetation community, based on descriptions provided in the NRMP (Sacramento County 2021³⁴). In the post-construction condition, habitat values for most common wildlife identified in Table 9 are expected to increase over the existing condition due to the promotion of native vegetative cover and increased habitat heterogeneity.

³³ https://regionalparks.saccounty.gov/Parks/Documents/NRMP__Chapter%201_Final-2023-01-26-sm.pdf

³⁴ <https://regionalparks.saccounty.gov/Parks/Pages/NaturalResourcesManagement.aspx>

Table 14. Common Wildlife Vegetation Community Associations

Vegetation Community	General Wildlife Associations
Annual Grassland	Native annual grassland habitats provide essential elements for the survival of many wildlife species, including upland refugia during flood events, foraging, resting, breeding, and shelter from predators. Common wildlife species associated with this habitat type include western fence lizard (<i>Sceloporus occidentalis</i>), common garter snake (<i>Thamnophis sirtalis</i>), western rattlesnake (<i>Crotalus oreganus</i>), California ground squirrel (<i>Otospermophilus beecheyi</i>), black-tailed jackrabbit (<i>Lepus californicus</i>), broad-footed mole (<i>Scapanus latimanus</i>), Botta's pocket gopher (<i>Thomomys bottae</i>), and meadow vole (<i>Microtus pennsylvanicus</i>). Grassland habitat provides important foraging habitat for coyote (<i>Canis latrans</i>) and a variety of raptors, including red-tailed hawk (<i>Buteo jamaicensis</i>), American kestrel (<i>Falco sparverius</i>), and several species of owls.
Developed/Disturbed	Aligned with the Developed Areas vegetation community in the NRMP. Wildlife species found in these areas are adapted to disturbed conditions and include scrub jay (<i>Aphelocoma californica</i>), mockingbird (<i>Mimus polyglotus</i>), house finch (<i>Haemorhous mexicanus</i>), raccoon (<i>Procyon lotor</i>), Virginia opossum (<i>Didelphis virginiana</i>), western grey squirrel (<i>Sciurus griseus</i>), and striped skunk (<i>Mephitis mephitis</i>).
Himalayan Blackberry Thicket	Species composition similar to adjacent habitat types.
Pond	Provides important resting and foraging habitat for many aquatic bird species, including diving ducks, and the deeper water may be preferred by many. Pond (lacustrine) habitats typically support species of plankton, as well as other microorganisms in the still, open water. Lacustrine habitats are important for reproduction, food, water, and cover requirements for the western pond turtle, as well as many mammals, birds, other reptiles, and amphibians.
Riverine	Provides resting and foraging areas for waterfowl, shorebirds, wading birds, belted kingfisher (<i>Ceryl alcyon</i>), black phoebe (<i>Sayornis nigricans</i>), and tree swallow. Aquatic mammals, including North American beaver, muskrat, and river otter use open water as movement corridors and for foraging on submerged plants and invertebrates. Riverine habitat also supports numerous resident and anadromous fish species, including chinook salmon, steelhead, and American shad (<i>Alosa sapidissima</i>).
Riparian Woodland	Riparian habitats play a critical role in providing food, water, wildlife corridors, protection from predators, nesting, and thermal cover for a multitude of species. Riparian habitats support the greatest diversity of wildlife because they contain a wider diversity of plant species and vegetative structure. Consequently, they provide a greater number of habitat niches and food resources for wildlife than other habitats in the Parkway. Riparian habitats support large numbers of insects and attract passerine (perching) birds, including several species of woodpeckers, warblers, and hummingbirds. In addition, several species of raptor, including red-tailed hawk, red-shouldered hawk (<i>Buteo lineatus</i>), Cooper's hawk (<i>Accipiter cooperii</i>), and great horned owl (<i>Bubo virginianus</i>), build their nests in the crowns of Fremont cottonwood, valley oak, and other large trees. Great blue heron (<i>Ardea herodias</i>), great egret (<i>Ardea alba</i>), snowy egret (<i>Egretta thula</i>), and black-crowned night heron (<i>Nycticorax nycticorax</i>) nest in rookeries in large trees.

Diving Ducks

The existing pond has been documented to support migratory ducks, geese, cormorants, and coots. Bufflehead (*Bucephala albeola*), common goldeneye (*B. clangula*), common merganser (*Mergus merganser*), and canvasback ducks (*Aythya valisneria*) have been documented as representing the largest numbers of individuals using the existing pond to fulfill a portion of their stopover ecology habitat needs, predominantly from mid-December to late February. Local

observations note that diving ducks move daily from daytime foraging habitats on the LAR to regionally available pond/slow water habitats for night-roosting, including the Urrutia site, to conserve energy and avoid predation (Ariola 2023³⁵). Publicly available, peer-reviewed scientific data on diving duck stopover ecology are limited; however, USACE St. Paul District developed a migratory habitat model for diving ducks using the Upper Mississippi River (USACE 2013³⁶). This model was reviewed by subject matter experts as part of the USACE model certification process and was, therefore, determined to be the most scientifically robust methodology to evaluate the existing versus proposed habitat values for this species group associated with the proposed project.

The primary concern in maximizing migratory, stopover habitat value for diving ducks is food resource availability and minimal disturbance. Studies of canvasback energetics on the Upper Mississippi River have shown that during the stopover period individuals accumulate an average of 10 to 15 percent gain in body weight before departing for the wintering areas. Large fat reserves were developed on the wintering grounds or on spring staging areas. The model assumes that the following habitat components need to be considered to evaluate the quality of migratory habitat for diving ducks: size of water body, water depth, types and abundance of aquatic vegetation, and susceptibility of the area to human disturbance. Although the model was developed for populations using the Upper Mississippi River, the focus on quality and quantity of food availability during the winter months as key factors in survival and later reproductive success align with the conservation objectives outlined in the Central Valley Joint Venture for Conserving Bird Habitat 2020 Implementation Plan³⁷.

Table 9 summarizes the habitat suitability indices and associated values developed for the model, and Table 10 used those values to quantify existing versus proposed habitat values for diving ducks. Model parameters on vegetative and invertebrate species composition were not included in this analysis because existing emergent and submergent vegetation is largely absent and data on existing invertebrate populations are not available.

Table 15. Diving Duck Migration Habitat Model Suitability Indices

Habitat Component	Suitability Index Values
Size of Water Body	
<i>Less than 100 acres</i>	1
<i>100 to 200 acres</i>	5
<i>200 to 1,000 acres</i>	7
<i>Greater than 1,000 acres</i>	10
Water Depth - Percent of Area 18 inches to 5 feet deep	
<i>Less than 10 percent</i>	1
<i>10 to 40 percent</i>	3
<i>40 to 70 percent</i>	5
<i>Greater than 70 percent</i>	10
Percent Submergent Vegetation Cover	

³⁵ Ariola, D.A. M. Geiger. S. Goodrich. 2023. The Importance of Off-channel Ponds to Wintering Waterbirds along the American River in Sacramento, California: An Initial Assessment. Central Valley Bird Club Bulletin Volume 26, Number 3.

³⁶ USACE 2013. <https://cw-environment.erd.c.dren.mil/models/DivingDuckMigrationHabitatModelDocumentation.pdf>

³⁷ https://www.centralvalleyjointventure.org/assets/pdf/CVJV_2020_Implementation_Plan.pdf

Habitat Component	Suitability Index Values
<i>Less than 10 percent</i>	1
<i>10 to 30 percent</i>	3
<i>30 to 50 percent</i>	6
<i>Greater than 50 percent</i>	10
Percent Emergent Vegetation Cover	
<i>Less than 10 percent or greater than 50 percent</i>	1
<i>10 to 20 percent or 30 to 50 percent</i>	5
<i>20 to 30 percent</i>	10
Disturbance	
<i>Access uncontrolled - considerable human activity during migration</i>	1
<i>No hunting activity but considerable human activity such as fishing/boating occurs during migration</i>	6
<i>No hunting activity and human activity minimal during migration</i>	8
<i>No human activity occurs or closed to human entry</i>	10

Table 16. Existing and Proposed Diving Duck Habitat Suitability Indices

Habitat Component	Existing Suitability Index Value	Proposed Suitability Index Value	Rationale
Size of Water Body	1	1	Wetted extent during migratory period remains unchanged.
Water Depth - Percent of Area 18 inches to 5 feet deep	5	10	Wetted extent during migratory period remains unchanged and proposed improvements would bring water depths much closer to desirable range.
Percent Submergent Vegetation Cover	1	6	Currently little to no submergent vegetation is present due to steep pond slopes, narrow littoral shelf, and pond depths. Seasonal herbaceous wetland vegetation is anticipated to recruit into Zone 1 during the drier months of the year (July through early December), which would become submergent vegetation as the WSE increases, increasing the value of this habitat component post-construction.
Percent Emergent Vegetation Cover	1	5	Same rationale as above. Recruited vegetation into Zones 1 and 2 would become emergent vegetation, where the annual high-water mark is projected to occur (Figure 13), as WSE increase into the winter and spring months.
Disturbance	8	6	Historically the site has experienced minimal human activity during migration because the property was privately owned until 2023. Implementation of Parkway Plan policies would allow access to the onsite habitats for boating/fishing, which would increase the level of disturbance.
Suitability Index Totals	16	28	

As can be seen from the results in Table 10, overall diving duck habitat suitability is anticipated to increase over the existing condition with project implementation. The increase in habitat suitability is driven by the increase in vegetative cover, which increases food availability at the site, and by adding structural complexity to the existing pond through the creation of a lower

open water/seasonal wetland zone that will be buffered from shore by a low elevation, willow-dominated riparian zone. Improved onsite foraging value could result in reduced overall energetic expenditure requirements. Furthermore, Ducks Unlimited has documented that waterfowl often select more sheltered habitats for roosting during migration to conserve body heat and save energy. Energy costs are highest on clear nights when heat loss is greatest in open habitats. Studies conducted by Ducks Unlimited showed that at the same ambient temperature, flooded willow wetlands with dense woody cover provided more favorable microclimate conditions for roosting ducks than flooded agricultural fields or deep-water habitats because the closed canopy shielded birds from heat loss as well as avian predators like great horned owls and bald eagles (Ducks Unlimited 2009³⁸). As a result, increased vegetative cover and habitat complexity is anticipated to increase overall stopover habitat value for migrating diving ducks by reducing energetic expenditures not only during foraging activities but also for roosting and predator avoidance.

Wildlife Movement

The site has historically been heavily managed and maintained by the previous property owners; therefore, habitat availability for undisturbed wildlife movement has been limited. During construction, wildlife that use the area would be expected to be temporarily displaced. A minimal amount of impact on existing riparian vegetation would occur and those habitat areas affected are currently characterized by narrow corridors. Post-construction, riparian habitats and overall habitat continuity and quality would be improved for common and special-status wildlife species that rely upon the LAR for all or part of their life cycle and may use onsite habitats to move between upstream and downstream portions of the LAR Parkway. Given the rapid to moderate growth rates of the canopy species (willow, valley oak, and Fremont cottonwood), the habitat values would be expected to be functionally replaced within the 8-year establishment period. Additionally, the expanded riparian habitats and enhancement of non-native grasslands would increase overall wildlife movement value at this site post-construction in comparison with the existing condition.

MR 9-12 American River Parkway Plan Alignment

The proposed project will implement the appropriate avoidance, minimization, and mitigation measures outlined in the relevant EIS/EIR documents; along with the pertinent terms and conditions of the USFWS and NMFS biological opinions, as required. In addition to the environmental documents, land use and management decisions in the American River Parkway are governed by the 2008 Parkway Plan. The proposed project is associated with the Discovery Park Area Plan, within the broader 2008 Parkway Plan. Table 11 provides a summary of the relevant Discovery Park policies, along with a summary of the project's alignment with this document.

³⁸ <https://www.ducks.org/conservation/waterfowl-research-science/ducks-after-dark>

Table 17. Parkway Plan Alignment

Parkway Plan Policy	Alignment
10.5. Acquire the Gardenland Sand and Gravel Mine (ARMS).	SAFCA closed on the property in May 2023.
10.6. Following acquisition, reclaim and restore the ARMS to enhance its fish and wildlife habitat value, accommodate historical and cultural interpretive activities, with related minor interpretive facilities in Limited and Developed Recreation areas, including demonstrations of California Native American culture, and support picnicking, hiking, and wildlife viewing.	The overarching goal of the project is to restore and reclaim the ARMS to enhance fish and wildlife habitat value. The USACE authorization limits the development of recreational and interpretive facilities in association with the project; however, access, staging, and laydown areas will be sited and constructed in a manner to facilitate future development of these facilities for incorporation into the LAR Parkway to the greatest extent practicable.
10.6.1. Create a trailhead with an unsurfaced parking area, restrooms, and directional signage onsite. Trails may be realigned to reduce user conflict at the access road.	The overarching goal of the project is to restore and reclaim the ARMS to enhance fish and wildlife habitat value. The USACE authorization limits the development of recreational and interpretive facilities in association with the project; however, access, staging, and laydown areas will be sited and constructed in a manner to facilitate future development of these facilities for incorporation into the LAR Parkway to the greatest extent practicable.
10.6.2. Create an unsurfaced parking area at the eastern end of the site, accessible from Northgate Boulevard.	The overarching goal of the project is to restore and reclaim the ARMS to enhance fish and wildlife habitat value. The USACE authorization limits the development of recreational and interpretive facilities in association with the project; however, access, staging, and laydown areas will be sited and constructed in a manner to facilitate future development of these facilities for incorporation into the LAR Parkway to the greatest extent practicable.
10.6.3. Permit non-motorized boating in the pond for interpretive purposes only and in a manner consistent with the protection of restored habitat and wildlife use. Non-motorized boats shall only be allowed by permit at the discretion of the Parkway Manager.	The habitat zones from open water/wetland transition, through upper riparian, would inundate to a depth and acreage sufficient to allow non-motorized boat access to the site, post-project, should the Parkway Manager approve.
10.6.4. Fishing in the pond shall only be allowed by permit for interpretive purposes at the discretion of the Parkway Manager.	The habitat zones from open water/wetland transition, through upper riparian, would inundate to a depth and acreage sufficient to allow non-motorized boat access to the site, post-project, should the Parkway Manager approve.

Additionally, the proposed project would align with the objectives identified for the 2008 City of Sacramento conceptual project for the site, which was determined to be consistent with the Parkway Plan policies. Table 12 provides a summary of the City's 2008 project objectives with descriptions of the current project's alignment.

Table 18. 2008 City of Sacramento Project Alignment

2008 Project Objectives	Proposed Project Alignment
Acquisition of the property by the City of Sacramento	Acquired by SAFCA in 2023
Reclamation of the site by the City and SAFCA pursuant to SMARA. Reclamation was defined as including removal of any hazardous materials and soils, un-useable structures and equipment, and site contouring and revegetation to restore the site and protect public safety. This 2008 project element included:	
<i>Clearance and removal of existing non-historic structures and equipment remaining onsite after purchase.</i>	Completed by SAFCA in Summer 2024
<i>Remediation of hazardous materials identified during site investigations. Limited site-specific data had been performed prior to the development of the 2008 project to inform the conceptual design.</i>	Completed by SAFCA in Summer 2024
<i>Stabilization of slopes along the river and pond (maximum of 3:1) to increase slope stability and public recreation</i>	Incorporated into current design, along with IWM for increased habitat value and stability.
Excavation and grading of pond slopes, along with placement of fill, below the summer water surface elevation, into the pond to create more stable and gentler slopes; as well as provide shoreline variation for aesthetic appeal and improved habitat quality. Peninsulas and coves were also considered for incorporation into the pond reclamation design to create a more natural appearance and greater habitat diversity.	Current design expands on this concept
Enhancement of the site to restore and enhance the riverine and riparian habitat values of the site as part of the American River Parkway and the American River natural habitat. This 2008 project element included:	
<i>New riparian plantings (cottonwood, willow, Oregon ash and other riparian species)</i>	Incorporated into design
<i>Removal of invasive species by chemical or mechanical means and replanting with native species.</i>	Incorporated into vegetation establishment and management plan under development with resource agencies and Tribes.
<i>Pond design and management for mosquito control.</i>	Incorporation of inlet to main river channel will mitigate mosquito control needs. Annual winter WSEs will maintain pond-like conditions post-construction.
<i>Approximately 10 acres of uplands were expected to be seeded and managed as native grassland, 10 acres were proposed for grading and planting as marsh and wetland, 25 acres of riparian vegetation enhancement, and 20 acres of restored shaded riverine habitat.</i>	Project proposes to expand enhancement and restoration activities to the majority of the site (106 acres), as opposed to approximately half of the site (55 acres).
<i>Walking trails, overlooks, benches, and interpretive signage.</i>	The USACE authorization limits the development of recreational and interpretive facilities in association with the project; however, access, staging, and laydown areas will be sited and constructed in a manner to facilitate future development of these facilities for incorporation into the LAR Parkway to the greatest extent practicable.

MR 9-13 Conclusion

The proposed ARMS at the Urrutia property would restore and enhance onsite habitat functions and values to as close to pre-mining habitat conditions as possible. The goal is to improve conditions for 35 special-status species that may rely upon these habitats for all or part of their life cycle, while still achieving the compensatory mitigation needs for salmonids, YBCU, and VELB on the LAR. Compensatory mitigation associated with erosion projects on the Sacramento River are not proposed to be offset with the ARMS at Urrutia project. The proposed design surface elevations are set to achieve winter and spring WSEs that would mimic pond-like conditions, while still providing shallow water habitat for salmonids and other species that rely upon diverse riparian and floodplain habitats, thus supporting the greatest cross-section of species. Additionally, movement of wildlife should be enhanced post-construction by the increased structural complexity and vegetative cover over existing conditions. Lastly, the proposed project was developed in consideration of the Parkway Plan policies, along with the terms and conditions of other relevant governing permits and authorizations and the project expands upon the 2008 City of Sacramento project conceptualized for the site.

MR 10: Purpose and Goals of American River Erosion Contract 4B

This master response provides commenters additional detail about design improvements planned for contract 3B as well as the reduction to tree impacts now estimated for contract 4B. The trees identified in 4B were shifted from 3B for additional evaluation. That additional evaluation includes design reinternments and isolated risk of scour. Comments also included questions about the Vegetation Design Deviation, which is explained below.

MR 10-1: Contract 4B Purpose

American River Erosion Contract 4B is located on the right (north) bank upstream of Howe Avenue and on the left (south) bank upstream of Watt Avenue. Contract 4B is located immediately adjacent to Contract 3B; specifically, in between the footprint of Contract 3B and the levee crown. Figure 1 shows the location of Contract 4B in relation to the locations of the other ARCF 2016 Project erosion protection improvements along the LAR. Contract 4B is focused on addressing two key erosion risks along the Lower American River, specifically in river Segment 3-11 on the north bank upstream of Howe Avenue and Segments 3-8 and 4-1 on the south bank upstream of Watt Avenue. The first erosion risk being addressed by Contract 4B pertains to lone tree scour which is detailed in Section 2 below. The second erosion risk Contract 4B is addressing is the potential for erosion to outflank the Contract 3B design is Segment 4-1 on the south bank of the river; this second erosion risk is detail in Section 3 below.

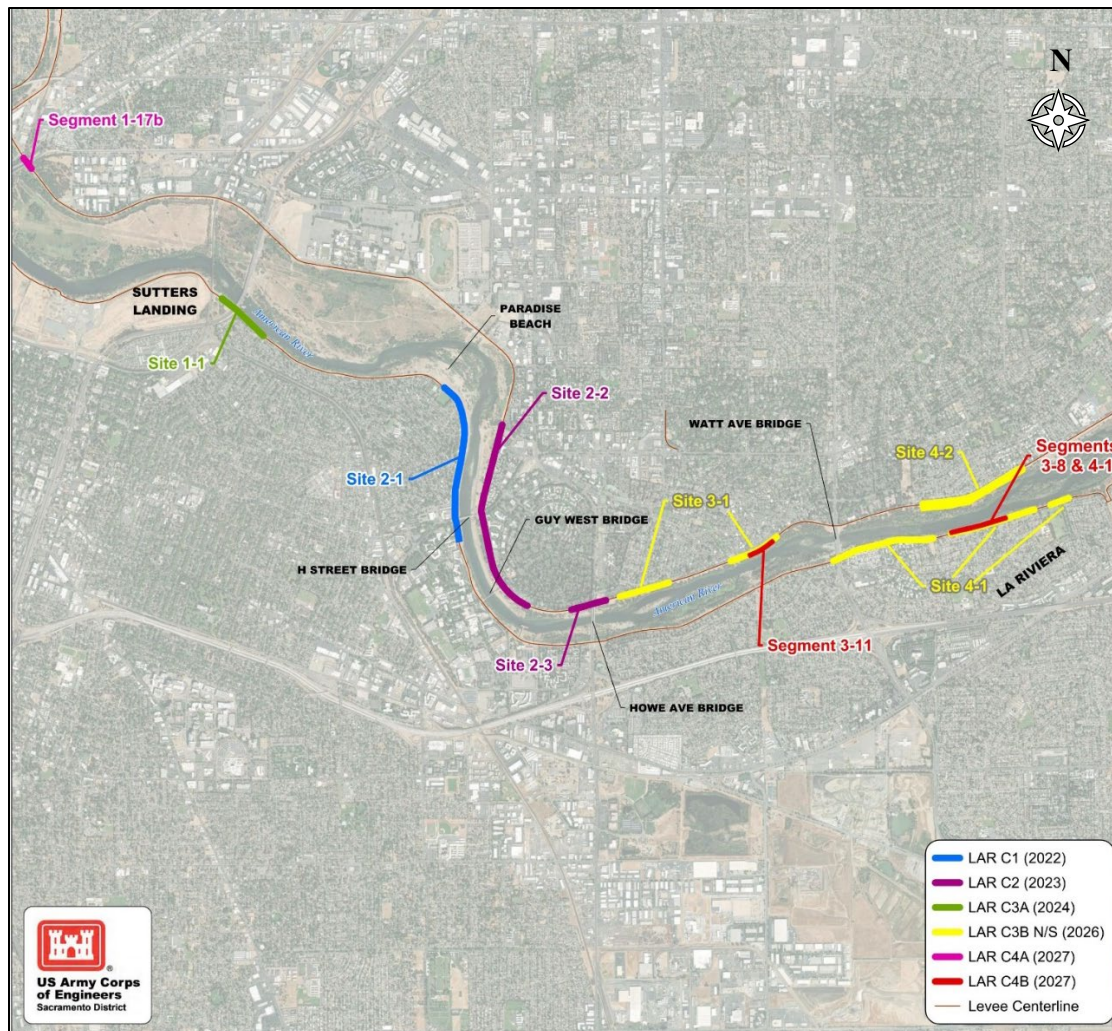


Figure 27. ARCF 2016 Project Erosion Protection Improvements on LAR

MR 10-2 Lone Tree Scour

A risk assessment completed in 2022 determined certain trees on or near the levee embankment adjacent to the Contract 3B erosion protection footprint pose an unacceptable risk to the levee's integrity. The purpose of Contract 4B is to address this risk to the levee while protecting these trees in place by installing erosion protection around the base of the trees. However, if engineering analyses demonstrate that a design solution to protect a given tree in place is not achievable, or if based on input from landscape architects and arborists a design solution would likely result in a given tree's death, tree removal may be required. Contract 4B is in the early design phase so design features are still being assessed. Consequently, Contract 4B is being analyzed in the SEIS/SEIR programmatically.

Background

In April 2022, Risk Cadre review of Contract 3B Sites 3-1 and 4-1 at the 65 percent design milestone identified an additional erosion risk driver of scour around individual trees on the waterside slope or toe of the levee that was not being addressed by the Site 3-1 and Site 4-1

designs. During flood events, trees have been observed to induce localized erosion, or scour, around the trunk of the tree similar to bridge piers. See Figure 28 and Figure 29 below for an example of localized scour caused by trees; note the difference in size of the scour holes in each figure which is mainly attributed to type of soil (non-cohesive vs. cohesive) each tree is growing within. This scour excavates a depression around the tree that, for trees located near or on the levee embankment, can extend into the levee embankment and narrow the levee inducing levee failure. This erosion risk must be addressed for USACE's flood risk reduction objectives to be met. With Contract 3B Sites 3-1 and 4-1 designs being optimized to address erosion of the riverbank, not lone tree scour, and the lone tree scour risk being identified late in the C3B design process, the lone tree scour risk potential is being addressed as a separate contract to allow for a more selective approach to address this unique risk driver.



Figure 28. 1986 flood event aftermath – localized lone tree scour

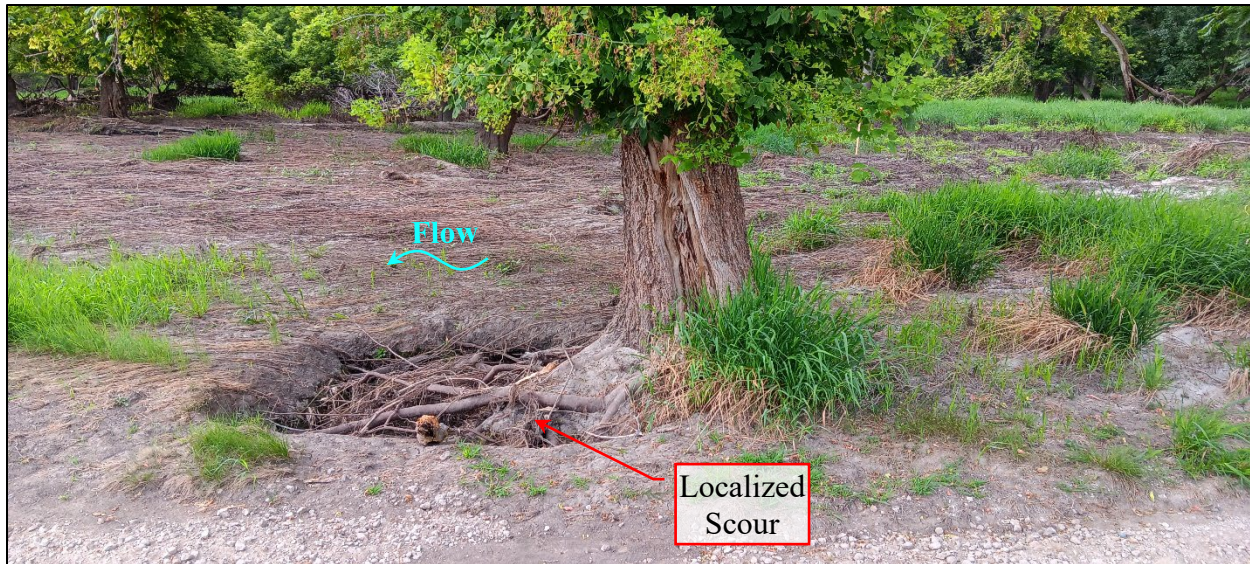


Figure 29. 2024 Big Sioux River (Missouri River tributary) flood aftermath - localized lone tree scour

Lone Tree Scour Risk Scope

The intent of lone tree scour evaluations and remediation is to address the risk of erosion jeopardizing the levee from trees located in the Vegetation Free Zone (VFZ), while protecting all native tree species in place. Non-native tree species which pose a threat will be reviewed on a per tree basis with the Technical Resource Advisory Committee (TRAC) to determine preference for removal or protection. The TRAC is a group of local stakeholders (county parks & others), regulating agencies and Subject Matter Experts (SME) who advise on design decisions.

USACE is working through a four-step process to identify individual trees which pose a risk to the levee and to develop approaches to reduce the erosion risk. Steps two and three focus on minimizing the footprint of the project to ensure only trees that are an immediate threat to levee safety during a high flow event are included in Contract 4B. USACE will complete this process following the below steps:

Step 1: Identify individual trees in close proximity to the levee which may threaten the levee if scour were to occur. USACE completed an initial assessment and identified 81 trees for study. These trees include all trees located on the waterside slope of the levee and within 25 feet of the waterside levee toe. Figure 30 and Figure 31 show the locations of these 81 trees.

Step 2: Estimate maximum scour expected to occur around each tree during a design event and determine which trees could create scour that could extend into the levee or levee foundation. USACE completed an initial analysis of the 81 trees identified in Step 1 and identified 31 trees did not need further action due to limited scour depths and/or the potential scour not extending into the levee.

Step 3: Evaluate the scoured condition to determine the effect on levee stability. The remaining 50 of 81 trees will be further evaluated to understand if the scoured condition around the tree could threaten the integrity of the levee. The evaluations will include geotechnical studies of

seepage and stability and detailed risk assessments to verify which trees pose an immediate threat to levee safety. Trees determined to not pose an immediate threat to the levee's integrity during a single high flow event will be considered safe and will be removed from further evaluation. USACE is currently working on this step to finalize the scope of Contract 4B and determine exactly which trees require action to mitigate the erosion risk. It is anticipated this step will be completed by mid-2025.



Figure 30. Contract 4B trees under evaluation within Segment 3-11

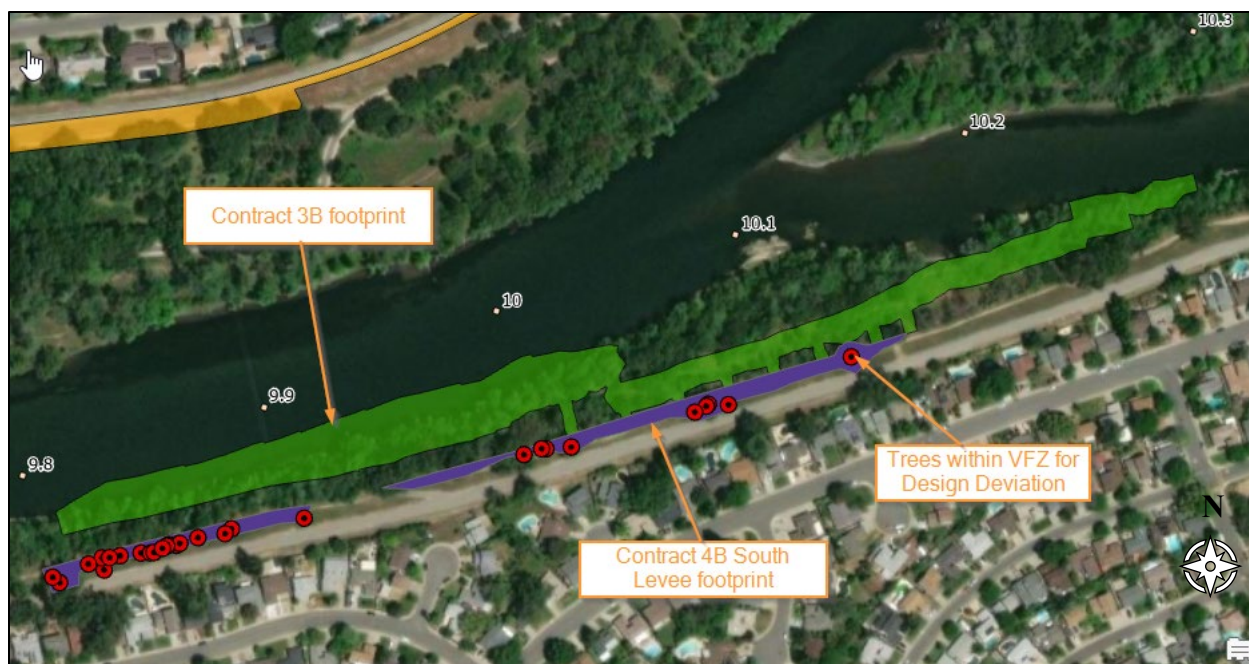


Figure 31. Contract 4B trees under evaluation within Segments 3-8 and 4-1

Step 4: Develop solutions to mitigate erosion risk working with certified arborists and the TRAC. Only trees determined to pose an immediate threat to the levee's integrity will be considered for action. USACE will work with the TRAC to develop design criteria for addressing the erosion risk for these trees, develop a range of treatments for each tree, and select the final preferred treatment. The final array of design solutions will need to demonstrate that USACE flood risk reduction objectives are met. USACE will continue to consult with the TRAC throughout the design development cycle and comply with requirements for arborist determinations regarding tree preservation, trimming, and removal.

Potential Actions

Potential design actions considered for Contract 4B include (Included in Section 2.5.4.2 "Potential Actions" of the Engineering Appendix G):

- No Action. Additional engineering analyses concludes that individual trees are not a risk.
- Erosion Protection. This action would place erosion resistant material around the tree to prevent, or limit, the local scour from occurring similar to scour countermeasures placed near bridge piers. Unlike bridge piers, the health of trees can be impaired if the tree roots are damaged thereby limiting excavation to place materials and total fill depth that can be placed over roots to prevent erosion. Unique treatments for different tree types and loadings will be developed for each tree type.
- Tree Removal. This action carefully considers the types of trees (native versus non-native), the size of scour depth, and the potential impact of the scour to the levee prism above the levee toe. Removal of trees is not preferred due to the short and long-term loss of riparian habitat and would likely be limited to non-native invasive vegetation or trees of poor health.

Vegetation Design Deviation

The trees within Contract 4B's scope are located within the VFZ established in ETL 1110-2-583 (U.S. Army Corps of Engineers, 2014). Design solutions which propose anything other than removal of woody vegetation within the VFZ require a Vegetation Design Deviation (VDD) be approved by USACE Headquarters (USACEHQ). The approval process is expected to take approximately 2-years to complete once the final scope of Contract 4B is finalized. As the native oak and walnut trees in the project footprint are important to the visual aesthetic, habitat values, and natural setting of the American River Parkway, design solutions will be developed to protect the trees as well as the levee from erosion in consultation with Non-Federal sponsors and TRAC. The PDT is working toward an approval from USACE Headquarters by completing additional analyses considering the soil profile, vegetation type, and local three-dimensional hydraulics developed with site specific three-dimensional hydraulic models.

MR 10-3: Tieback Extensions

Within Contract 3B Segment 4-1 on the south bank of LAR, upstream of Watt Avenue, part of the erosion protection planned includes installation of rock tiebacks which serve to prevent erosion from outflanking the revetment installed at the riverbank's edge (i.e., eroding the bank/levee landward of the riverbank's edge revetment). These tiebacks can be seen in Figure 32 below. The locations of these tiebacks were selected to avoid impacts to existing vegetation and were intended to extend further landward into the VFZ to ensure the tiebacks ability to prevent erosion from outflanking the Contract 3B bank revetement; however, due to concerns which arose late in the design development phase of Contract 3B the tiebacks were cut short to avoid encroaching into the vegetation free zone. The concerns were specific to working in and around the vegetation which exists within the VFZ which could trigger the need for, and USACEHQ approval of, a VDD. Given the time requirements to develop and get approval of a VDD, as further described in Section 2.4 above, it was decided to stop the Contract 3B tiebacks outside the VFZ and construct the remaining extent of the tiebacks under Contract 4B which was already planning on developing a VDD to support preservation of trees identified as a lone tree scour risk described in Section 2.

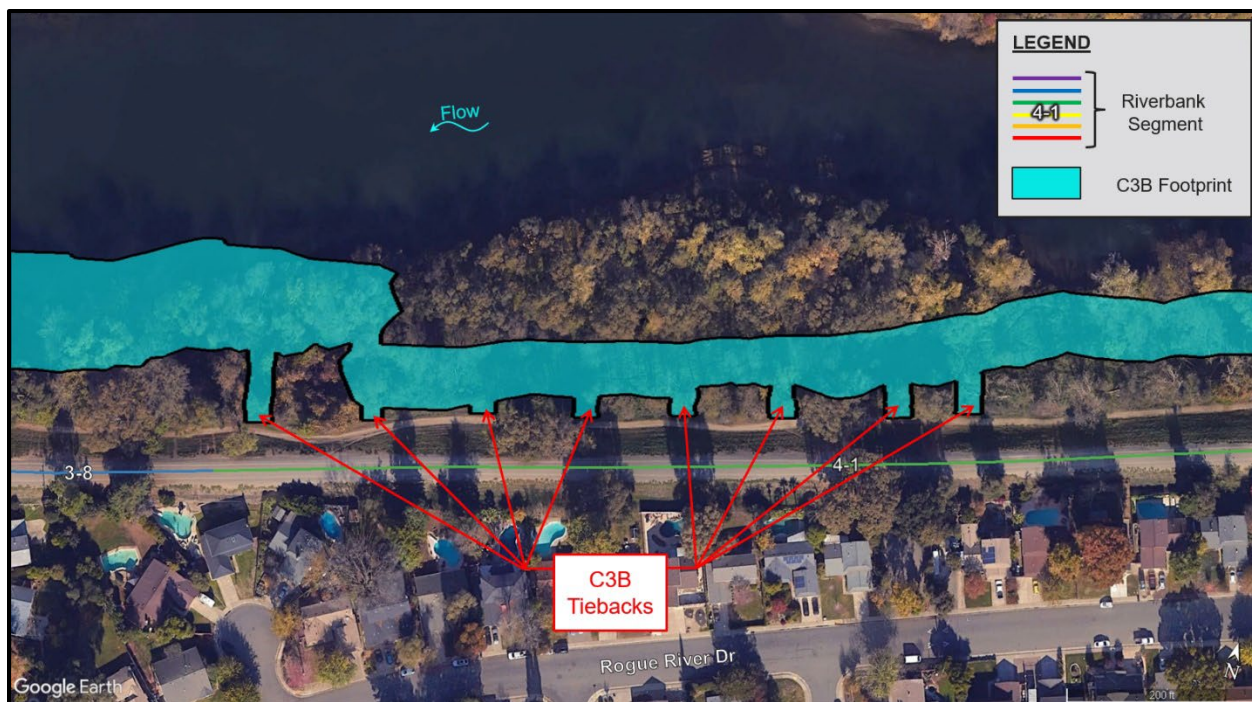


Figure 32. Contract 3B Tiebacks

Tieback Extension Scope

The Contract 3B tiebacks are fully buried and constructed using soil filled rock. For Contract 4B, the eight tiebacks depicted in Figure 32 above will be extended further landward and be constructed in the same manner as Contract 3B. The exact length of each tieback extension is still being determined but the tiebacks will extend into the VFZ and into the levee embankment. A typical cross section of the tiebacks is shown in Figure 33 below. A rough estimation of the extended tieback footprints is shown in Figure 34 below.

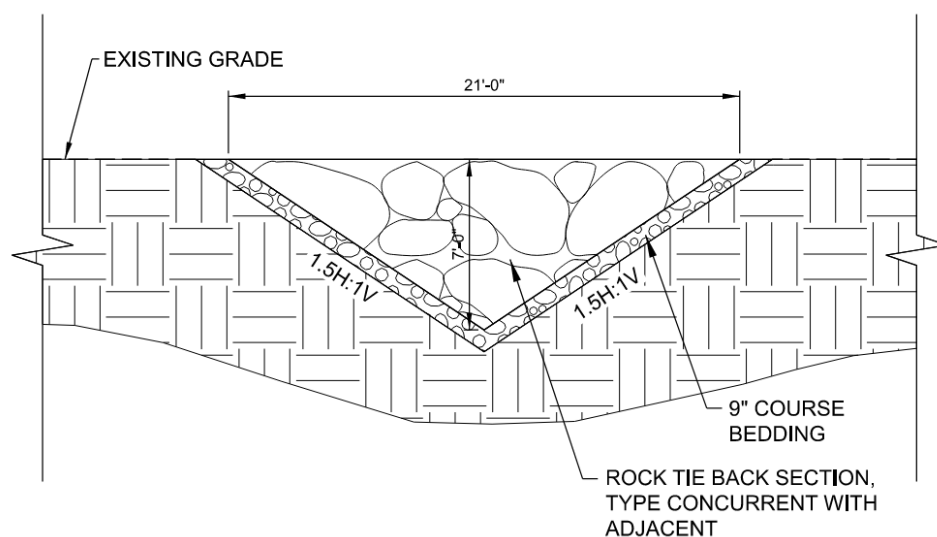


Figure 33. Rock Tieback Typical Cross Section



Figure 34. Estimated maximum footprint of tieback extensions

MR 11 Levee Safety and Public Access

Several commenters asserted that the Draft SEIS/SEIR failed to disclose the current baseline of the community of people experiencing homelessness (or unhoused community) living along the Sacramento River, and that past projects, including the Seepage, Stability, and Overtopping (SSO) contracts along the Sacramento River East Levee (SREL), have allowed for easier public access and resulted in localized ecological damages, such as increased trash and water pollution. While there are no SSO projects analyzed in the Draft SEIS/SEIR, the Sacramento River Erosion Contract 3 is co-located along a similar length of the Sacramento River. While specific concerns were addressed directly by the SREL project managers and team, this Master Response (MR) considers the programmatic level concern on both Sacramento and American Rivers and provides locally available resources and procedures for the public.

MR 11-1 Levee Safety and Security

Local ordinance (Sacramento City Code Chapter 8.140 and Sacramento County Code of Ordinances Chapter 9.120) and USACE, CVFPB, and local levee maintaining agency safety requirements prohibit camping on levees and within 25 feet of levees to avoid damage to critical infrastructure and to ensure that levees can be easily inspected and maintained. The local agency requirements will also be implemented under the No Project Alternative and require the removal

of encampments within the footprint of the various project components to prevent threats to public health, safety, and welfare from damage to critical infrastructure. Additionally, active construction would result in unsafe conditions to unhoused campers in the project footprint. Encampments on the project site would therefore be subjects to removal regardless of USACE action to implement the ARCF 2016 Project. The local maintaining agencies will coordinate with the City or County to request that a task force including local law enforcement and service providers safely remove encampments from work areas prior to construction of the proposed improvements, with service support as described below.

Services for those displaced from the project sites, including the Sacramento River and American River levees and the Magpie Creek site, are offered by both Sacramento City and Sacramento County. As part of the Local Homeless Action Plan and in conjunction with the City-County Partnership Agreement, the Coordinated Access System (CAS) has been developed by Sacramento Steps Forward. The CAS is a streamlined system that matches people experiencing homelessness with housing and service options. This process prioritizes limited local shelter and housing resources, so people with the highest vulnerability can be connected to support as quickly as possible. These services can be accessed by calling 2-1-1. In Sacramento County, the Homeless Engagement and Response Team (HEART) consists of counselors and peers that assist those in encampments obtain housing and other mental health services.

During construction the project areas are the responsibility of the construction contractor. The contractor must secure the site, they can accomplish this with fences and/or security to patrol the sites. If deficiencies are observed or reported, USACE will require the contractor to resolve the issue. Once a construction contract is complete, the area returns to the responsibility of local law enforcement agencies and the local maintaining agency for issues related to safety/security. The Sacramento County Sheriff's Office can be contacted at (916) 874-5115 and the American River Parkway Ranger's Office can be contacted at (916) 875-6961 (for dispatch call (916) 875-7275). For unlawful homeless encampment issues on public property within the City of Sacramento, concerned public can contact the Department of Community Response at 3-1-1 to report homeless encampment issues. An agent will collect details, and the Department of Community Response will review the submission. The city is required to respond within 20 days, as a part of Measure O – also known as the Emergency Shelter and Enforcement Act of 2022. If the levee is physically being altered or damaged, then it would be appropriate to contact the Central Valley Flood Protection Board (CVFPB) to report it at (916) 574-0609 or e-mail Questions@CVFlood.ca.gov.

MR 11-2 *Habitat Restoration*

Several commenters asserted that planting benches completed as on-site mitigation for previous ARCF 2016 Project contracts along the Sacramento River were used for encampments shortly after construction (Indiv-231-2). One commenter said, “in the small ½ mile segment of planting bench installed along Riverside Blvd to Zacharias Park, [has no] less than 4 campsites, 3 of which have been abandoned with ecological wreckage” (Indiv-257-1). Commenters reported destruction of wildlife habitat including removal planted trees and shrubs, fires, and human waste (Indiv-225-1).

Planting benches are critically important for erosion protection projects in providing fish (shade) and wildlife habitat mitigation for losses of trees and shrubs removed for construction of the project. Additionally, planting benches provide aesthetic and recreation benefits. Planting benches are incorporated into the launchable toe feature and allow for the placement of deep soils. When compared to other types of on-site mitigation, such as using existing topography including steep slopes or planting berms, vegetation establishes more successfully due to deeper soils and better root establishment. Planting benches are a newly designed feature of the ARCF 2016 project components included in this SEIS/SEIR, after monitoring vegetation success or failure of past mitigation sites. Vegetation monitoring is a requirement of the Biological Opinions received under Endangered Species Act, Section 7 consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Services. Vegetation monitoring allows USACE to assess the effectiveness of on-site mitigation features by measuring native and non-native herbaceous species cover, and woody vegetation cover and vigor.

Post-construction planting benches and native landscaping will be posted with signs and monitored for establishment success for up to 10 years by the contractor and project partners. The success of these sites is critical to meet our environmental impact mitigation objectives, thus damage to these sites will be corrected to meet the success criteria required by the resource agencies as required by the adaptive management strategy. Corrective actions could include, replacing dead plants with new live plants, adding, or removing browse fences, initial irrigation, and trash removal. If damages result in a risk to the levee (flood risk feature), it will be the responsibility of the local maintainer to address the concerns. Project partners will work with the local agencies such as the local maintainer, project partner and/or law enforcement to limit human disturbance of these sites. During vegetation establishment periods, the sites will be periodically surveyed for condition, when concerns are identified they will be communicated to the contractor and project partners to be resolved.

MR 11-3 *Levee Encroachments*

A commenter living adjacent to the footprint of past ARCF 2016 Project contracts on the Sacramento River questioned USACE and the non-Federal Partners, when stairs/steps could be reconstructed following their removal of the levee improvement project (Indiv-230-2). Some levee encroachments (such as fences, stairs, docks etc.) must be removed for levee improvements to take place, as stated in their existing permit. Appendix B, "Detailed Analysis," includes a discussion of dock encroachments under Section 2.2, "Recreation". Owners of encroachments in the project area may be required to remove docks, stairs and associated infrastructure within the project site, in accordance with their permits. Encroachment owners would need to acquire new authorization and any necessary permits from the relevant local or state regulatory bodies to restore their encroachments after construction of the project. USACE Regulatory permits are only required below the ordinary high-water mark of the river, however USACE Operations permits for encroachments within the Federal project can be acquired through the CVFPB permit process.

A permit from the CVFPB is required for any proposed work that is between or in the vicinity of any Federal Project Levees within a State Plan of Flood Control. This includes the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment or

works of any kind; also including the planting, excavation, or removal of vegetation, as well as repairs or maintenance thereof. For more information, please visit <https://cvfwpb.ca.gov/permitting>.

MR 11-4 Levee Public Access

One commenter requested “security and lighting on a proposed bicycle trail” (Indiv-225-1). Increasing public access or adding a bicycle trail to the Sacramento River east levee is not a part of the Proposed Action, nor is it within the project authority or funded by the project proponents. The Del Rio Trail Project, a new active transportation corridor providing a bike route from south Sacramento to downtown, connecting South Land Park, Freeport Manor, Z’berg Park, Land Park, Meadowview, and Pocket neighborhoods, was completed by the City of Sacramento in May 2024. Project updates and contact information is available at <https://www.cityofsacramento.gov/public-works/engineering/projects/del-rio-trail-project>.

MR 12: Property Value Impacts

Several comments were raised regarding the effects of erosion protection construction on property values, with most comments indicating that loss vegetation within the parkway and dust and noise from construction could lower property values. This concern is noted and will be considered by USACE Commander and the Central Valley Flood Protection Board when they consider the Record of Decision and for approval under the National Environmental Protection Act (NEPA), and for certification under the California Environmental Quality Act (CEQA).

The NEPA primarily focuses on assessing the environmental impacts of proposed Federal actions. However, it does not directly address property values. The determination of property value loss due to environmental impacts typically falls under state law and local regulation. The CEQA regulations generally excludes social and economic impacts (see Section 15131 of the State CEQA Guidelines, which state that “Economic or social effects of a project shall not be treated as significant effects on the environment.” For economic or social effects to require analysis under CEQA there must be a demonstrated link between these effects and a physical effect on the environment.

Residential property values in the vicinity of erosion protection and levee improvement projects on both the American and Sacramento Rivers in general are affected by a variety of non-construction factors such as national, regional, and community economic conditions; national and regional trends in employment, inflation, and interest rates; local population changes; and real estate development. While property values may be affected by local perceptions of environmental issues, such as temporary dust and noise exposure, the complex interaction of multiple economic and real estate factors makes the estimation of such effects highly speculative.

The commenters do not provide specific evidence to demonstrate that project construction activities would negatively affect property values. Furthermore, no evidence has been provided to suggest that a reduction in property values would result in physical effects to the environment in this case. Therefore, this issue is not addressed further.

MR 13 Green Space and Physical and Mental Health:

Commenters asserted the Draft SEIS/SEIR failed to disclose and analyze the full array of impacts to recreational use, including corresponding effects to the physical and mental health of the public, related to erosion protection at American River Erosion Contract 3B. The Draft SEIS/SEIR used the State CEQA Guidelines, Appendix G to determine significance criteria as the checklist generally captures the environmental effects resulting from construction projects. However, using only impact criteria from the CEQA Guidelines 2.2-a Increase the use of existing neighborhood and regional parks such that substantial physical deterioration would occur, and 2.2-b Include recreational facilities or require construction or expansion of facilities which might have an adverse physical effect of the environment, resulted in a Less than Significant (2.2-a) and No Impact (2.2-b) conclusion under CEQA and NEPA for the Lower American River contracts including Contract 3B (Table 4.2.2-2 Recreation Effects by Project Component).

To fully disclose and analyze effects under CEQA and NEPA, a third impact was developed, 2.2-c Cause substantial long-term disruption in the use of an existing recreational resource, reduce the quality of an existing recreational resource, reduce availability of an existing resource, or result in inconsistencies or non-compliance with planning documents (such as the American River Parkway Plan). Use of this criteria resulted in a CEQA Significance Conclusion of Short-term Significant and Unavoidable, Long-term Less than Significant with Mitigation Incorporated, and NEPA Effects Determination of Short-term Significant and Unavoidable Effects, and Long-term Negligible Effects that are Less than Significant with Mitigation Incorporated for Lower American River contracts.

The American River Parkway Plan cites in Public Health Benefits “access to parks, open space, and trails increases physical activity and improves physical and mental health of residents” and “exposure to nature and greenery has been shown to increase psychological health and well-being” (Sacramento County 2008, p 11-239), as well as describe social benefits of open space, parks and trails to the community by “helping to establish neighborhood identity, creating focal points, and providing gathering places for special events and picnics” (Sacramento County, p 11-240). However, there are no specific policies related to public health. The Lower American River contracts are in alignment with the goals of the Parkway Plan. Following construction, on-site habitat mitigation will allow for a continuous opens space greenbelt and will achieve balanced management by meeting flood risk and public safety objectives mirroring the Parkway Plan goals of “controlling flooding, preserving and enhancing native vegetation, native fish species, the naturalistic open space and environment quality within the urban environment; maintaining and improving water flow and quality; providing adequate habitat connectivity and travel corridors to support migratory and resident wildlife; providing recreational opportunities; and ensuring public safety” (Sacramento County 2008, p 2-15).

Many commenters related the loss of riparian forest in the Contract 3B project footprint to the detrimental health impact of the community by reducing “opportunity for connection to nature, relaxation, and many other ways the area uniquely offers opportunities for physical activity and mental health sustenance” (CDB-3-29). Another commenter cited the importance of nature for “physical health, mental well-being, social connection, escape and relaxation, coping mechanism, mindfulness and reflection, and economic impact” during the COVID-19 pandemic

(Indiv-812-2). MR 15 provides a comprehensive evaluation of riparian forest impacts for Contract 3B, while MR 4 describes the impacts to recreation on the Lower American River.

Master Response (MR) 3-1, “Need for Tree Removal in Contract 3B and 4” describes the multi-year effort during Pre-Construction Engineering and Designs (PED) to minimize designs to the greatest extent while meeting public safety risk objectives for the Lower American River to safely convey the 160,000 cfs design flow. MR 3-1 describes design charrettes which redesigned the project to balance environmental and flood risk objectives while prioritizing minimum design footprint, heritage oak and habitat preservation, and recreational resources.

USACE will fulfill the flood risk management objectives whilst minimizing environmental effects to the greatest extent practicable to avoid disruption to all sensitive community resources.

To meet these public safety objectives, there will be Short-term Significant and Unavoidable Effects (Appendix B, Impact 2.2-c) to recreational resources resulting from lack of accessibility (disruption in use) to the river and shoreline during construction. MR 4-1 Informal Trails and Recreation describes that the referenced access points and beaches commenters discuss are considered social trails and are unmanaged by Sacramento County Parks. MR 4-2 Beaches and River Access describes nearby alternate recreation areas such as Glenbrook River Access, just upstream of the Mayhew Drain, and at the Grist Mill access. These alternate recreation areas are both less than a 10-minute drive from Larchmont Community Park which marks the midway point of Contract 3B South (Site 4-1). Howe River Access on the south side of the river, would be accessible for alternate recreation for Contract 3B North (Site 3-1) on the western extent of the construction footprint. William B. Pond Recreational Area would be the nearest alternate recreation area for Contract 3B North (Site 4-2), east of the construction footprint. These alternate recreation areas provide options for physical activity and improving mental health and well-being.

While construction of Contract 3B will make river access more difficult due to construction fencing and the inability to walk along the levee due to haul truck traffic, the American River Parkway offers a multitude of recreational areas with free nearby river access. A site-by-site analysis of nearby recreation areas is described below:

- Site 3-1, river access from University Drive and Kadema Drive River Access would be closed during both construction years, but access from Howe Avenue (which is less than 200-feet from the University Drive Access) and Watt Avenue (Watt Avenue would have flaggers for pedestrian access during construction Year 2) would be available. There would be less than a 1 mile walk or 5-minute drive to access either the Howe Avenue or Watt Avenue access from the Kadema Drive River access during construction.
- Site 4-2 will be constructed in a single year, so all closures would be for only one construction season. Site 4-2 construction will be phased to minimize the need for bike trail detours; access would be closed at Ashton Drive Access, Rio Americano High School Access, Circle River Drive Access, and Jacob Lane River Access. For Phase 2 Estates Drive would be closed as well. Watt Avenue will be available for access and Harrington Way Access will be open for access at Site 4-2. Additionally in Phase 1 for Site 4-2, Estates Drive Access will be available with flaggers present for pedestrian safety. There would be a less

than 2 mile walk or 7-minute drive to these river access points from the river access points that would be closed during construction for Site 4-2.

- Site 4-1 Glenbrook Park River Access and Kansas Way River Access would still be available (there would be a less than 2 mile walk or 5-minute drive to access these river access points from the river access points that would be closed during construction).
- Alternate recreation will be available with a 5–7-minute drive, or 1-2 mile walk or bicycle ride. USACE and the non-Federal Partners have strived to reduce impacts to the greatest extent and will allow pedestrian access through the project site when it is safe and feasible to do so. The project has long-term benefits of flood risk reduction on public health that outweigh the temporary adverse conditions.

Stop Stigma Sacramento, a program funded by Sacramento County Division of Behavioral Health Services, estimates that 300,000 people (1 in 5 adults) live with mental illness in the county. Due to Health Insurance Portability and Accountability Act of 1996 (HIPPA), medical information including mental health status is considered private and protected information. Therefore, there is no ability to establish a baseline of mental health conditions for project areas, nor is there the ability to quantitatively measure impacts to mental health resulting from the project. Mental health services, support and resources can be found by calling 2-1-1 or by visiting <https://www.stopstigmatasacramento.org/services/>.

MR 14: Social Impacts to At-Risk Communities

Many commenters felt the Draft SEIS/SEIR neglected to describe impacts to at-risk communities resulting from the loss of access to the American River Parkway during and post- construction of American River Erosion Contract 3B. For example, one comment refers to the American River as a “rare instance of a free recreational resource for the entire region, which is especially meaningful to underserved, disadvantaged, and economically-challenged members of our community” (CBD-3-51). Many other community comments validate that “family picnics on small points and beaches are extremely popular in this area” (Indiv-812-15). Master Response MR 4: Contract 3B Impacts to Recreation on the Lower American River provides better clarity on impacts to recreation based on feedback from the public that misrepresented or overstated the issues.

Appendix B, Section 2.6, “Socioeconomics,” has been updated to describe baseline conditions, Federal methodology for evaluating impacts and basis of significance, as well as the analysis of environmental effects on population, housing, employment, local economy, and at-risk communities, including low-income and minority populations. There are no requirements or procedures to evaluate socioeconomic impacts under CEQA unless there are resulting effects to the physical environment; therefore, an Impact Focus Approach (EPA 2016) was used to develop project-specific criteria thresholds to adequately evaluate impacts to local communities. This methodology utilized the CEQ’s Federal mapping tool which uses census tract data to identify at-risk communities that meet thresholds for at least one category of socioeconomic or environmental burdens. Additional analysis identifying real-world conditions was conducted through demographic analysis, site visits, and public outreach to corroborate impact conclusions.

Appendix B, Section 2.5-d describes the American River Contracts would result in a significant and unavoidable impacts related to socioeconomic and environmental burdens primarily related to air quality and emissions concerns with nearby haul truck traffic and construction equipment. Further discussion in MR 6, Public Health and Safety Impacts from Construction, includes existing measures MM AIR-1, AIR-2 and AIR-3, with the additions to MM AIR-3 which was developed after the receipt of public comments. MM AIR 3 and the Health Risk Assessment in Appendix J addresses comments, such as “O.W. Erlewine is a title 1 school meaning that noise, dust, engine exhaust, and other pollutants will impact children that are that live within at-risk communities” (CDB-3-47), and further reduces impacts to sensitive receptors, including children coming from low-income and/or minority, or at risk, families with increased susceptibility to health burdens, such as asthma.

The Draft SEIS/SEIR did not explicitly evaluate recreational impacts to at-risk communities. Table 2.6-1 displays the socioeconomic and environmental burdens, and thresholds that determine a community’s social impacts by census tract. At least one threshold must be met for a community to be considered at-risk. The categories of burden include longitudinal air quality, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. There is no direct correlation between categories of burdens and ability to recreate, and for that reason, no quantitative analysis could be completed. However, based upon Figure 2.6-1 Census Tracts with At-Risk Communities near the Contract 3B and 4B project sites, all the directly adjacent communities to the north and south are not considered at-risk. Furthermore, alternate recreation in the American River Parkway will be available with a 5–7-minute drive, or 1-2 mile walk or bicycle ride, when construction is active at Contract 3B. People in these at-risk communities are already having to drive or walk/bike to these recreation areas, and therefore, this does not constitute a substantial change from the No Action Alternation or No Project. The Project does not have disproportionate effects to at-risk communities in terms of recreational access. MR 4-2 Beaches and River Access was developed to describe recreational impacts in the short-term, as well as alternate recreation areas and river access, in response to public comments.

MR 4-1 Informal Trails and Recreation describes that the referenced access points and beaches commenters discuss are not official mapped trails and are considered social trails. These social trails within the American River Parkway are unmanaged by Sacramento County Regional Recreation and Parks Department. During project design, stakeholders and cooperating agencies did not discuss the need to preserve social trails within the Contract 3B footprint. Appendix B, Impact 2.2-c discussed a direct significant impact to recreation during the construction of Contract 3B, which would be reduced by MM REC-1. However, since these social trails are not regulated, there was no existing data on public usage specific to this area, and quantification of impacts was not possible within the scope of the Project.

In project implementation by providing the flood risk reduction benefits in terms of public health and safety in the greater Sacramento metropolitan area, the ARCF 2016 Project would provide social benefits to at risk communities including those with low-income and minority populations that are historically encumbered by socioeconomic and environmental burdens.

MR 15: Lower American River Contract 3B Riparian Forest

Commentors were concerned that the Project Partners did not consider enough less damaging, intrusive solutions to the local flood risk. Many comment letters asserted that USACE did not consider a less invasive approach to vegetation removal. The Project Partners believe the record shows that impacts to vegetation have been dramatically reduced with the current revised plan when compared to the original projections presented in the ARCF GRR Final EIS/EIR.

This master response (MR) is intended to provide a comprehensive evaluation of the anticipated riparian habitat impacts from implementation of American River Erosion Contract 3B. A brief description of the design approach used to minimize effects on riparian habitats and environmental resources is provided; however, please refer to the Appendix G: Engineering, MR 2, and MR 3 for additional information regarding the purpose, need, and design process. This MR also provides details regarding anticipated levels of tree removal and the replanting strategy. Please refer to MR 5 for additional information regarding the efficacy of the proposed avoidance, minimization, and mitigation strategy. An analysis of anticipated effects on carbon sequestration and the urban heat island are also provided in this MR, along with the anticipated effects on wildlife movement. Please refer to MR 8 for additional information regarding overall wildlife movement in the Lower American River Parkway, as well as consistency with Wild and Scenic Rivers Act, and the Lower American River Parkway Plan³⁹. This master response provides a summary of fisheries-related effects; however, additional information is also available in MR 5 as it relates to consistency with the National Marine Fisheries Service (NMFS) 2021 Biological Opinion (BO).

General Design Approach

USACE's general design approach for bank protection is focused on balancing multiple project objectives, such as public safety and minimizing environmental resource impacts. Design alternatives developed since late 2019 have been refined incrementally through formal review and engagement from local, regional, and national subject matter experts; along with the Project Partners⁴⁰ and stakeholders at various design phases. The design process included:

- Developing design criteria.
- Site evaluation and section through expert opinion elicitation and baseline risk assessments.
- Gathering background data for use in analysis tools.
- Site design development and progression through identification of risk drivers, alternatives to minimize effects on resources while achieving flood control objectives, and selection of a proposed design.

Through the in-depth planning, design, and engagement process, the USACE selected a preferred concept for the American River Erosion Contract 3B sites that minimizes impacts on environmental resources to the greatest extent practicable while achieving overall flood control

³⁹ <https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/AmericanRiverParkwayPlan.pdf>

⁴⁰ California Department of Water Resources, Sacramento Area Flood Control Agency, Central Valley Flood Protection Board.

objectives. Please refer to Appendix G: Engineering for additional information on the planning, design, and engagement process.

MR 15-1 Riparian Forest Impacts

The definition of riparian forest in this master response is “*general forest next to a river system*” and does not reflect any specific classification system that defines riparian forest based on vegetative species associations and alliances. Since the Draft SEIS/SEIR was released, Project Partners have reached a design phase where they are more confident with the project footprint. Consequently, riparian habitat impact mapping and calculations have been updated, estimated and refined for American River Erosion Contract 3B in this master response from what is provided in the SEIS/SEIR. Construction of the bank protection improvements, including access and staging, are estimated to impact 18.75 acres of riparian habitat (Table 1). These impacts are proposed to be offset through the application of a 2:1 compensatory mitigation ratio – 2 acres restored/enhanced for every 1 acre of impact – whereby 37.50 acres of riparian habitat would be restored through a combination of onsite replanting onsite and establishment of the offsite American River Mitigation Site at the Urrutia property. Please refer to MR 5 for additional details on the overall avoidance, minimization, and mitigation strategy; and MR 9 for additional information and details regarding the American River Mitigation Site. Table 1 provides a summary of the estimated riparian forest acreages that would be impacted by construction of Lower American River Contract 3B.

Table 19. Lower American River Contract 3B Estimated Riparian Forest Impact Acreages by Site

Riparian Forest Type	Estimated Impact Acreages Site 3-1	Estimated Impact Acreages Site 4-1	Estimated Impact Acreages Site 4-2
Native scrub	0.2	0.5	0.25
Native woodland	6.3	7.5	0.5
Non-native woodland	0.5	3.0	0.0
Acreage sub-totals	7.0	11.0	0.75
Total	18.75		

To inform the design process and quantify tree removals associated with American River Erosion Contract 3B, qualified biologists/arborists conducted a survey of the American River Erosion Contract 3B bank protection construction footprint, including access and staging areas in 2019 and 2020 (ESA 2020). The purpose of the tree survey was to document the location, species, and diameter-at-breast-height (DBH) of each tree greater than 6 inches for environmental purposes. Data on each tree were recorded in a custom ESRI Collector web map, connected via Bluetooth to a Trimble R1 or EOS Arrow, both sub-meter accurate global positioning systems. The Project Partners felt that the ESA 2020 tree spatial data were not collected using survey methods spatially explicit enough to inform design; therefore, a separate tree data set was used to inform the design geometry and on plan sheets. Data used in the design and on plan sheets were collected by registered land surveyors in 2019 using survey-grade equipment to identify groups of trees greater than 6 inches DBH. These data did not include

information on the tree species and could not be used to adequately inform the environmental analysis.

For the purposes of this analysis, the sub-meter accurate survey data collected by a contractor in 2019 and 2020 were used; as a result, tree impacts depicted on plan sheets for the American River Erosion Contract 3B may differ from those presented here. Data were intersected with the tree removal footprints (buffered by 20 feet) to quantify the number of trees that would be directly or indirectly impacted versus protected in-place for Lower American River Contract 3B Site 3-1, Site 4-1, and Site 4-2. Table 2 summarizes the number of trees removed and protected for each site by size class. Figures 35 and 36 depict the anticipated location and extent of protected and removed trees associated with Lower American River Contract 3B Site 3-1, Site 4-1, and Site 4-2. As can be seen in this figure series, the Project Partners and the design team prioritized protecting large canopy trees to the greatest extent practicable, with particular emphasis adjacent to the American River Bike Trail. However, the construction-related impacts on sensitive riparian habitats would be considered a potentially significant short-term impact.

Table 20. Lower American River Contract 3B Estimated Removed and Protected Trees

Tree Size Class	Removed	Protected
≤ 10" DBH	340-360	595-625
≤ 30" DBH	290-305	755-800
> 30" DBH	45-50	145-155

Tree trimming would be completed, where necessary, to avoid damaging trees adjacent to construction access, staging, and bank protection improvement areas. Tree removal and trimming would be completed within appropriate work windows. Any tree removal or trimming occurring within protected areas or outside of the work windows would be completed under the supervision of a qualified arborist/ecologist. Coordination with Sacramento County Regional Parks (Regional Parks) would continue throughout the design and construction processes for consistency and compliance with the tree preservation and protection ordinance (Title 19, Chapter 19.12⁴¹).

⁴¹ <https://ecode360.com/44038090>

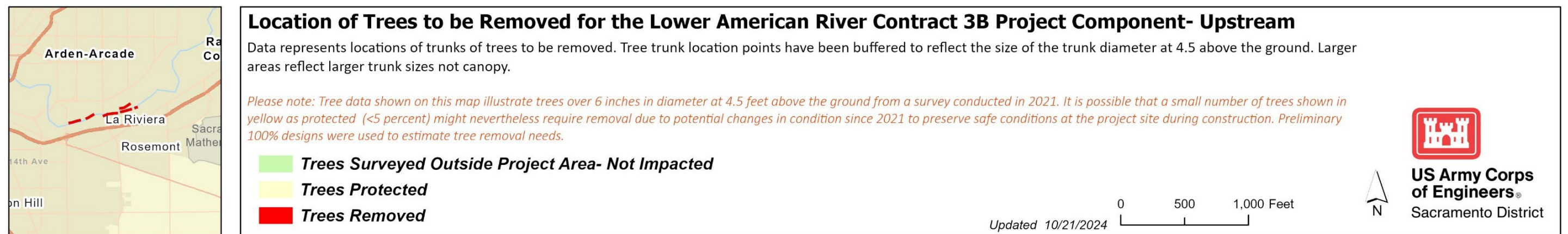


Figure 35. American River Contract 3B Upstream Protected and Removed Trees



Location of Trees to be Removed for the Lower American River Contract 3B Project Component- Downstream

Data represents locations of trunks of trees to be removed. Tree trunk location points have been buffered to reflect the size of the trunk diameter at 4.5 above the ground. Larger areas reflect larger trunk sizes not canopy.

Please note: Tree data shown on this map illustrate trees over 6 inches in diameter at 4.5 feet above the ground from a survey conducted in 2021. It is possible that a small number of trees shown in yellow as protected (<5 percent) might nevertheless require removal due to potential changes in condition since 2021 to preserve safe conditions at the project site during construction. Preliminary 100% designs were used to estimate tree removal needs.

- **Trees Surveyed Outside Project Area- Not Impacted**
- **Trees Protected**
- **Trees Removed**

Updated 10/21/2024

0 500 1,000 Feet



**US Army Corps
of Engineers®**
Sacramento District

Figure 36. American River Contract 3B Upstream Protected and Removed Trees

MR 15-2 Onsite Replanting Strategy

Several commenters expressed concern that the site would not be allowed or encouraged to return to preexisting conditions, that planting would only consist of forbs and not the variety of native riparian plant species that make the parkway unique. The new planting pallet actually includes all vegetation types, with the goal of creating a complete riparian ecosystem including over story, mid story, grasses and forbs.

Plant material installation is designed to offset riparian habitat impacted during construction activities and to be consistent with the Wild and Scenic Rivers Act. The proposed onsite replanting strategy would include a mix of native trees, shrubs, and groundcover species. Plantings will consist of native plant species, which are containerized for ease of installation. Native tree and shrub species are selected based on their ability to establish and be self-sustaining. Planting zones will be replanted with appropriate native vegetation, similar to the species currently onsite. The planting position will depend on topography and proximity to the ordinary high water mark. Table 14 provides the estimated acreages of each replanting zone at Site 3-1 and Site 4-1. Site 4-2 is in the vegetation free zone and under an existing road and paved bike trail; therefore, no canopy species would be replanted. The current design anticipates replanting 14.40 acres of riparian forest onsite to partially offset the 18.75 acres of anticipated riparian forest impacts from construction of Lower American River Contract 3B. These acreages may increase or decrease slightly as the project construction details are finalized. Off-site mitigation need will be recalculated if anticipated riparian forest impacts change so that Project Partners are meeting requisite compensatory mitigation ratios. It is not anticipated that onsite replanting would extend outside the Lower American River Contract 3B footprint.

The replanting strategy involves reestablishment of a native canopy species mix across each replanting zone. Table 15 and Table 16 provide a summary of the anticipated numbers of each canopy species proposed, per replanting zone, at Lower American River Contract 3B Site 3-1 and Site 4-1 respectively. As can be seen, a mixture of approximately 5,400 individual plants will be installed across Site 3-1 and Site 4-1. Table 17 compares the anticipated number of impacted, protected, and replanted trees at Site 3-1 and Site 4-1, and shows a replacement ratio on Site 3-1 of nearly 20:1 (replanted: impacted) and a replacement ratio over 9:1 on Site 4-1. Minor changes to planting palettes and replanting ratios may occur, through coordination with resource agencies, and/or as Project Partners monitor what is successful at already constructed 2016 American River Common Features project sites.

Table 21. Lower American River Contract 3B Estimated Onsite Replanting Acreages

Replanted Community Type	Anticipated Replanting Acreages Site 3-1	Anticipated Replanting Acreages Site 4-1
Mixed Riparian	0.9	5.9
Upper Bank	0.4	1.4
Lower Bank	0.0	0.7
Willow Container	1.3	1.2
Riparian Planting Bench	1.4	0.6
Acreage sub-totals	4.0	9.8
Total		13.8

Table 22. Lower American River Contract 3B Site 3-1 Anticipated Canopy Tree Species and Estimated Counts for Replanting (Numbers Subject to Change)

Common Name	Scientific Name	Mixed Riparian	Upper Bank	Willow Container	Riparian Planting Bench
Box elder	Acer negundo	25	20	50	80
White alder	Alnus rhombifolia			80	40
Oregon ash	Fraxinus latifolia	15			55
California sycamore	Platanus racemosa	60	10		25
Fremont cottonwood	Populus fremontii	35	5		40
Valley oak	Quercus lobata	35	25		
Interior live oak	Quercus wislizenii		10		
Goodding's willow	Salix goodingii			40	10
Red willow	Salix laevigata			10	10
Pacific willow	Salix lasiandra			265	
Arroyo willow	Salix lasiolepis			395	
	<i>Sub-totals</i>	<i>170</i>		<i>840</i>	<i>260</i>
				Total Number Canopy Trees Replanted	1,340

Table 23. Lower American River Contract 3B Site 4-1 Anticipated Canopy Tree Species and Estimated Counts for Replanting (Numbers Subject to Change)

Tree Species Common Name	Scientific Name	Mixed Riparian	Upper Bank	Lower Bank	Willow Container	Riparian Planting Bench
Box elder	Acer negundo	170	65	30	240	70
White alder	Alnus rhombifolia				335	35
Oregon ash	Fraxinus latifolia	115		10		45
California sycamore	Platanus racemosa	400	40	30		20
Fremont cottonwood	Populus fremontii	230	25	20		35
Valley oak	Quercus lobata	230	90	25		
Interior live oak	Quercus wislizenii		40			
Goodding's willow	Salix goodingii				185	10
Red willow	Salix laevigata				370	10
Pacific willow	Salix lasiandra				220	
Arroyo willow	Salix lasiolepis				335	
	<i>Sub-totals</i>	1,145	260	115	1,685	225
Total Number Canopy Trees Replanted						3,430

Table 24. Lower American River Contract 3B Canopy Tree Anticipated Impacts and Replanting Comparison

Treatment Type	Anticipated Tree Numbers Site 3-1	Anticipated Tree Numbers Site 4-1	Anticipated Tree Numbers Site 4-2
Impacted	145-155	515-540	15-20
Protected	745-785	630-665	120-130
Replanted (subject to change)	1340	3430	0

MR 15-3 Draft Onsite Replanting Performance Standards

Commentors were concerned that the onsite mitigation would not be properly cared for or maintained. We acknowledge that the mitigation did struggle in the examples cited by commentors, but these areas were not USACE projects. The majority of sites completed by USACE and partners have met success criteria and now blend well with the surrounding corridor. The information provided in this section is intended to show the steps that the project team is taking to ensure the success of onsite mitigation. We also note that both biological opinions require onsite mitigation, and the resource agencies are providing input in the management plans.

The draft performance standards included here have been adapted from the 2015 Habitat Mitigation, Monitoring, and Adaptive Management Plan, American River Common Features General Reevaluation Report⁴² and may be refined through coordination with resource agencies, and/or as Project Partners monitor what is successful at already constructed 2016 American River Common Features project sites. Monitoring would focus on: (1) woody plant survival, (2) tree height, (3) woody plant vigor; (4) percent woody cover, and (5) woody invasive plant cover. Additionally, an inventory of wildlife species would be recorded during annual monitoring. Table 11 summarizes the draft monitoring indicators, measurable objectives, and monitoring frequency to meet the replanting performance standards. The draft criteria are included to provide assurance to the public that the sites will be managed and maintained and demonstrate the types of measures that will occur to reach success. To provide a frame of reference for percent cover, a diagram developed by the California Native Plant Society (2021⁴³) has been adapted and included as Figure 9.

Table 25. Lower American River Contract 3B Draft Onsite Replanting Performance Standards (Standards Subject to Change)

Monitoring Indicator	Measurable Objective	Monitoring Frequency
Woody plant survival	Year 1: 90% Year 2: 80% Year 3: 75% (irrigation removed at end of year and no more replacement planting) Year 4: 70% Year 5: 60%	Years 1–5
Tree height	Document height to nearest foot	Years 1-8
Woody plant vigor	Years 1 - 4: Average vigor of 2.0 or greater Year 5: Average vigor of 3.0 or greater	Years 1-5
Average combined canopy cover by native riparian tree and shrub species, by planting zone	Year 5: 25% Year 6: 30% Year 7: 35% Year 8: 40%	Years 5-8
Shaded Riverine Aquatic cover – instream Cover	Presence/absence of in-stream woody material (IWM) relative to post-construction baseline	Years 1-8
Shaded Riverine Aquatic cover – overhead cover	% of summer Water Surface Elevation bank line intercepted by canopy cover Year 5: 20% Year 6: 25% Year 7: 30% Year 8: 40%	Years 5–8
Woody Invasive Plant Species Cover	Years 1-8: less than 15%	Years 1-8

⁴² https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/Documents/ARCF_GRR_Final-EIS-EIR_AppI_May2016.pdf

⁴³ https://cnps.org/wp-content/uploads/2018/03/percent_cover_diag-cnps.pdf

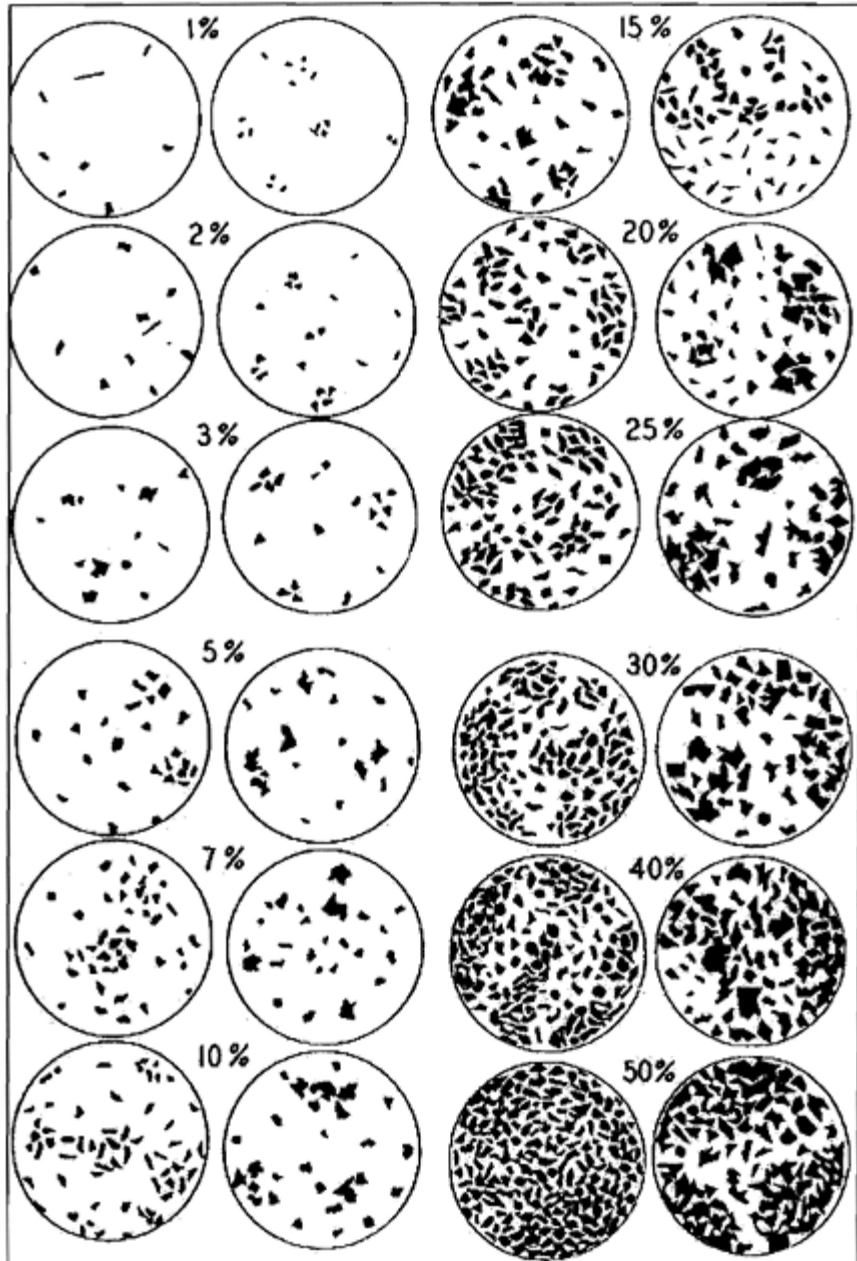


Figure 37. Reference Plots for Percent Cover Estimation

MR 15-4 Maintenance Activities

USACE, through its habitat restoration contractors, shall be responsible for implementing a maintenance program that will accomplish the intent of the onsite replanting actions, with the goal of achieving healthy, diverse, self-sustaining riparian communities. Maintenance activities will be conducted until the performance standards outlined in Table 11 are met. Signs would be installed and located on the perimeter of the replanting areas, at access points, and where they are visible to land users. Maintenance would include, but not be limited to:

- Vegetation management and invasive species control (mowing, string trimming, hand pulling, and herbicide application), periodic tree trimming (on an as needed basis for access)
- Irrigation applications and irrigation system maintenance
- Installation and maintenance of plant protection cages
- Debris removal
- As needed remedial activities such as replanting and reseeding

Replanting areas will be adaptively managed, and the timing and frequency of maintenance will be modified as necessary during this establishment period of up to eight years, or until the performance standards in Table 11 have been satisfied. Coordination with U.S. Fish and Wildlife Service (USFWS), NMFS, National Parks Service, and Regional Parks will continue throughout the development and refinement of the onsite replanting approach to provide consistency and alignment with local, state, and Federal regulations. USACE does not tell the contractor how to achieve the above listed requirements.

MR 15-5 Short-term and Long-term Riparian Impacts

For the purposes of this analysis, short-term impacts are those that are offset within 8 years and long-term impacts are those occurring beyond 8 years. This timeframe was selected based on the framework provided in the 2021 NMFS BO wherein establishment of riparian tree and shrub species within riparian habitat was projected to take 5 to 8 years, because this is the typical timeframe required for habitat to reach a level of maturity and vigor to be self-sustaining in the long-term. The use of an 8-year short term impact period is more conservative than the approach taken by NMFS, in that the 2021 BO pertaining to Federally listed fish species effects considered short term effects as those only occurring during construction and long-term effects as those resulting from the presence of program features.

Implementation of the replanting strategy would offset the anticipated 18.75 acres of riparian habitat impacts from Lower American River Contract 3B through re-establishment of 14.40 acres of structurally diverse planting zones within the construction footprint and 23 acres of habitat establishment at ARMS. Monitoring and maintenance would be on going through the establishment period to allow for early identification of management needs to keep the replanted areas on track for meeting agency approved success criteria on or before year 8. Continued coordination and engagement with USFWS, NMFS, and Regional Parks will be required throughout the establishment period to assess the trajectory of the regreened areas, adaptive management needs, and determine when the sites have achieved success criteria, are anticipated to be self-sustaining, and no longer require intensive intervention.

When the onsite replanting and monitoring strategy is combined with offsite mitigation at the American River Mitigation Site and conservative estimates of growth rates for the canopy tree species proposed to be replanted (Table 12), it is anticipated that short-term impacts on riparian habitat would be offset. As a result, implementation of Lower American River Contract 3B would have significant impacts on riparian habitats in the short-term but would be less than significant in the long-term with implementation of the proposed replanting strategy, VEG-1, and VEG-2.

Table 26. Estimated Replanted Canopy Tree Growth Rates

Common Name	Scientific Name	Average Height at Maturity (feet)	Average Growth Rate (feet/year)	Projected Height Year 8 (feet)
Big leaf maple	<i>Acer macrophyllum</i>	80	3	24
Box elder	<i>Acer negundo</i>	50	3	24
White alder	<i>Alnus rhombifolia</i>	50	2.5	20
Oregon ash	<i>Fraxinus latifolia</i>	80	3	24
California black walnut	<i>Juglans californica</i>	45	2	16
California sycamore	<i>Platanus racemosa</i>	80	3	24
Fremont cottonwood	<i>Populus fremontii</i>	80	3	24
Valley oak	<i>Quercus lobata</i>	70	2.5	20
Interior live oak	<i>Quercus wislizenii</i>	70	1.5	12
Goodding's willow	<i>Salix goodingii</i>	25	2.5	20
Red willow	<i>Salix laevigata</i>	50	3	24

Source: Urban Forest Ecosystems Institute at Cal Poly SelectTree database <https://selecttree.calpoly.edu/>

MR 15-6 Carbon Sequestration

Commenters have requested the construction carbon reports. Please see the air quality analysis is included in Appendix B, Section 3.5, “Air Quality.” Forests sequester and store carbon predominantly in the above ground portions of the tree, but also in the soil. Carbon is gained and lost naturally as trees grow, die, decompose, and grow back again. When trees are removed during a construction process, some carbon dioxide is released back into the atmosphere; however, the amount and timing of the carbon dioxide release is dependent on how the trees are post-processed – mulched, milled, burned, etc. (Penn State 2023⁴⁴). To characterize the carbon sequestration value of the existing Lower American River Contract 3B riparian forest, the Carbon in Riparian Ecosystems Estimator for California (CREEC)⁴⁵ was used. CREEC is a web-based tool that predicts fluctuations in carbon stocks in California’s riparian forests using a large database of riparian forest measurements across the state.

The estimator allows the user to select the:

- Regeneration type: natural regeneration, planted community, or avoided conversion
- Region: Central Valley, Coast Ranges and Foothills, Sierra/Klamath/Cascades, or Southern California
- Site Preparation: low/non-mechanical or high/mechanical
- Land Use: crops, grazing, orchards/vineyards, degraded/invaded, or unknown

When a planted community regeneration type is selected, details regarding up to four planting communities can be entered whereby the user inputs the tree species that will be used, and either percent cover by species or plants/acre can be used to further characterize each community, along with total planted community acreage. Based on user inputs, CREEC then outputs tables

⁴⁴ <https://extension.psu.edu/carbon-accounting-in-forest-management>

⁴⁵ <https://creec.conservancy.ca.gov/home>

with 100-year predictions on carbon stocks, reported in metric tons of carbon per hectare (Mg C/ha) for tree carbon, down dead carbon, forest floor carbon, understory carbon, soil carbon accumulation, and total carbon accumulation. For the purposes of this analysis, total carbon accumulation has been selected for comparison of the existing and proposed riparian forest carbon sequestration values.

Based on a review of historical aerial imagery, the American River Erosion Contract 3B riparian forest experienced human-induced impacts from agricultural conversion, flood control activities, and urban development starting as early as 1947 and continuing through the late 1960s⁴⁶. These historical impacts resulted in most native riparian forest being cleared in the Lower American River Contract 3B footprint and subsequently allowed to naturally regenerate over the past 50 plus years. To estimate the existing riparian forest carbon sequestration values, the natural regeneration type was selected, along with low/non-mechanical site preparation and unknown land use. These data were compared with those generated for the proposed replanted communities identified in Table 7.

The planting palettes for the mixed riparian, upper bank, lower bank, willow container, and riparian planting bench (Tables 8 and 9) were entered into CREEC to generate 100-year carbon stock estimates. The values returned for mixed riparian, upper bank, lower bank, and riparian planting bench were identical; therefore, mixed riparian is used as a surrogate for all riparian forest types; excluding willow container, which is presented separately. Table 13 and Figure 10 summarize of the total carbon accumulation values returned from CREEC for natural regeneration, mixed riparian planted community, and willow container planted community. These data show that naturally regenerated riparian forest has a lower total carbon accumulation rate (128.51 Mg C/ha) over a 100-year period than a planted mixed riparian community (138.36 Mg C/ha). These data are supported by recent peer-reviewed literature documenting that actively planted riparian forest has initial growth rates that more than double those of naturally regenerated areas, thereby substantially jump-starting carbon accumulation (Dybala 2018a⁴⁷, Dybala 2018b⁴⁸). Additionally, the planted mixed riparian community is predicted to achieve the 50-year total carbon accumulation values of the existing, naturally regenerated riparian forest at year 35.

The CREEC results for willow container were significantly different from the other riparian forest types and are, therefore, presented separately. The willow container planting zone would have a substantially lower total carbon accumulation over the 100-year period; however, their initial rates of accumulation outpace the naturally regenerated riparian forest and mixed riparian planted community. This outcome is due to the fast-growing nature of willows, which allow them to have higher initial carbon accumulation contributions while the longer-lived tree species become established.

Based on these data, American River Erosion Contract 3B is not anticipated to substantially reduce carbon sequestration potential because of the extensive replanting efforts (Section MR

⁴⁶ <https://www.historicaerials.com/>

⁴⁷ <https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.14475>

⁴⁸ <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.13272>

15-2) that will occur post-construction, which minimize the increase in unvegetated, built environment features.

Table 27. CREEC Total Carbon Accumulation (Mg c) Summary

Site Age	Natural Regeneration	Mixed Riparian	Willow Container
0	0	0	0
5	15.03	16	18.31
10	36.59	39.42	39.11
15	59.46	64.21	53.88
20	78.05	84.34	62.71
25	91.56	98.96	68.11
30	100.97	109.13	71.74
35	107.48	116.14	74.42
40	112.04	121.05	76.58
45	115.34	124.58	78.4
50	117.8	127.21	79.98
60	121.29	130.9	82.66
70	123.73	133.45	84.84
80	125.63	135.41	86.67
90	127.19	137.01	88.22
100	128.51	138.36	89.56

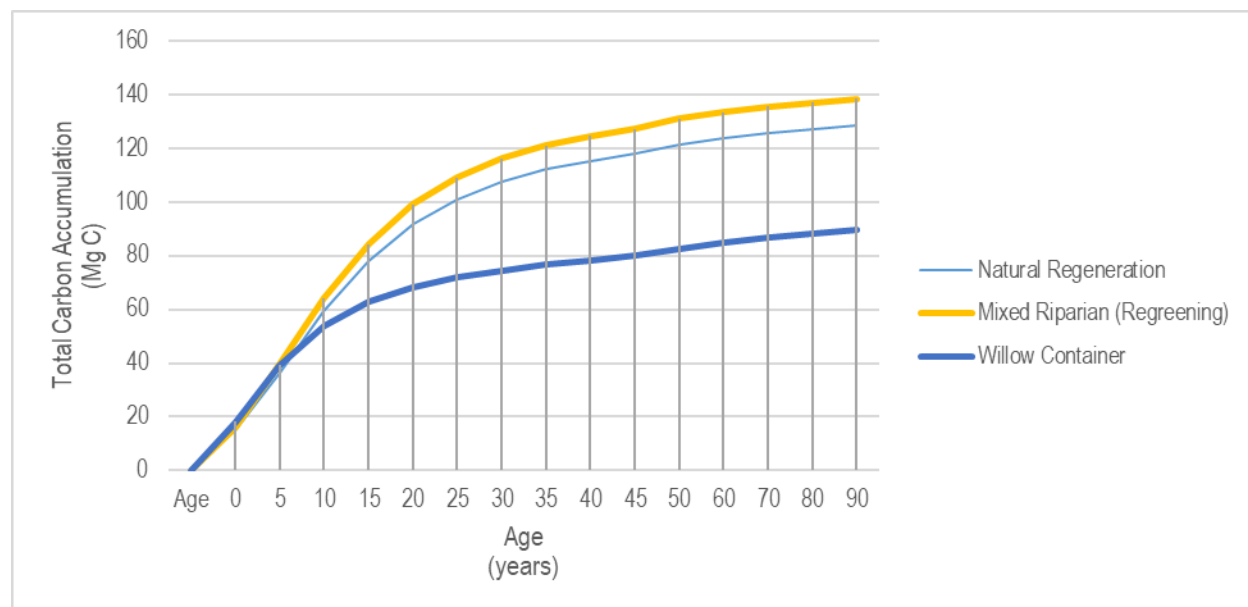


Figure 38. CREEC Total Carbon Accumulation Summary

MR 15-7 Urban Heat Island

Commenters are worried that removing vegetation along the Lower American River will worsen living conditions in Sacramento by contributing to the heat island effects. We acknowledge that surface temperatures may rise slightly during mid-summer along the levee reaches where vegetation must be cut back. But this is an unavoidable temporary effect that will diminish as new plantings mature, and we project that it will not appreciably affect adjacent neighborhoods, as described in more detail below.

The construction of buildings, roads, and other infrastructure associated with urban develop replace open land and vegetation, which leads to the formation of urban heat islands. Urban and suburban areas experience elevated temperatures compared to more rural and natural landscapes; this temperature difference constitutes an urban heat island. Trees and vegetation help cool urban climates through shading and evapotranspiration (EPA 200849).

The USACE design team, through the extensive engagement process, has minimized the amount of exposed, unvegetated, built features on American River Erosion Contract 3B. Based on the current design, bank protection features would be revegetated post-construction through the replanting strategy described above (Section MR 15-2), except for launchable toes, intermittently spaced rock tiebacks in the planting benches and revetment placed around outfall structures. The total acreage of bank protection features that would not be replanted is estimated at less than 2.3 acres. Please refer to Appendix G: Engineering for additional details and information on the Contract 3B engagement and design process.

Contract 3B bank protection features just upstream of the Watt Avenue Boat Launch parking lot and at the most upstream portion of Site 3-1 launchable toe features and some of Site 4-1 bank protection features at the water's edge and along the launchable toes will have a mix of native, herbaceous riparian vegetation seeds applied to the lowest portions of the rock slope protection; however, overall success of this seeding effort is difficult to predict due to the highly variable flows and water surface elevations of the Lower American River. As a result, bank protection features may be partially unvegetated above the summer water surface elevation at these locations.

The rock slope protection at these locations would only be exposed to solar radiation during the driest months (typically fall – late September through November) of the year and would be underwater the remainder. Overtime, the replanted riparian community is expected to reach heights that would provide shading and, subsequently, temperature regulation benefits to rock slope protection that may be exposed above the summer water surface elevation. As a result, Contract 3B is not anticipated to substantially contribute to the urban heat island effect because of the extensive replanting efforts (Section MR 15-2) that will occur post-construction, which have limited the increase in overall unvegetated, built environment features.

⁴⁹ <https://www.epa.gov/heatislands/heat-island-compendium>

MR 15-8 Wildlife Corridors

We received many comments expressing concern about adverse localized effects to the Lower American River's riparian wildlife corridors. We have reduced the footprint of remaining projects to the maximum practicable extent to avoid clear cutting large swaths of vegetation. Unlike American River Erosion Contracts 1 and 2 near Glenn Hall Park and Sacramento State University, which required removal of most riparian vegetation from construction areas, Contract 3B has been designed to minimize removal of riparian vegetation to the extent feasible. Trees that must be removed were identified by careful fieldwork as unavoidable. Our objective has been to re-design remaining work to allow the least amount of vegetation removal necessary to provide bank protection for the at-risk levee reaches. Contract 3B will be the most constraining to the wildlife corridor because construction must occur on both river banks, but as soon as construction is complete, safety fencing will be removed and all barriers to migrating wildlife lifted.

A wildlife corridor is often defined as a habitat linkage that joins two or more patches of suitable habitat, allowing species to move from one patch to another (California Assembly Bill 2320⁵⁰). Habitat connectivity is described as the connectedness of habitat for a particular species, while landscape connectivity can be defined as the human perception of native vegetation cover connectedness in a landscape (Fischer and Lindenmayer 2006⁵¹). Permeability of wildlife corridors is a measure of structure – hardness of barriers, connectedness of natural cover, and arrangement of land uses (The Nature Conservancy 2012⁵²). Roads, development, dams, and other structures create resistance that interrupts or redirects movement and, therefore, lowers the permeability. These definitions in combination with The Nature Conservancy's Resilient Land Mapping Tool⁵³ Local Connectedness dataset, and the California Department of Fish and Wildlife's (CDFW) Terrestrial Connectivity, Areas of Conservation Emphasis (ACE) dataset⁵⁴ were used to inform this analysis.

The Nature Conservancy local connectedness dataset “measures how impaired the structural connections are between natural ecosystems within a local landscape. Roads, development, noise, exposed areas, dams, and other structures all directly alter processes and create resistance to species movement by increasing the risk (or perceived risk) of harm (The Nature Conservancy 2012).” Figure 11 depicts these local connectedness data at the Lower American River Parkway regional scale, while Figure 12 shows these data at the Contract 3B local scale. As can be seen from these figures, the Lower American River Parkway is largely characterized as less connected to slightly less connected.

The CDFW Terrestrial Connectivity ACE dataset, version 3.2.1, updated March 13, 2024 “summarizes information on terrestrial connectivity by ACE hexagon including the presence of mapped corridors or linkages and the juxtaposition to large, contiguous, natural areas. This dataset was developed to support conservation planning efforts by allowing the user to spatially evaluate the relative contribution of an area to terrestrial connectivity based on the results of

⁵⁰ <https://legiscan.com/CA/text/AB2320/id/2925389>

⁵¹ <https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/j.1466-8238.2007.00287.x>

⁵²

<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/ModelingLandscapePermeability.pdf>

⁵³ <https://maps.tnc.org/resilientland/>

⁵⁴ <https://wildlife.ca.gov/Data/Analysis/ACE#523731772-connectivity>

statewide, regional, and other connectivity analyses (CDFW 2024⁵⁵). Figure 13 depicts ACE Terrestrial Connectivity data at the Lower American River Parkway regional scale, while Figure 14 shows these data at the Contract 3B local scale. As can be seen from these figures, the Lower American River Parkway vegetation communities are largely characterized as having limited connectivity, particularly around the American River Erosion Contract 3B project footprint. CDFW limited connectivity areas occur where land use may limit options for providing connectivity (e.g., agriculture, urban) or no connectivity importance has been identified in models (CDFW 2024).

Based on these data, the riparian habitats in the Contract 3B footprint have a baseline condition that provides limited wildlife movement value due to urban development and human encroachment. To evaluate the post-construction condition for wildlife movement, a similar approach to The Nature Conservancy (2012) was used to evaluate the permeability of the proposed condition for common wildlife.

The LAR riparian corridor supports more than 220 bird species, including 45 species of nesting birds, and 20 mammal species. Additionally, resident and migratory fish and wildlife use the Lower American River as travel and migration corridors. Table 14 provides a summary of common wildlife associations for vegetation communities present in the Lower American River Contract 3B project footprint (see SEIS/SEIR Figure 3.5.2-3), based on descriptions provided in the Lower American River Parkway Natural Resources Management Plan (Sacramento County 2021⁵⁶).

⁵⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=150835&inline>

⁵⁶ <https://regionalparks.saccounty.gov/Parks/Pages/NaturalResourcesManagement.aspx>

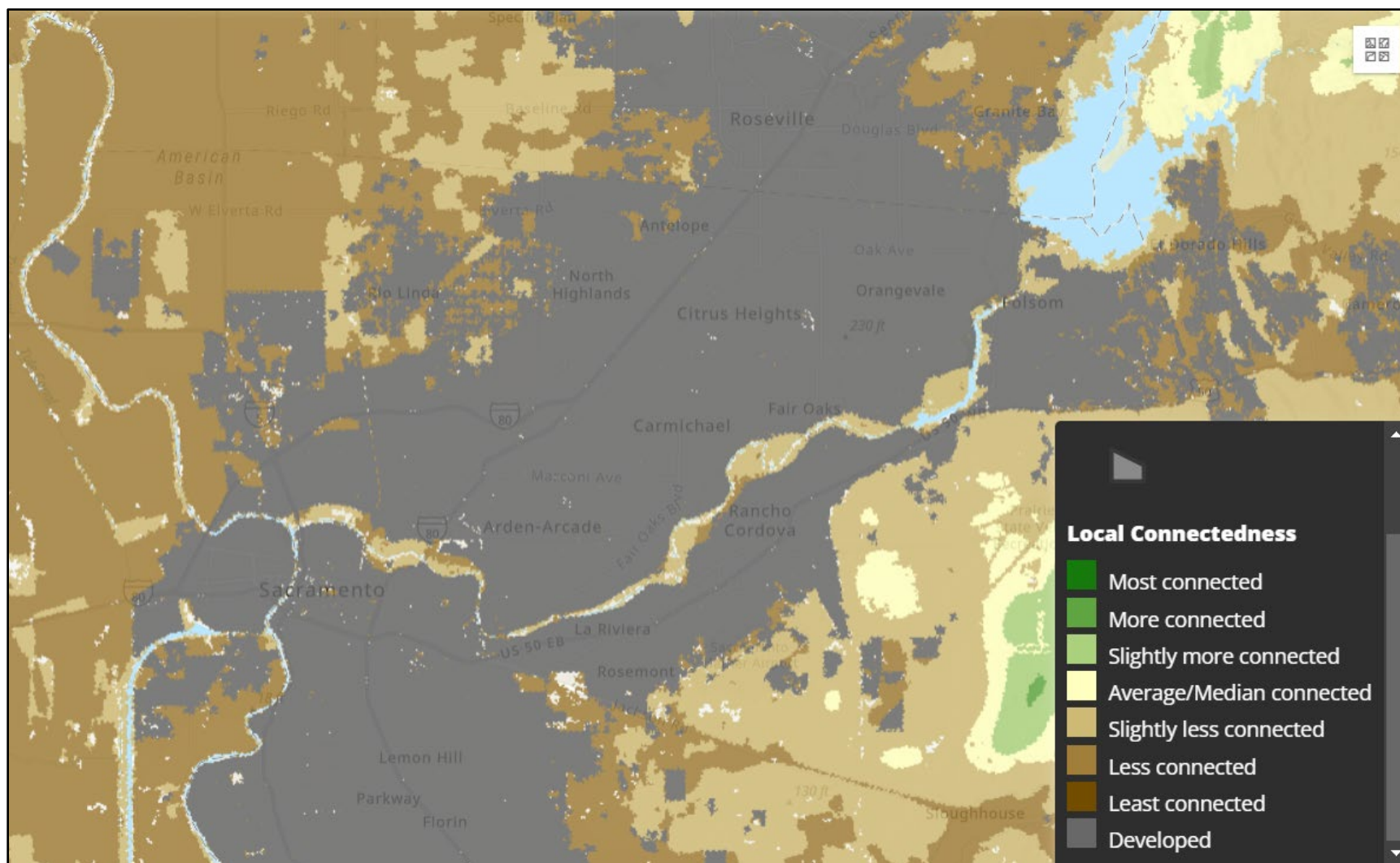


Figure adapted from The Nature Conservancy Resilient Land Mapping Tool v2.0.12

Figure 39. The Nature Conservancy Local Connectedness – Regional Scale

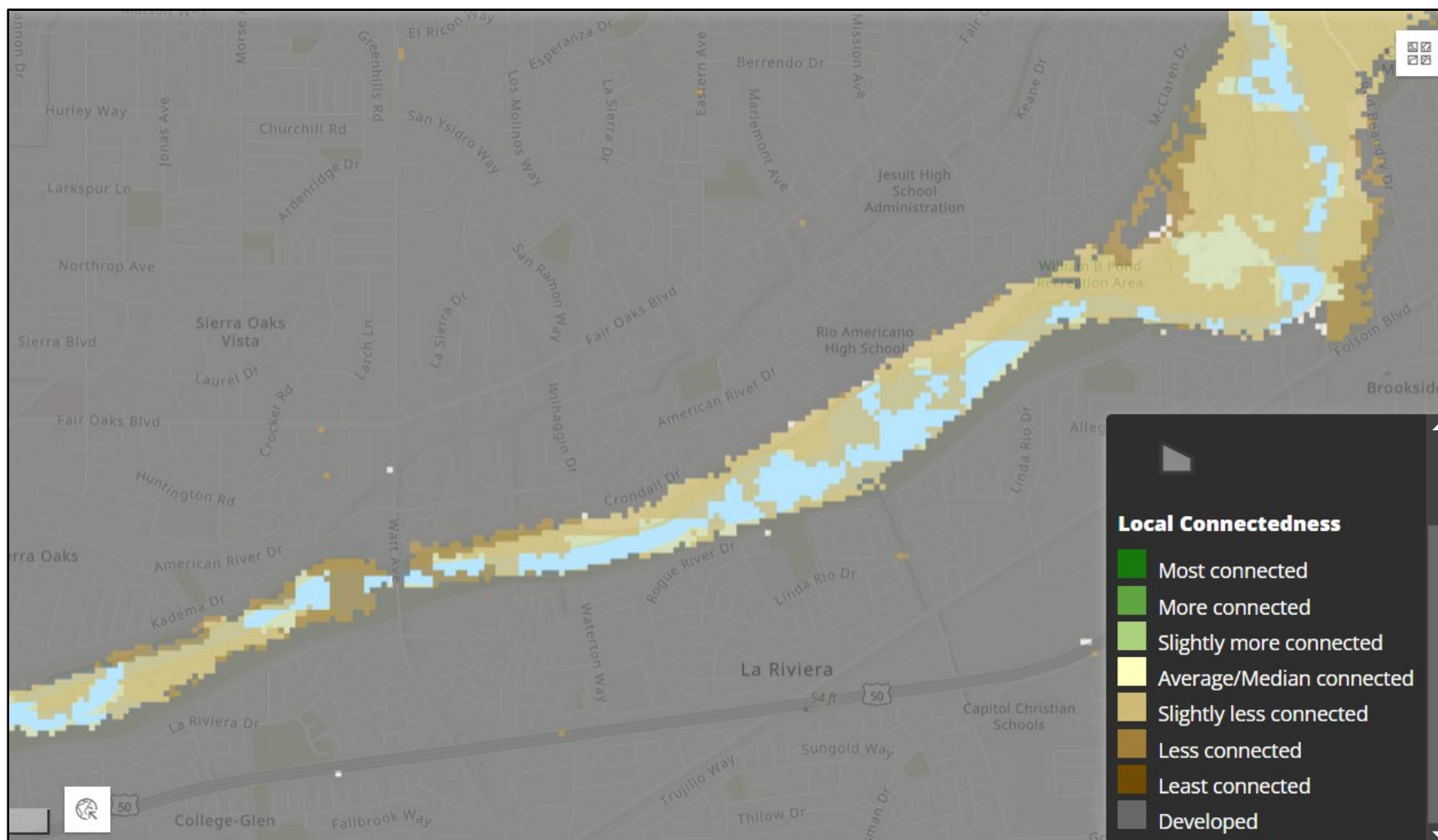


Figure adapted from The Nature Conservancy Resilient Land Mapping Tool v2.0.12

Figure 40. The Nature Conservancy Local Connectedness – Local Scale

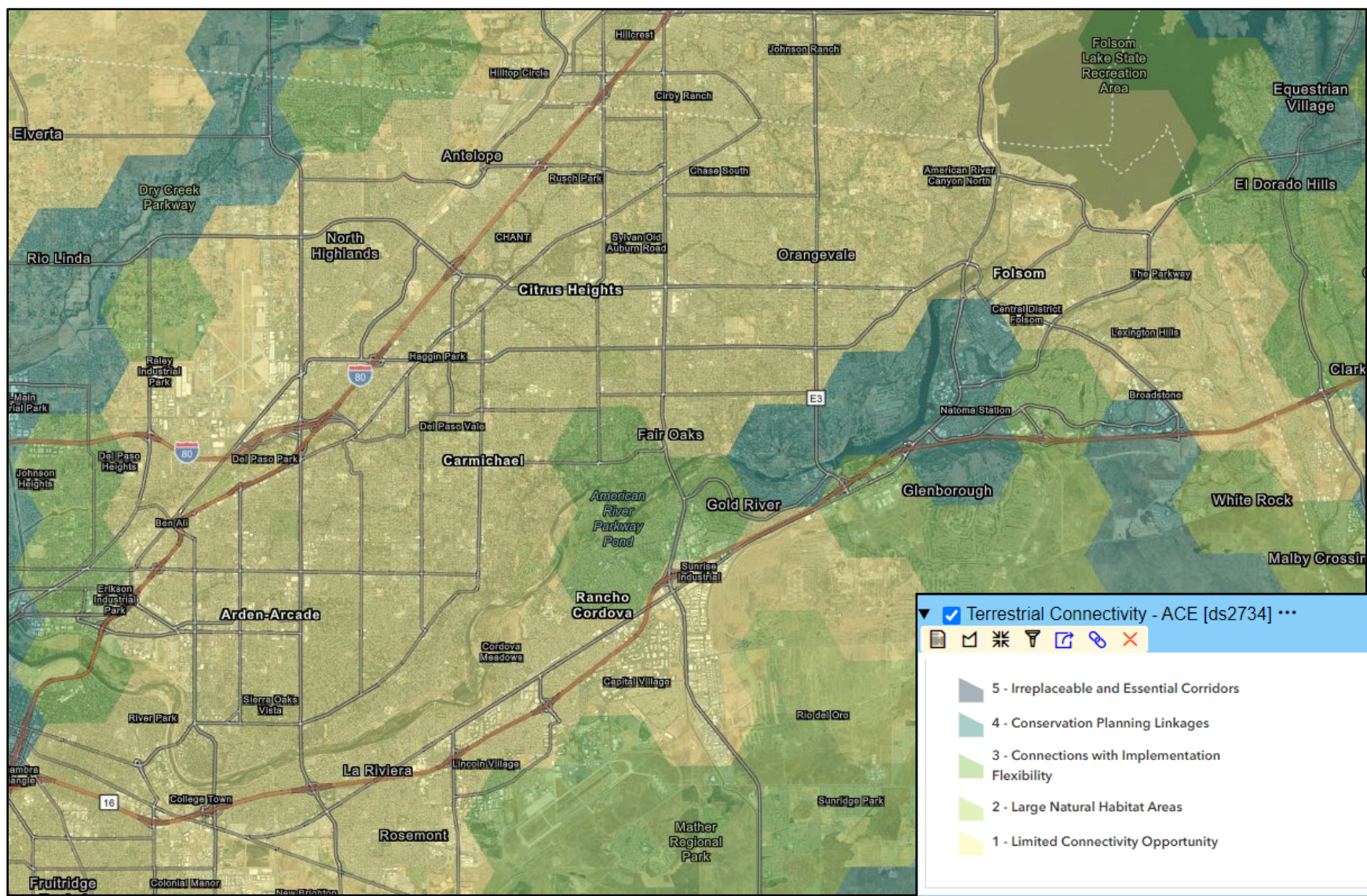


Figure adapted from CDFW California Natural Diversity Database Biogeographic Information and Observation System 6 Viewer

Figure 41. CDFW's ACE Terrestrial Connectivity – Regional Scale

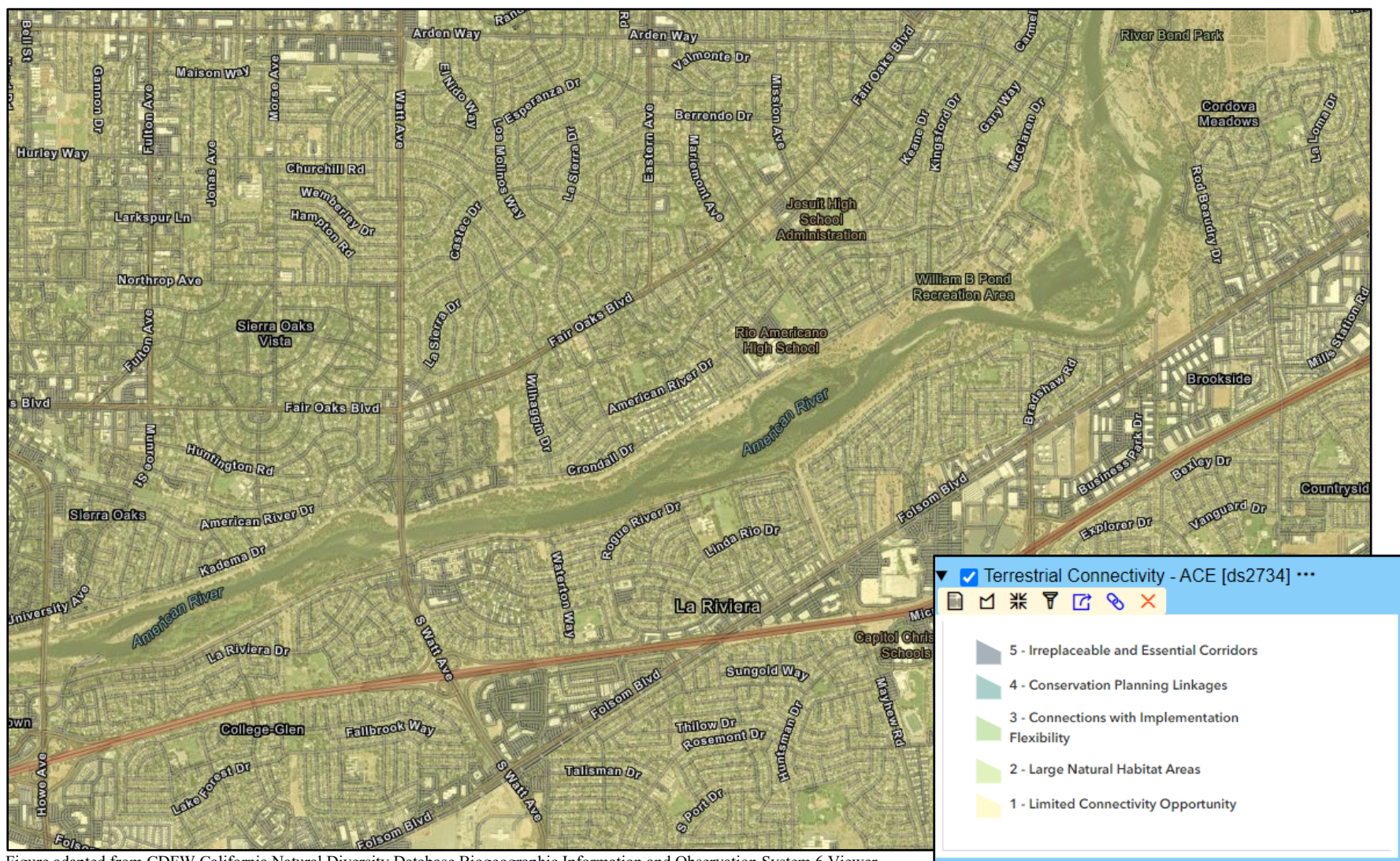


Figure adapted from CDFW California Natural Diversity Database Biogeographic Information and Observation System 6 Viewer

Figure 42. CDFW's ACE Terrestrial Connectivity – Local Scale

Table 28. Common Wildlife Vegetation Community Associations

Vegetation Community	General Wildlife Associations
Annual Grassland	Native annual grassland habitats provide essential elements for the survival of many wildlife species, including upland refugia during flood events, foraging, resting, breeding, and shelter from predators. Common wildlife species associated with this habitat type include western fence lizard (<i>Sceloporus occidentalis</i>), common garter snake (<i>Thamnophis sirtalis</i>), western rattlesnake (<i>Crotalus oreganus</i>), California ground squirrel (<i>Otospermophilus beecheyi</i>), black-tailed jackrabbit (<i>Lepus californicus</i>), broad-footed mole (<i>Scapanus latimanus</i>), Botta's pocket gopher (<i>Thomomys bottae</i>), and meadow vole (<i>Microtus pennsylvanicus</i>). Grassland habitat provides important foraging habitat for coyote (<i>Canis latrans</i>) and a variety of raptors, including red-tailed hawk (<i>Buteo jamaicensis</i>), American kestrel (<i>Falco sparverius</i>), and several species of owls.
Developed/Urban	Wildlife species found in these areas are adapted to disturbed conditions and include scrub jay (<i>Aphelocoma californica</i>), mockingbird (<i>Mimus polyglotus</i>), house finch (<i>Haemorhous mexicanus</i>), raccoon (<i>Procyon lotor</i>), Virginia opossum (<i>Didelphis virginiana</i>), western grey squirrel (<i>Sciurus griseus</i>), and striped skunk (<i>Mephitis mephitis</i>).
Riverine/Open Water	Provides resting and foraging areas for waterfowl, shorebirds, wading birds, belted kingfisher (<i>Ceryx alcyon</i>), black phoebe (<i>Sayornis nigricans</i>), and tree swallow. Aquatic mammals, including North American beaver, muskrat, and river otter use open water as movement corridors and for foraging on submerged plants and invertebrates. Riverine habitat also supports numerous resident and anadromous fish species, including chinook salmon, steelhead, and American shad (<i>Alosa sapidissima</i>).
Riparian Woodland	Riparian habitats play a critical role in providing food, water, wildlife corridors, protection from predators, nesting, and thermal cover for a multitude of species. Riparian habitats support the greatest diversity of wildlife because they contain a wider diversity of plant species and vegetative structure. Consequently, they provide a greater number of habitat niches and food resources for wildlife than other habitats in the Parkway. Riparian habitats support large numbers of insects and attract passerine (perching) birds, including several species of woodpeckers, warblers, and hummingbirds. In addition, several species of raptor, including red-tailed hawk, red-shouldered hawk (<i>Buteo lineatus</i>), Cooper's hawk (<i>Accipiter cooperii</i>), and great horned owl (<i>Bubo virginianus</i>), build their nests in the crowns of Fremont cottonwood, valley oak, and other large trees. Great blue heron (<i>Ardea herodias</i>), great egret (<i>Ardea alba</i>), snowy egret (<i>Egretta thula</i>), and black-crowned night heron (<i>Nycticorax nycticorax</i>) nest in rookeries in large trees.

Roads, development, noise, exposed areas, and human intrusion all directly alter processes and create resistance to species movement. Resistance of a landscape measures the extent that wildlife movement into or out of a particular habitat patch is facilitated and/or impeded by the adjacent habitat patch condition. Weights are then applied to each habitat or land cover polygon. Developed land cover types are given the highest resistance weights, including open space and low intensity uses. Open water and barren land such as rock, sand, and clay are given medium resistance weights, while all natural cover types were given the lowest resistance weights. The Nature Conservancy (2012) assumed with this methodology that wildlife movement and ecological flows through a natural landscape were less specific than individual species breeding

requirements, and that natural landscapes are composed of an interacting mosaic of different ecosystems and natural cover types.

The USACE design team, through the extensive engagement process, has minimized the amount of exposed, unvegetated, built features on Contract 3B. Based on the current design, bank protection features would be revegetated post-construction through the replanting strategy described above (Section MR 15-2), except for intermittently spaced rock tiebacks in the planting benches, launchable toes, and revetment placed around outfall structures. The total acreage of bank protection features that would not be replanted is estimated at less than 2.3 acre. Please refer to Appendix G: Engineering for additional details and information on the Contract 3B engagement and design process. Because of the extensive replanting efforts (Section MR 15-2) the increase in overall unvegetated, built environment features has been limited and Contract 3B is not anticipated to substantially reduce the landscape permeability for the movement of urban adapted⁵⁷ wildlife (Table 13).⁵⁸ Land cover would remain in a natural condition post-construction in lieu of creating hardscaping and above-ground infrastructure; therefore, unaffected riparian habitat patches would still exist adjacent to replanted riparian habitat patches. As can be seen from Figure 35 and Figure 36, depicting the trees removed versus protected in association with the American River Erosion Contract 3B North and South, significant efforts have been made to retain trees and riparian habitat patches in and adjacent to bank protection construction areas. These unaffected riparian habitat patches provide structural complexity and diversity after replanting has occurred, along with providing some habitat value for wildlife movement during construction. Please refer to SEIS/SEIR Appendix 4.1. Vegetation and Wildlife, Appendix 4.2 Aquatic Resources and Fisheries, and Appendix 4.3 Special-status Species for analyses on impacts as they pertain to state and/or Federally protected species.

To characterize the wildlife response to the anticipated riparian forest impacts and subsequent replanting efforts in association with American River Erosion Contract 3B, the results of a large-scale analysis on wildlife response to riparian restoration on the Sacramento River (Golet et al. 2008⁵⁹) were used as a surrogate for common wildlife utilization on the Lower American River. The Golet 2008 analysis found that younger restoration sites benefited species that utilize early successional riparian habitats, and after approximately 10 years, the restoration sites provided many of the same complex structural habitat elements that were characteristic of the remnant forest patches.

Data from this study suggests that urban adapted wildlife (Table 13) common to the Contract 3B project footprint, would not be precluded from use of the replanted riparian habitats once construction is completed and that within the 8-10 year, short-term period the replanted riparian communities should functionally replace those that were impacted during construction. In addition, diversifying the age class of riparian habitats and creating early successional habitat patches in a system that currently supports limited regeneration of early successional riparian species (Sacramento County 2021) may be beneficial to species reliant upon these riparian habitats for all or part of their life cycle. As a result, impacts on wildlife movement and corridors

⁵⁷ Animals with specific adaptations to urban development (The Wildlife Society. 2023. Urban Wildlife Finds Different Strategies to Survive City Life. Available at: <https://wildlife.org/urban-wildlife-finds-different-strategies-to-survive-city-life/>)

⁵⁸ Animals with specific adaptations to urban development (The Wildlife Society. 2023. Urban Wildlife Finds Different Strategies to Survive City Life. Available at: <https://wildlife.org/urban-wildlife-finds-different-strategies-to-survive-city-life/>)

⁵⁹ https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/cmnt091412/sldmwa/golet_et_al_2008.pdf

from the implementation of Contract 3B would be significant during construction due to displacement of individuals, but would be less than significant in the long-term.

Tree removal and vegetation clearing would largely occur during the non-nesting season (September 1 – February 14) and in accordance with SEIS/SEIR mitigation measure BIRD-1 to minimize impacts on bird species regulated by the Migratory Bird Treaty Act and California Fish and Game Code. While nesting habitat for migratory birds will be impacted, direct impacts on nesting birds would be avoided for consistency with state and Federal regulations.

MR 15-9 Fisheries

Please see Section 4.4.2 “Aquatic Resources and Fisheries” of the SEIS/SEIR and Appendix B section 4.2 Aquatic Resources and Fisheries for detailed discussion of fisheries and impacts to fish.

The proposed design was developed in collaboration with NMFS. Encroachment into the river with the creation of riparian planting benches was one outcome of that collaboration. Implementation of the regreening strategy would replace existing riparian habitat at a minimum of a 1:1 ratio (1 acre impacted: 1 acre regreened) and is consistent with the terms and conditions of the 2021 NMFS BO. Please refer to MR 5 for additional information of the mitigation strategy and MR 8 for consistency with Wild and Scenic Rivers Act.

1.3 Responses to Federal Agency Comments

U.S. Department of the Interior (DOI)

National Park Service

- DOI-1 The design process has included presentation to, and feedback from, federal, state, and local agencies on the 10 percent, 35 percent, 65 percent, and 95 percent designs. Each review cycle has resulted in refinements to the designs based upon the feedback provided from United States Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), National Park Service (NPS), and Sacramento County Regional Parks. As designs have progressed through the review and refinement process, they have generally shown a decrease in the construction footprint and a decrease in environmental effects. Appendix G, “Engineering,” has been added to the SEIS/SEIR to explain the methods and rationale used in the engineering analyses for the ARCF 2016 project, and presents details of alternatives that were considered and rejected (or refined to further reduce impacts) in developing the proposed designs. The Project Partners have reviewed information and recommended papers submitted during the DSEIS/SEIR public review period. The models and analytical tools used in development of the ARCF 2016 project are appropriate for this project. Project Partners do not plan to adopt a new model or methodology for this project.
- DOI-2 USACE acknowledges the regulatory jurisdiction of the NPS under the Wild and Scenic Rivers Act (WSRA) and appreciate your consistent participation in project meetings and reviews. NPS feedback on draft designs has influenced refinements to reduce environmental impacts.
- DOI-3 The Pony Express National Historic Trail, as documented by the NPS, represents the approximate location of the historic overland mail delivery route that was in use for 18 months, between April 1860 and October 1861. During that period, letters and newspapers were carried between St. Joseph, Missouri and Sacramento, California – more than 1,800 miles in just 10 days – by a relay of riders on horseback. A portion of the Pony Express Trail is known to have extended along the left bank of the American River, through the Lower American River 3B South Contract project area; however, no identifiable physical remnants of the original trail remain in this location. The Pony Express National Historic Trail segment that intersects the Lower American River 3B South Contract area of potential effects (APE), while important historically, lacks physical integrity sufficient to convey its historical significance and, as such, does not qualify as a historic property as defined by the National Historic Preservation Act (NHPA). USACE previously conducted identification efforts, including records searches and pedestrian surveys pursuant to Section 106 of the NHPA and in accordance with the Section 106 programmatic agreement for the ARCF project. No historic properties or other cultural resources associated with the Pony Express were identified within the project area through these efforts.

In the Sacramento region, the Pony Express National Historic Trail is less of a formal trail than it is a memorial to a significant period in history. The Western Terminus of the Pony Express Trail was located on J Street at the B. F. Hastings Building located adjacent to the Sacramento River, within what is now referred to as The Old Sacramento Waterfront. Leading to J Street, the trail was a heavily travelled route from the City of Folsom, most of which has since been developed into a road that is now known as Folsom Boulevard. A portion of the trail also appears to have passed through a segment of the Project area, intersecting the Lower American River Erosion Contract 3B South (LAR C3B South) APE. Although this portion of the trail was very actively used between April 1860 and October 1861, physical evidence suggestive of its former use is absent today. Folsom Boulevard is now heavily developed with businesses and city infrastructure encompassing the entire alignment of the historic trail. The portion of the trail's alignment that intersects the LAR C3B South APE would have run through land that was later developed into the American River South Levee and the adjacent housing and business developments. Currently, there are no physical remnants of the Pony Express Trail for recreational users to interact with or experience in this location. This discussion has been added into Appendix B Section 2.2 "Recreation".

The majority of the path that the Pony Express Trail followed is no longer visible and there are no landmarks associated with the trail offering recreational or user-experience value within the general location of the LAR C3B South project. Although in some locations of the trail buildings or structures were constructed specifically to serve the Pony Express riders and their horses, this was not true in the area of the LAR C3B South Project footprint. The proposed project footprint is so close to the Western Terminus that it is unlikely that the Pony Express riders would have needed to stop for any significant period of time to camp or procure services in this location. Therefore, it is unlikely that any archaeological deposits associated with the trail's use would be present within the LAR C3B South APE, as might be expected in more remote areas of the trail's general alignment. For these reasons, USACE does not anticipate that cultural resources or recreational impacts would occur as a result of the construction of the LAR C3B South Project.

- DOI-4 Please refer to Appendix H, the Wild and Scenic Rivers Act Consistency Analyses. This appendix provides documentation for the different projects within that Appendix, including tables at the end that spell out how the NPS BMPs were incorporated.
- DOI-5 Please refer to MR 3-5. Project Partners do not anticipate replacing planting benches or plantings after erosion features launch. Project Partners have negotiated with NMFS and USFWS to mitigate upfront for the anticipated lost habitat associated with a future launch in the American River Parkway at a 1:1 ratio upfront. If Project Partners were to go in and restore habitat in each area that launches, additional habitat impacts would be required to construct ramps and haul access to reach the areas that launch. Locations of ramps would likely

interfere with onsite mitigation and prevent vegetation in these areas from maturing. Repair would require additional vegetation and tree removal after erosion protection features launch just to get to the sites where erosion features launch. USACE recommends NPS not require replacement under the WSRA at American River Erosion Contract 3B as impacts to habitat from launch are already considered in mitigation acreage totals, and impacts from future mitigation following a launch would likely increase, not decrease, with repair.

- DOI-6 Hydraulic modeling performed by USACE included spatially-varied roughness associated with vegetation based upon vegetation type, density, and season. The vegetation did reduce velocities and shear stresses in the overbanks, but the values were still above tolerable thresholds for a vegetation-only solution. See Section 2.3.3, "Hydraulic Model Analysis" of Appendix G, "Engineering," for more information on USACE hydraulic model development.
- DOI-7 USACE appreciates NPS concern over water quality impacts during construction. USACE has already obtained a Clean Water Act 401 Water Quality Certification permit for the ARCF program and will continue to adhere to the conditions in said permit. Conditions in the 401 permit require these projects to adhere to the Basin Plan water quality objectives during construction, which helps protect the Beneficial Uses of the river. USACE will adhere to the Reasonable and Prudent Measures and specific Mitigation Measures prescribed in the 2021 NMFS Biological Opinion (BO) to protect anadromous fish, along with any new requirements in the 2025 NMFS BO. Loss of vegetation in the reaches of river impacted by the proposed action has little to no effect on the overall river water temperature. It does impact the small microclimates along the shoreline, but overall, the water temperature in the American River is extremely dependent on the volume of releases from Folsom dam rather than the vegetation along the bankline.
- DOI-8 Please refer to DOI-9. During American River Erosion Contract 1 and American River Erosion Contract 2 construction in 2022 and 2023, the American River Erosion Contract 3B design team interviewed the American River Erosion Contract 1 and 2 design and construction personnel to gain insight on lessons learned from those projects. The lessons learned are now embedded in the American River Erosion Contract 3B designs. In addition, USACE has one Landscape Architect Lead for the ARCF 2016 Projects on the American River. This Landscape Architect Lead ensures consistency for all tree removal and mitigation (both onsite and offsite) for all of the American River Erosion Protections in the ARCF 2016 Project. In addition, the Landscape Architect Lead uses knowledge gained from already constructed projects and incorporates the information in projects in design. USACE also has an Environmental Manager who coordinates all the mitigation work on the American River in the ARCF 2016 Project. This Environmental Manager is in place to ensure consistency with the mitigation sites and advocates for lessons learned on previous mitigation sites to be incorporated into the designs of upcoming mitigation sites. Please see Mitigation Measures VEG-2 (In Appendix B Section 4.1.3) and FISH-2 (In

Appendix B Section 4.2.3); both require use of the Habitat Mitigation, Monitoring, and Adaptive Management Plan to monitor onsite mitigation for success and replace vegetation based on performance standards.

- DOI-9 USACE has reviewed the performance of Instream Woody Material (IWM) in past erosion protection projects in the region and is aware of the limited effectiveness of the IWM due to placement at Average Summer Water Level. In the completed Lower American River Contract 1 and Contract 2, IWM was placed at a much lower elevation: planting benches were constructed corresponding to a flow of 1,000 cfs for Contract 1, 800 cfs for Site 2-2 (Contract 2), and 2,600 cfs at Site 2-3 (Contract 2). As a result of the placement of the IWM at a lower elevation, the Contract 1 site witnessed the recruitment of a large amount of local vegetation in 2023 flood season. IWM in Contract 3B would follow a design similar to Contract 1. USACE is currently testing the Fish Habitat Assessment and Simulation Tool (FHAST) for quantifying anadromous fish habitat in the river system. Monitoring of the constructed IWM is ongoing by the Revegetation Contractors of Contract 1 and Contract 2. Please refer to Mitigation Measure VEG-2 in Section 4.1.3, “Analysis of Environmental Effects” of Appendix B for information on how adaptive management is incorporated into mitigation.
- DOI-10 Please refer to the response to DOI-7.
- DOI-11 Please refer to MR 8, which addresses consistency with the WSRA and consultation with project partners, including Sacramento County Regional Parks, to determine project design refinements.
- DOI-12 Project Partners will continue to work with Sacramento County Regional Parks and Recreation District and the National Park Service on ARCF 2016 Projects to minimize impacts to recreation as much as feasible.
- DOI-13 Please refer to MR 4-1 and 4-2. Temporary access to the American River through the construction area will be provided when safe and feasible to do so.
- DOI-14 Please refer to MR 4-5, “Cumulative Impacts on Recreation,” which addresses long-term cumulative impacts on recreation related to changes in the visual and habitat character of the LAR, and please refer to MR 8, “Recreation” header, which addresses long-term loss of recreational quality and access. Please refer to Appendix G, “Engineering,” including both Section 2.5, “Design Development” and Section 2.6, “Design Implementation,” which address design refinements including tree removal and revegetation of sites. Please refer also to MR 3-1, which outlines why trees had to be removed and steps taken to minimize removal.
- DOI-15 Please refer to MR 3-1 and MR 15-2.
- DOI-16 The surface of the planting bench above the summer water levels will include coir fabric in place of cobble while vegetation is established. This change in design from cobble to soil filled burlap sandbags and coir fabric was based on review

comments received from Sacramento County Regional Parks at the 95 percent design phase.

- DOI-17 Please refer to MR 9, which comprehensively addresses the design process for the ARMS site and identifies existing wildlife and habitat values in contrast to the proposed project modifications.
- DOI-18 Please refer to MR 9, which comprehensively compares the existing habitat values in contrast to the proposed project modifications.
- DOI-19 Please refer to MR 9 which includes a comprehensive narrative describing the design for the ARMS, including efforts to preserve existing riparian habitat. Please refer also to Appendix G, "Engineering," Section 2.5, "Design Development," which documents the design development to minimize tree removal, particularly for erosion projects.
- DOI-20 Text in Section 4.5.1.2.1 has been updated as follows:
- ARMS would remain a man-made pond ~~in private ownership with no public access.~~ Please refer to MR 9, which comprehensively addresses the design process for the ARMS site and identifies existing wildlife and habitat values in contrast to the proposed project modifications.
- DOI-21a Text in section 4.5.1.2.2 has been updated as follows:
- Project Partners would ~~include Sacramento County~~ consult with the Sacramento County Regional Parks, which has jurisdiction over tree removal work in the American River Parkway, to ensure compliance with comply with the county ordinance.
- DOI-21b Please refer to the response to DOI-6 and the responses to CBD-3-7 and CBD-3-16, which address hydraulic modeling in general, and the Flora, et al. (2021, 2021, 2022, 2023) studies in particular.
- DOI-22 Please refer to MR 15, which addresses riparian forest impacts and details the tree surveys conducted and their results, including the number and sizes of trees impacted. Please refer to Appendix G, "Engineering," Section 2.3.2, which discusses the hydraulic capacity of habitat features verses erosion features. The Lower American River has been heavily altered by humans. The floodplain has been restricted by the federal levee system; many of the characteristics Bureau of Land Management (BLM) associates with functioning properly ("Dissipate stream-energy associated with high waterflow," "aid floodplain development," "Improve floodwater retention") unfortunately cannot be met with the modern levee system and Folsom Dam in place. As discussed in MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives," vegetation will not be resilient to the 160,000 cfs flows that can be released from Folsom Dam, so although Project Partners agree that at lower flows vegetation is important to "develop root masses that stabilize stream banks against erosion," the root mass

will not protect against all possible flows down the American River and provide flood protection resiliency needs considering the flood risk and associated consequences. Project Partners do agree that vegetation is important to the river and, as mentioned in MR 3-1, much effort was conducted to minimize tree removal to the greatest extent feasible. Most of the site will be replanted with woody vegetation so that over time the area will return to provide root mass to stabilize banks against erosion. The revetment is designed to remain stable during the design objective flow of 160,000 cfs. Renderings of the proposed features that depict erosion protection features, on-site habitat mitigation features and protection of existing trees are shown in Section 2.5.2, "Contract 3B" in Appendix G, "Engineering."

- DOI-23 One of the main objectives of the ARCF 2016 Project is to minimize the risk of levee failure by location. However, it is also a major goal of Project Partners to consider all alternatives reflective of the setting prior to removing vegetation with design criteria discussed in Section 1.7, "Design Criteria and Standards" and Section 2.2, "LAR Design Criteria and Standards" in Appendix G, "Engineering." The American River Erosion Contract 3B designs have gone through a substantial refinement process over time as various alternatives were considered and rejected or further refined in order to minimize habitat and impacts to trees. The design development process is discussed in Section 2.5.2, "Contract 3B," in Appendix G, "Engineering." Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for details on the effort and steps taken to minimize the footprint and minimize impacts to trees and the reason why bioengineering or leaving the trees in place with no additional modifications at the project site does not meet flood risk objectives.
- DOI-24 Please refer to MR 2-1 and Appendix G, "Engineering."
- DOI-25 Please refer to MR 3-1 and Sections 1.7.4, "Erosion Protection Design Alternatives," and 2.5.2, "Contract 3B," in Appendix G, "Engineering."
- DOI-26 Please refer to MRs 2 and 3 that describe the design for Contract 3B and present information on vegetation regrowth (see especially MR 3-3, which presents historical regrowth of riparian vegetation on previous erosion protection projects on the Lower American River). The extensive process of refining the erosion protection designs to reduce riparian impacts is described in detail in Appendix G, "Engineering," especially Sections 2.4, "Site Evaluations and Selection," and 2.5, "Design Development," which includes detailed discussions of the evaluation process and remediations selected for individual sites within Contract 3B. MR 15-1 includes a discussion of riparian habitat and detailed illustrations and tables presenting the extent of tree preservation and removal in the Contract 3B project area.
- DOI-27 Please refer to MR 2-1 and Appendix G, "Engineering."

- DOI-28 Please refer to MR 3-3, MR 3-4, and Section 2.6.4, "Revegetation of Sites" in Appendix G, "Engineering" for what vegetation looks like over the years for previous USACE Projects. In addition, woody vegetation replanted at the American River Erosion Contract 3B site will be considered onsite mitigation and subject to monitoring and success criteria, see MR 5-6 and 15-3. Please refer to Appendix B Section 4.1.3, "Vegetation and Wildlife," Mitigation Measure VEG-1 for details on measures taken to ensure success of mitigation sites. Project Partners would armor the banks with revetment after tree removal to prevent future erosion, consequently tree removal will not worsen erosion over the long term as the placed revetment will prevent erosion. Please refer also to MR 2-2, which summarizes the reasons (provided in more detail in Appendix G, "Engineering") why a natural bank protection approach is infeasible to address erosion hazards at the Contract 3B site.
- DOI-29 Please refer to the response to DOI-28 for details on woody vegetation success. Specifically, MR 3-3, MR 3-4, and the responses to Indiv-462-3 provide details on past success with planting, including plantings that use soil-filled revetment. MR 3-3, MR 3-4 and Section 2.6.4, "Revegetation of Sites" in Appendix G, "Engineering," document past performance assessment of bank protection features that date from the early 2000s through the 2010s. Shade will be reestablished once vegetation matures. In addition, planting benches are a part of the design with have been designed to provide additional soil. The assessment on long-term weather conditions for inland hydrology, for the purposes of enhancing community resiliency was completed during design following Engineering Construction Bulletin 2018-14 and was considered when designing planting benches. These findings were also presented to the TRAC with Resource Agency feedback provided on those findings for planting bench design development. Project Partners concur that biodiversity resources and services will be reduced at the sites until vegetation reestablishes. Please refer to the response to DOI- 28, which summarizes ensuring success of vegetation establishment. Folsom dam has been affecting the flow of the American River since the mid-1950s; a historical background on the Lower American River is presented in Section 2.1, "Background" in Appendix G, "Engineering." Project Partners designed the planting benches based on existing elevations along the river where woody vegetation is successful; consequently, the flow regime and Folsom Dam operation discussed in Section 2.3.2, "Hydrology" in Appendix G, "Engineering," is accounted for in the designs. Please refer to MR 3-5 for a discussion on launching features and how habitat mitigation credits will be applied.
- DOI-30 Figure 125 of comment letter DOI purports to show "limited forest revegetation in the foreground" however this cannot be addressed as the location has not been identified.
- Figure 16 of comment letter DOI appears to show surface erosion due to drainage from ponding offsite at Lower American River Contract 2, site 2-2. The topsoil, which is placed over the bank protection features to restore vegetation and aesthetics, is susceptible to surface erosion so Project Partners protect it with

erosion control fabric and straw wattles until vegetation can be re-established to protect against surface erosion. Construction of this site had just been completed in the fall of 2023. The surface erosion identified in the photograph has been addressed and the site was replanted with native vegetation and was completed in winter 2024/2025. The primary focus of the ARCF 2016 Project is the reduction of levee failure risk due to erosion caused by the effects of 160,000 cfs of water flowing, through a heavily urbanized area during emergency release conditions. The erosion features buried beneath these sites address the risk of erosion during emergency release conditions.

Figure 17 of comment letter DOI appears to show completed work from Contract 2, Site 2-3, which was completed in the fall of 2023, but replanting was completed in winter 2024/2025. This site is an example of collaboration with resource agencies and incorporation of Engineering with Nature (EWN) principles into the designs. A highly erodible and collapsing bankline was replaced with a gently sloping bank, which added approximately 17 acres of habitat uplift and improved conveyance capacity. The increased conveyance capacity provided design flexibility upstream, reducing proposed footprints and associated vegetation impacts at Contract 3B.

- DOI- 31 The project did not rely on the 2004 hydraulic model. Instead, the hydraulic modeling performed by USACE was based on the latest official release of the Hydrologic Engineering Center's, River Analysis System (HEC-RAS) at the time the Lower American River C3B project began design and was actively updated throughout the life of the project. See Section 2.3.3, "Hydraulic Model Analysis" of Appendix G, "Engineering," for more information on USACE hydraulic model development (Sections 2.3.3.1, "Model Selection" and 2.3.3.2, "Model Development" of Appendix G should be particularly useful as these sections discuss hydraulic model development, especially incorporating 2017 topobathymetric survey data, incorporating vegetation roughness, and calibrating the model to five (5) observed flood events).
- DOI-32 Please refer to MR 2-9 and Section 2.3, "Background Data and Ancillary Studies" in Appendix G, "Engineering," that fed into the Site Selection Process and Design Development stage. Extensive data collection efforts to map and assess both bathymetric and riverbank geologic conditions were completed. This data was directly incorporated into geologic stratigraphic modeling, vertical scour analysis, lateral erosion estimation and design site layout.
- DOI-33 Please refer to Sections 1.8, "Site Evaluations and Selection" and 2.4, "Site Evaluations and Selection" in Appendix G, "Engineering," explaining the process, considerations, studies, datasets and evaluation that were involved. Section 2.1.1, "Historical Performance" and Figure 2-4 of Appendix G discuss previous bank protection work along the Lower American River. Section 2.5.2, "Contract 3B" of Appendix G discusses the identified risk drivers per location and the design development process. Use of a 3-dimensional hydraulic model is unnecessary to evaluate the risk of erosion along the Lower American River. For more information on why 3-dimensional models were not selected, and why 2-

dimensional hydraulic models are appropriate and were selected for use in the erosion risk analyses, please refer to Appendix G, Section 2.3.3, “Hydraulic Model Analysis.”

- DOI-34 Appendix G, “Engineering,” has been added to the SEIS/SEIR to provide more background and details on the evaluation process for the various American and Sacramento Rivers' reaches/segments. Specifically, please refer to Appendix G Section 1.3, “ARCF16 Project Background” and Section 1.4, “Flood Risk Management System History.” The problem approach and the process for selecting sites and developing designs for the Lower American River is in Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” with details on “Site Evaluations and Selection” in Section 2.4 and “Design Development” in Section 2.5. Refer to section 2.1 “Background” of Appendix G, “Engineering,” for information on how Folsom Dam relates to the ARCF 2016 Project.
- DOI-35 Hydraulic modeling performed by USACE leveraged the latest version of industry-standard software (HEC-RAS) in the design of project features. One- and two- dimensional hydrodynamic models were used to conduct the analysis, and the results of both analyses were compared and documented. Spatially-varied roughness associated with vegetation was applied to both models based upon vegetation type, density, and season. Modeling results demonstrated that the vegetation did reduce velocities and shear stresses in the overbanks, but the values were still above tolerable thresholds for a vegetation-only solution. See Section 2.3.3, “Hydraulic Model Analysis” of Appendix G, “Engineering,” for additional details on USACE hydraulic model development and application. Please also refer to the response to Indiv-589-13.
- DOI-36 Please refer to the response to DOI-6 and the response to CBD-3-7, which address hydraulic modeling in general, and the Flora, et al. (2021⁶⁰, 2021⁶¹, 2022⁶², 2023⁶³) studies in particular.
- DOI-37 Please refer to the response to DOI-6 and the response to CBD-3-7, which address hydraulic modeling in general, and the Flora, et al (2021¹, 2021², 2022³, 2023⁴) studies in particular. Section 2.3.3.2, "Model Development" of Appendix G, “Engineering,” addresses concerns related to monitoring and measurements as it discusses topo-bathymetric data collected in 2017 that was used to inform channel and overbank shape and configuration and hydraulic model calibration to five separate flood events.

⁶⁰ Flora, K., Santoni, C., & Khosronejad, A. (2021). Numerical Study on the Effect of Bank Vegetation on the Hydrodynamics of the American River under Flood Conditions. ASCE. Journal of Hydraulic Engine

⁶¹ Flora, K. & Khosronejad, A. (2021) On the Impact of Bed-Bathymetry Resolution and Bank Vegetation on the Flood Flow Field of the American River, California: Insights Gained Using Data-Driven Large-Eddy Simulation. ASCE Library. Journal of Irrigation and Drainage Engineering Volume 147, Issue 9

⁶² Flora, K. and Khosronejad, A., (2022). Uncertainty quantification of large-eddy simulation results of riverine flows: A field and numerical study. *Environmental Fluid Mechanics*, 22(5)

⁶³ Flora, K. & Khosronejad, A. (2023). Uncertainty Quantification of Bank Vegetation Impacts on the Flood Flow Field in the American River, California Using Large Eddy Simulations. ESPL Wil

- DOI-38 USACE was aware of the information provided in Weber 2018. This research was funded by one of the non-federal sponsors, and information from the research was presented to expert panels for consideration during the site evaluation process. The findings of the Weber analysis generally supported the findings of the Northwest Hydraulic Consultants (2019⁶⁴) erosion analyses that determined that it is unlikely that significant, gross channel alignment change (e.g., large scale shift in channel width and depth, bar migration, large scale planform changes, etc.) will occur at flows of 160,000 cfs or less in the Project reaches. However, the significant imbalance of concentrated hydraulic force caused by the confining levees and weak channel bank soils that are highly dependent on vegetation for erosion protection are the primary risk driver for bank erosion with potential failure of vegetation leading to localized but significant bank erosion that could threaten levee integrity. This erosion risk results in the need for the proposed erosion protection improvements. Please refer to Section 2.5.2 "Contract 3B" of Appendix G, which discusses the Lower American River Erosion Contract 3B erosion designs. See also Sections 2.5.2.3.3 "Proposed Design", 2.5.2.4.3 "Proposed Design", and 2.5.2.5.3 "Proposed Design" of Appendix G which provides insight into the erosion mechanisms that each design feature is intended to address. Sediment transport processes, specifically scour that could threaten bank stability, are addressed by launchable stone toe features that will preserve bank protection function even if significant bed sediment is mobilized during the 160,000 cfs design flow event. Changes in plan form and bed elevation over the last few decades were assessed as part of the Risk Informed Design process and leveraged national and local experts to assess and identify risk drivers for the project area.
- DOI-39 The project did not rely on the 2004 hydraulic model. Instead, the hydraulic modeling performed by USACE was based on the latest official release of HEC-RAS at the time the LAR C3B project began and actively updated throughout the life of the project. Hydraulic model development incorporated recent and new topo-bathymetry data collected between 2017 and 2022, adjustments to Manning's roughness coefficient values based on LiDAR survey data, and calibration of the model against high water elevations from five recorded flood events. See Section 2.3.3 "Hydraulic Model Analysis" of Appendix G, "Engineering" for more information on USACE hydraulic model development. Sections 2.3.3.1 "Model Selection" and 2.3.3.2 "Model Development" in Appendix G, "Engineering" discuss hydraulic model development pertaining to incorporating 2017 topo-bathymetric survey data, incorporation of vegetation roughness, and calibration to 5 observed flood events.
- DOI-40 Please refer to Section 2.3.3.2, "Model Development" of Appendix G, "Engineering," which addresses USACE hydraulic model development and calibration. It should be noted that the USACE hydraulic models used for design were calibrated to 5 separate flood events.

⁶⁴ Northwest Hydraulic Consultants ((2019). *Sacramento River Erosion Assessment. Prepared for Sacramento Area Flood Control Agency and U.S. Army Corps of Engineers.*

- DOI-41 Please refer to Section 2.3.1, “Bathymetric and Topographic Surveys” of Appendix G, “Engineering,” which discusses survey data collection efforts that fed into design and analysis tools. Section 2.3.2, “Hydrology” of Appendix G discusses flows used for analysis. Section 2.3.3.2, “Model Development” of Appendix G discusses hydraulic model calibration and verification flows for hydraulic model development. Section 2.3.8, “Erosion Assessment” discusses four flow events used in the Site Selection process. Refer to section 2.1 “Background” of Appendix G, “Engineering,” for information on how Folsom Dam relates to the ARCF 2016 Project.
- DOI-42 An extensive topographic and bathymetric data collection effort was completed in 2017 and 2021 to support Site Selection and Lower American River Erosion Contract 3B design development. Please refer to Section 2.3.1, “Bathymetric and Topographic Surveys” of Appendix G, “Engineering,” that discusses survey data collection efforts that fed into design and analysis tools. Historical data collection efforts to chart channel plan form and bed change over time were assessed and included in the Phase 1 Site Selection effort for this project.
- DOI-43 Please refer to Section 2.3.4, “Geology” of Appendix G, “Engineering.” The project included data collection efforts from bathymetric and topographic surveys and geotechnical exploration as well as building off past records. The data collection efforts coupled with past records were used to develop a variety of analytical tools uses to assess hazards and concerns during the Site Selection process as well as inform and support local design features.
- DOI-44 Appendix G, “Engineering” has been added to the final SEIS/SEIR to provide further information on the decision-making process that led to the current contract designs. The project delivery team evaluated various methods of bank protection including engineering with nature before deciding on the current designs (MR 3) provides additional detail). Additionally, the design team worked with engineers, biologists, and ecologists who have been designing and monitoring erosion protection projects on the American River for decades. Their expertise was consulted regularly throughout the design development process and was instrumental in incorporating lessons learned from past erosion protection projects and ensuring the proposed designs will provide the best habitat possible once on-site mitigation plantings have established on each site. In addition, the design team conducted site visits to recently constructed erosion protection projects nearby (Lower American River Erosion Contract 1 and Contract 2) to incorporate lessons learned into the proposed designs. Climate change and predicable changes to the hydrology of the Lower American River Watershed were considered in design of both erosion features and habitat mitigation features following Engineering Construction Bulletin 2018-14. For instance, a Climate Change Assessment completed on Lower American River Erosion Contract 3B during design following Engineering Construction Bulletin 2018-14 determined that the project was at risk for increased water levels due to sea level rises (USACE 2022). Consideration was given to increasing the planting bench height; however, if this was done, the bench would need to be narrowed to maintain channel cross

sections capacity and limit hydraulic stage impacts (USACE 2022). Increasing the planting bench elevation would also increase the quantity of exposed riprap media along the aquatic margins. The most basic requirement of operations and maintenance of the federal flood risk features is to keep the surrounding population and infrastructure safe; the existing operations and maintenance manuals do not dictate how those activities should occur and leave it up to the local maintaining agency's to determine how to achieve that objective. The areas that have been revegetated do have adaptive management worked into the habitat management plans.

- DOI-45 New topo-bathymetry data collected between 2017 and 2022 was used as the basis for development of the hydraulic and geotechnical analysis models, and for development of the proposed erosion protection designs. Please refer to 2.3.1 "Bathymetric and Topographic Surveys" in Appendix G, "Engineering" for more details.
- DOI-46 Detailed, site-specific data, used in the project design and the environmental analysis, including maps showing tree preservation and removal at the Contract 3B project site, have been added to Appendix B, Section 4.1, "Vegetation and Wildlife" in the Final SEIS/SEIR as Figures 4.1-9 and 4.1-10. Tree data, including maps and tables of preservation and removal are also addressed in detail in MR 15-1.
- DOI-47 Please refer to response to DOI-43.
- DOI-48 Please refer to Response to DOI-26.
- DOI-49 Please refer to response to DOI-43.
- DOI-50 Please refer to MR 2-2, which specifically addresses the proposed design and Nature Based Solutions. The design process and efforts to preserve trees and riparian vegetation are also addressed in MR 3-1, MR 3-2, and Appendix G, "Engineering" Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives." These discussions address the need for tree removal, why existing vegetation or bioengineering cannot be relied upon, and steps that were taken to minimize tree removal as much as possible. USACE made a substantial effort to address only those locations classified with a high flood risk and public safety consequences and to minimize effects on riparian vegetation. Through collaboration and review with local, state and federal partners a variety of alternatives were evaluated, selected and advanced based on program criteria to address flood risk but minimize impacts. Erosion protection designs also include on-site habitat mitigation features such as inclusion of planting benches, in-stream woody material, soil filled revetment, topsoil placement above the revetment, re-planting plan and provisions to protect existing vegetation outside the work limits.
- DOI-51 The comment seems to be based on a misconception related to the origin of the 160,000 cfs design flow for the Contract 3B project improvements. This design

flow was mandated by Congress and is not a 200-year release from Folsom Dam under the revised Water Control Manual; rather, 160,000 cfs represents the maximum emergency release from the dam that the downstream levees can safely convey (once all required erosion protection improvements are constructed). The maximum emergency release would occur only to prevent overtopping of Folsom Dam. The changes to the Folsom Dam Water Control Manual enabled tighter control of water levels, including more efficient management of flows to reduce flood risks over a greater range of water volumes in the reservoir, and reduced 1/200 annual chance exceedance (ACE) flows to 115k cfs. Changes to the Water Control Manual would not affect the 160,000 cfs design flow, which is an emergency flow and is based on the maximum downstream capacity of the levee system, not any result of the operation of the dam. Please refer to Appendix G, "Engineering," Section 2.1.3, "Folsom Dam Operation Improvements" for additional details.

- DOI-52 The recently updated Folsom Dam Water Control Manual relies on Forecast Informed Reservoir Operations (FIRO). The water control manual update does result in 1/200 ACE flood events being reduced to 115k cfs; however, the design flood event for the American River, as mandated by Congress, is 160,000 cfs (emergency release flow for Folsom Dam). The American River erosion risk assessments and designs were performed and developed to address the erosion risk posed by the 160,000 cfs flood event. The risk assessments and design development process also weighed the risk posed by peak flows which will occur more frequently due to the revised Folsom Dam water control manual, such as 115k cfs. Appendix G, "Engineering," has been added to the SEIS and provides more details on the risk assessment process and hydraulic modeling criteria.
- DOI-53 Site evaluations and designs considered several factors based on recent studies and data collection efforts such as hydraulic forces, site geology, soil characteristics, erosion resistivity of soils, benefits provided by existing vegetation, etc. Use of a 3-Dimensional (3D) hydraulic model is unnecessary to evaluate the risk of erosion along the Lower American River. For more information on why 3-dimensional models are unnecessary and why 2-Dimensional (2D) hydraulic models are appropriate and were selected for use in the erosion risk analyses, please refer to the Appendix G section 2.3.3 "Hydraulic Model Analysis". The design of the various American River and Sacramento River erosion protection contracts mainly utilized 2D hydraulic models to assess the erosion risk along each river system; however, 3D hydraulic modeling was utilized in limited instances where a better understanding of vertical flow components was necessary when developing some design features. This modeling was coupled with detailed geologic models within each river channel and soil erosion resistivity testing in key locations to identify the critical areas at risk for erosion. Please refer to Appendix G, Section 2.3 "Background Data and Ancillary Studies", 2.5.2.1 "Design Coordination and Collaboration", and 3.2 "Background Data and Ancillary Studies" for more information on the robust investigative, analytical, and collaborative efforts used through the design development process for the ARCF 2016 Project.

The Stony Brook University publications authored by Flora, et. al (2021⁶⁵, 2021⁶⁶, 2022⁶⁷, 2023⁶⁸), were research papers that demonstrated the importance of incorporating vegetation into 3D hydraulic models (which is not a novel finding) and evaluated different methods to incorporate vegetation into 3D hydraulic models. The papers neither provide any comparison between 2D or 3D model outputs, nor do they speak to the superiority of either 2D or 3D modeling tools over the other. Knowing this, a 2D model was selected for the ARCF 2016 project based on: (1) most empirical data used in the assessment of soil erodibility, erosion rates, and threshold values for vegetation to resist erosion are based on time-averaged and depth-averaged flows consistent with those provided in 2D models, and (2) the 2D models can accurately estimate the effects of vegetation on flow and provide spatially varied hydraulic output that can be validated by field-measured data. Hydraulic outputs from the 2D model, including water surface elevations, velocity, and shear stress, were spatially mapped onto the existing channel banks, benches, and levees to inform erosion assessments of the bank and levee materials, as well as understand impacts of project components on the water surface elevation.

DOI-54 The comment concerns the DOI interpretation of the impact analysis and significance conclusions for those impacts that were determined to be less than significant in the SEIS/SEIR. The comment states that impacts on water quality, including water temperature, would be significant and long term without reference to any of the project components or alternatives analyzed and without providing evidence to support such a conclusion. The impacts on water quality, including water temperature, were provided in Chapter 4, “Affected Environment and Environmental Consequences,” Section 4.4.4, “Water Quality” and in Appendix B 3.4, “Water Quality.” The impact analysis included in the SEIS/SEIR for effects on water quality provided the environmental settings and impact analyses for each of the project components that have different water quality considerations based on their individual geography and environmental conditions, as documented. Further, significance conclusions for effects on water quality were determined, based on project components, and vary (from no impact to significant and unavoidable), as documented in Section 4.3.4, “Water Quality,” Table 4.3.4-2 on page 4-79. The analysis contained within the SEIS/SEIR provided estimations of likely impacts on resources throughout the main body of the document and in Appendix B, “Detailed Analyses.”

DOI-55 Flow velocities are an important factor when determining where erosion protection may be necessary, but it is only one of many factors considered when evaluating and determining which areas along the river are at an unacceptable risk

⁶⁵ Flora, K., Santoni, C., & Khosronejad, A. (2021). Numerical Study on the Effect of Bank Vegetation on the Hydrodynamics of the American River under Flood Conditions. ASCE. Journal of Hydraulic Engineering

⁶⁶ Flora, K. & Khosronejad, A. (2021) On the Impact of Bed-Bathymetry Resolution and Bank Vegetation on the Flood Flow Field of the American River, California: Insights Gained Using Data-Driven Large-Eddy Simulation. ASCE Library. Journal of Irrigation and Drainage Engineering Volume 147, Issue 9

⁶⁷ Flora, K. and Khosronejad, A., (2022). Uncertainty quantification of large-eddy simulation results of riverine flows: A field and numerical study. Environmental Fluid Mechanics, 22(5)

⁶⁸ Flora, K. & Khosronejad, A. (2023). Uncertainty Quantification of Bank Vegetation Impacts on the Flood Flow Field in the American River, California Using Large Eddy Simulations. ESPL Wil

for erosion induced levee failure. Other important erosion risk factors aside from hydraulic modeling results include slope stability analysis, lateral erosion analysis, use of the risk informed design process, assessment of the overbank width and existing riverbank side slope, geologic conditions and involvement with local. These critical pieces of information were reviewed and weighed by two separate panels composed of local, regional, and national experts on river systems to determine which areas posed an unacceptable risk of erosion induced levee failure. The primary erosion risk driver for Segment 4-3 is instability of the riverbank toe with close proximity of the levee prism and levee toe. More detail on the identified risk drivers, alternatives evaluated and proposed designs within Site 4-1 are included in Section 2.5.2.4 Contract 3B Site 4-1 of Appendix G, "Engineering." The proposed work along Segment 4-3 on the south bank (Site 4-1) is targeted to address this instability of the riverbank toe and represents the minimum erosion protection footprint required to achieve that objective. A bathymetric and topographic survey effort was completed in 2020 and 2021 and was used for development of updated hydraulic modeling efforts, which is discussed in Section 2.3.4, "Geology," of Appendix G, "Engineering." The proposed work on the north or right bank (i.e. Site 4-2) is along the levee embankment. The work in this middle section of this Site is to increase the revetment height of the existing levee embankment erosion protection feature without impacts to the existing revetment feature below it. The extension of launch rock and levee revetment upstream and downstream of the existing revetment feature is based on a combination of updated hydrology from the previous erosion protection features, updated hydraulic modeling, scour computations and use of the risk informed design evaluation to arrive at a proposed layout. Coordination with Sacramento County Regional Parks was included to evaluate several design layout alternatives to minimize tree impacts. Coordination with Sacramento County Regional Parks and the National Park Service was also included in the design process stemming back to the 65 percent design phase for developing a haul route plan to minimize recreational impacts. Additional details of identified risk drivers and proposed designs can be found in Section 2.5.2.5, "Contract 3B Site 4-2" in Appendix G, "Engineering."

DOI-56 Section 2.3, "Background Data and Ancillary Studies" and Section 2.4, "Site Evaluation and Selection" in Appendix G, "Engineering," discuss some of the products and studies that fed into determining and prioritizing segments identified as warranting erosion protection mitigation. Mapping and assessment of the riverbed, riverbank and overbank soil characteristics, including the Fair Oaks Formation (also referred as ERM), was a key element that was included in the site selection process and utilized for design advancement at a local level. Please refer to Section 2.3.4, "Geology" of Appendix G, "Engineering." Soil parameter data that was collected, lab tested and/or referenced from previous studies was used to update three-dimensional stratigraphic models. The geology data was then applied to develop and refine scour estimates, lateral erosion and slope stability modeling tools at critical locations within a river segment with those products aiding design layout.

- DOI-57 This section of river, referred as Segment 4-2, between Segment 4-1 and Segment 4-3, is an existing bank protection feature installed in 2011. Figure 2-4 in Appendix G, “Engineering,” shows this Segment 4-2 location with it being also described in Section 2.5.2.2, “Tying into Existing Modern Revetment.” Segment 4-2 was determined to meet flood risk objectives via the site selection process. A discussion of the risk drivers and design evolution for Site 4-1 are discussed in Section 2.5.2.4, “Contract 3B Site 4-1,” in Appendix G, “Engineering.”
- DOI- 58 Please refer to Figure 2-8 of Appendix G, which includes all the previously installed erosion protection features along the Lower American River. Project Partners considered the erosion protection features previously installed at these locations when determining locations needing erosion protection improvement (refer to Sections 2.3.5 “Documentation of Past Performance”, 2.3.7 “Existing Bank Revetment Condition Assessment”, and 2.3.8 “Erosion Assessment” in Appendix G, “Engineering” for more details). For example, Lower American River Erosion Contract 1, Contract 2 and Contract 3A includes old erosion protection sites that were determined to need improvement to withstand 160,000 cfs flows. The sites adjacent to the Lower American River Erosion Contract 3B location had been considered for improvement but project partners determined that improvement was not needed to those existing bank repairs to withstand 160,000 cfs flows.

U.S. Environmental Protection Agency

- EPA-1 The commenter summarizes air quality impacts associated with the Proposed Action. In response to the comment, table headers for Tables 3.5-1 and 3.5-2 in the SEIS/SEIR, have been updated to reflect the attainment status more accurately for the specific project area.
- EPA-2 Please refer to Appendix B “Detailed Analyses” Section 3.5, “Air Quality,” pages 3.5-21 through 3.5-24 and Section 3.6, “Greenhouse Gas Emissions, and Energy Consumption,” pages 3.6-13 and 3.6-14 for a detailed discussion of all mitigation measures that have been implemented to reduce air quality and GHG impacts to amount feasible. Additionally, Mitigation Measure AIR-4 has been revised to include off-site mitigation fee to reduce emissions of PM₁₀ that exceed applicable significance threshold. The air quality modeling reflects the impacts associated with all components of the Proposed Action (See Appendix C “Air Quality Data”). Construction-related emissions of NO_x (ozone precursor) would result in an exceedance of the maximum daily threshold in 2024 through 2027, and annual threshold in 2025 and 2026. However, implementation of Mitigation Measure AIR-1 though AIR-5 would reduce impacts down to a less-than-significant level by incorporating BMPs and other on-site controls and by paying a fee to reduce all remaining emissions that are above applicable thresholds. Therefore, the Proposed Action would not hinder ozone attainment efforts in the Sacramento region.

- EPA-3 The commenter states that it is not clear what BMPs, or other on-site controls have been committed to. Best Management Practices are detailed in Mitigation Measures AIR-1 through AIR-3, on pages 3.5-21 through 3.5-23.
- EPA-4 The revised air quality tables in the Final SEIS/SEIR provide most of the schedule changes. Please see Appendix B “Detailed Analyses,” Section 3.5, “Air Quality,” Question 3.5 a, b which addresses compliance with Federal and State Ambient Air Quality Standards. The General Conformity Report is posted on the USACE project website at sacleveupgrades.com when the final becomes available.
- EPA-5 The language in Mitigation Measure AIR-3, on pages 3.5-22 and 3.5-23 has been updated to state the following:
- The Project Partners shall require all off-road diesel-powered equipment used during construction to be zero-emission if reasonably available. If not reasonably available, all off-road equipment shall be equipped with Tier 4 Final or cleaner engines, except for specialized construction equipment in which Tier 4 Final engines are not available. In place of Tier 4 Final engines, off-road equipment can incorporate retrofits such that emissions reductions achieved equal or exceed that of a Tier 4 Final engine. All heavy-duty trucks entering the construction sites must be zero-emission if reasonably available. If not reasonably available, on-road heavy duty trucks must be model year 2014 or later and must meet CARB’s lowest optional low-NOx standard. Diesel equipment will be required to use renewable diesel fuel.
- EPA-6 The construction schedules have been developed to maximize the flood risk reduction benefits of the project, with each contract being construct at the earliest feasible date.
- EPA-7 USACE appreciates the USEPA pointing out that the ARCF 2016 Project’s programmatic Clean Water Act (CWA) Section 401 Water Quality Certification permit expires on July 12, 2026 (WDID No. 5A34CR00819). Because some of the project components being analyzed in this ARCF SEIS/SEIR will be constructed after the Section 401 permit expires, USACE has already coordinated with the Central Valley Regional Water Quality Control Board (CVRWQCB) on the approach to extending the programmatic Section 401 water quality certification.
- EPA-8 The comment states that USACE would also obtain separate CWA Section 401 Water Quality certifications for the two proposed mitigation sites. USACE plans to use the existing programmatic Section 401 Water Quality Certification for these mitigation sites. However, as part of the conditions in the permit, USACE is required to obtain individual project specific 401 permits for each ARCF project component under the umbrella of the programmatic 401 permit.
- EPA-9 USACE acknowledges the significant and unavoidable impacts to water quality that the USEPA is referencing from the SEIS/SEIR.

- EPA-10 The comment states that conclusions of Mitigation Measures GEO-1, HAZ-1, WATERS-1, and WQ-1 may need to be updated after designs are refined. The majority of the project components being analyzed in this SEIS/SEIR are at 95 percent or higher designs, and USACE doesn't expect any change to the significance conclusions associated with these project components. However, there are a few project components (ARMS, SRMS, American River Erosion Contract 4B, and Piezometer Network) that are still in conceptual stages of designs.
- EPA-11 The comment states "Assess the ability of individual project components to receive CWA 401 Certification from the RWQCB on the projected short-term impacts to temperature, erosion, and sedimentation." USACE must obtain individual Section 401 permits for each project component that are under the overall umbrella of the programmatic Section 401 permit.
- EPA-12 Refer to response to Comment EPA-1-10.
- EPA-13 MR 5, which addresses habitat mitigation, contains the latest impact calculation table. As the designs were refined, impacts to habitat and species reduced. Numbers were buffered in the Draft SEIS to cover any unanticipated increases during construction.
- EPA-14 This comment does not add to or change the analysis presented in this document. No text changes are required.
- EPA-15 Please refer to MR 15, which addresses riparian forest, and Appendix G, "Engineering." Erosion Contract 4B is the only remaining contract that will require a vegetation variance (refer to MR 10-2). All other projects have been able to keep the erosion footprint and onsite mitigation outside of the required vegetation free zone along the levee slopes. As 4B designs are still being refined this analysis has not yet been completed. This comment does not add to or change the analysis in the document and does not require further action.
- EPA-16 Please refer to MR 15, which addresses riparian forest, and Appendix G, "Engineering." MR 3-1 outlines examples of when trees needed to be removed. SEIS/SEIR has been update in section 3.5.2.1.1, "Erosion Protection Features" to say "A team of Civil Engineering, Landscape Architects and Environmental staff worked together to determine what trees needed to be removed."
- EPA-17 Please refer to MR 15, which addresses riparian forest, and Appendix G, "Engineering." MR 10 also includes a discussion of efforts to avoid impacts to trees in the vegetation-free zone. Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes in order to ensure that all possible impacts to the environment were communicated to the public. Project Partners are now more confident with the designs footprints, and updated maps with the most up to date

information and maps showing where onsite revegetation (mitigation) will occur have been added to section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR.

- EPA-18 The American River Erosion Contract 4B's design team is made up of professional engineers, landscape architects and biologists who are all working to evaluate and make recommendations for trees within the vegetation free zones within the contract areas. The emphasis for this team is to provide recommendations for what vegetation could remain while providing for levee safety while retaining much of the existing trees and habitat within the vegetation free zone. The process for requesting a variance from the vegetation standards for levees and floodwalls can be found within the Federal Register volume 77 number 33 dated February 17, 2012. This notice provides policy guidance for requesting a variance from vegetation standards on levees. This policy will be followed for vegetation identified by the team to remain within the veg free zone. No vegetation variance actions are being proposed for Sacramento Erosion Contract 3.
- EPA-19 In accordance with the Fish and Wildlife Coordination Act, the mitigation ratio for trees and woodlands is 2:1. The 2015 National Marine Fisheries Service Biological Opinion did have a mitigation ratio that was time dependent, but not the US Fish and Wildlife Biological Opinion. For additional information on mitigation ratios and the Biological Opinions, review MR 5.
- EPA-20 The comment requests preparation of a 404(b)(1) analysis. USACE has prepared a 404(b)(1) alternatives analysis as Appendix K of the Final SEIS/SEIR.
- EPA-21 Refer to response to comment EPA-1-20.
- EPA-22 The construction schedules have been developed to maximize the flood risk reduction benefits of the project, with each contract being constructed at the earliest feasible date.
- EPA-23 Both the American River Mitigation Site and the Sacramento River Mitigation Site designs, impacts and habitat crediting are being coordinated with the Resource Agencies. The US Fish and Wildlife Service did not include a mitigation timeline in their biological opinion; however, it is known that their preference is for mitigation to occur before impacts. National Marine Fisheries Service 2021 Biological Opinion did include a variable mitigation ratio based on both when and where the mitigation occurred. The Biological Opinion stated that the mitigation site needed to be at least 50 percent constructed within four years of the impacts occurring to qualify for the 2:1 ratio. For additional information on mitigation ratios and the Biological Opinions, review MR 5.
- Planting of trees 5-8 years old, rather than smaller plant stock that is only one season old does not advance the habitat or visual impact provided by 5 to 8 years of growth. Additionally, many of the species required would not be available as speculatively grown plants in the regional nursery trade. Furthermore,

speculatively grown plants are unlikely to be grown from seed collected locally, and would not offer the same benefits related to preserving local genetic characteristics of the plant species as locally collected seed. Therefore, the plants would need to be contract grown for the purpose, in which case the 5 to 8 year growing period becomes part of the lead time for acquiring the plants. These plants cannot be contracted until designs are sufficiently complete to predict the required species, quantities needed and timing of installation. At earliest, the contracts to grow these plants would therefore be perhaps 2 years in advance of the actual planting time. Therefore the 5- to 8-year-old plant loses 2-3 years of growth compared to smaller single growth season plant stock, so the actual time saved is actually 3-6 years. For those 3 to 6 years, the plants would be better planted on the site, adapting to site conditions and becoming established. Larger plant material cannot be planted on any of the soil filled rock revetments, as the topsoil layer is not thick enough to allow planting of larger plant stock. The topsoil layer is typically 1ft deep over the rock, which means containers sufficient for more than two years of growth cannot be planted.

- EPA-24 Conversations on this topic are ongoing. Impacts to habitat, design preferences and site creditability and more are being coordinated with Resource Agencies.
- EPA-25 This comment does not add to or change the analysis presented in this document. USACE appreciates the CVRWQCB providing information on the CWA Section 404 Permit process. Since USACE is the permitting entity for CWA Section 404, and USACE cannot permit themselves, a consistency determination for CWA Section 404 compliance is provided in Appendix K. A Section 401 of the Clean Water Act permit from the State of California has been acquired.
- EPA-26 The Standard Assessment Methodology (SAM) model was used to evaluate site-specific effects and determine appropriate habitat mitigation for the GRR. Because SAM was not built to cover Green Sturgeon, USACE and NMFS agreed to create an updated assessment model as part of the projects mitigation package. USACE is currently testing the Fish Habitat Assessment and Simulation Tool (FHAST) for quantifying anadromous fish habitat in the river system. FFAST was developed by NMFS to provide robust habitat modeling for mitigation purposes.
- EPA-27 A Habitat Mitigation Monitoring and Adaptive Management Plan was developed and was included as Appendix I of the 2015 Environmental Impact Statement / Environmental Impact Report. This base document is being used to create more refined habitat management plans, which will inform the short term and long-term management of the mitigation sites. Information in these documents includes but is not limited to site protections, irrigation, site management, performance and success criteria, and adaptive management of the mitigation sites.
- EPA-28 See the response to comment EPA-1-27
- EPA-29 See the response to comment EPA-1-27
- EPA-30 This comment will be considered for the final version of the SEIS/SEIR. The Final CEQA document will include a Mitigation, Monitoring, and Reporting Program that will summarize all the mitigation measures. The Biological

Opinions are included in the Final document in Appendix L. and the HMMAMP is included with the 2015 EIS/EIR, as Appendix I, it includes the suggested short term and long-term requirements.

- EPA-31 See response EPA-1-30. Please refer to MR 3-5 for a summary of the results of the Launchable Rock Durability Analysis.
- EPA-32 Please refer to MR 9, which addresses proposed improvements on the ARMS site, including access considerations during and after mitigation site development. The beneficial use of clean dredge materials is being coordinated with the San Francisco District for use at the SRMS site.
- EPA-33 The commenter summarizes information about the ARMS and SRMS and observes that supplemental NEPA analysis may be warranted based on the results of site investigations and design activities. Please refer to MR 9, which addresses proposed improvements on the ARMS site, including preliminary site investigations.
- EPA-34, 35, and 36 The commenter identifies recommendations for supplemental analysis and addressing hazardous materials at the ARMS or SRMS sites, should those materials be encountered or identified. USACE and the Project Partners will conduct investigations in accordance with Federal and State requirements. Please refer to MR 9, which addresses proposed improvements on the ARMS site, including preliminary site investigation, concept refinement, and access considerations during and after mitigation site development.
- EPA-37 The commenter summarizes noise impacts associated with the Proposed Action. No response is required.
- EPA-38, 39, 40, and 41 The commenter identifies specific recommendations for a Vibration Monitoring and Noise Control Plan to be prepared as required by Mitigation Measure NOI-1. Mitigation Measure NOI-1 has been modified to incorporate a 1,200-foot radius for noticing, include the City and County Noise Ordinance limits and hours, Mitigation Measure NOI-1 applicable minimization measures, and a link to the USACE Construction Inquiry Form to advise residents of the process for handling their concerns related to impacts from levee construction within the noticing letter, requested by the commenter. Other recommendations are similar to what is already included within Mitigation Measure NOI-1.

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

Project partners will require contractors to implement measures at each work site to avoid and minimize construction noise and vibration effects on sensitive receptors. Prior to the start of construction, the construction contractor will prepare a noise control plan to identify feasible measures to reduce construction noise, when necessary. The measures in the plan will apply to construction

activities within 500 feet of a sensitive receptor, including, but not limited to, residences. These measures may include, but are not limited to, the following:

- Provide written notice to residents within ~~1,000~~ 1,200 feet of the construction zone, advising them of the estimated construction schedule, and including the City and County Noise Ordinance limits and hours, Mitigation Measure NOI-1 applicable minimization measures, and a link to the USACE Construction Inquiry Form to advise residents of the process for handling their concerns related to impacts from levee construction. This written notice will be provided within 1 week to 1 month of the start of construction at that location.
- Display notices with information including, but not limited to, contractor contact telephone number(s) and proposed construction dates and times in a conspicuous manner, such as on construction site fences.
- Schedule the loudest and most intrusive construction activities during daytime hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, when feasible.
- Require that construction equipment be equipped with factory-installed muffling devices, and that all equipment be operated and maintained in good working order to minimize noise generation.
- Locate stationary noise-generating equipment as far as practicable from sensitive receptors.
- Limit unnecessary engine idling (i.e., more than 5 minutes) as required by State air quality regulations.
- Employ equipment that is specifically designed for low noise emission levels, when feasible.
- Employ equipment that is powered by electric or natural gas engines, as opposed to those powered by gasoline fuel or diesel, when feasible.
- If the construction zone is within 500 feet of a sensitive receptor, place temporary barriers between stationary noise equipment and noise sensitive receptors to block noise transmission, when feasible, or take advantage of existing barrier features, such as existing terrain or structures, when feasible.
- Locate construction staging areas as far as practicable from sensitive receptors.
- Design haul routes to avoid sensitive receptors, to the extent practical.
- To the extent feasible and practicable, the primary construction contractors will 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 and Sacramento County), depending on the jurisdictional location of the

affected receptor(s), and the California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual, which identifies maximum vibration levels of 0.2 to 0.5-inch per second Peak Particle Velocity (PPV) for minimizing damage to structures. Project construction specifications will require the contractor to limit vibrations to less than 0.2-inch per second PPV, and less than 72 vibration velocity level in decibel scale (VdB) within 50 feet at any building. If construction will occur within 50 feet of any occupied building, the contractor will prepare a vibration control plan prior to construction. The plan will include measures to limit vibration, including but not limited to the following:

- Numerical thresholds above which the contractor will be required to document vibration sources and implement measures to reduce vibration, and above which work will be required to stop for consideration of alternative construction methods.
- Avoid vibratory rollers and packers near sensitive areas to the maximum extent practicable.
- Route heavily loaded trucks away from residential streets, if possible. If no alternatives are available, select streets with the fewest homes.
- Prior to construction activities, notify each residence within 100 feet of construction and provide contact information to request pre- and post-construction surveys. These pre- and post-construction surveys will assess the existing condition of structures prior to construction and potential architectural/structural damage induced by levee construction vibration at each structure within 100 feet of construction activities, including staging areas. The survey will include visual inspection of the structures that could be affected and documentation of structures by means of photographs and video. This documentation will be reviewed with the individual owners prior to any construction activities. Post-construction monitoring of structures would be performed to identify (and repair, if necessary) damage, if any, from construction activities. Any construction-related damage will be documented with photographs and video. This documentation will be reviewed with the individual property owners.
- Place vibration monitoring equipment in lines approximately parallel to the levee alignment at intervals not to exceed 200 feet along the construction limits, including active staging areas. Vibration monitors will be operational at all times during the performance of construction activities. The contractor will monitor and record vibrations continuously.

Timing: Before and during construction.

Responsibility: USACE.

- EPA-1-42 Thank you for attending the January 10, 2024, public meeting and summarizing the concerns of the community. USACE concurs that tree and vegetation removal was a high concern, as well as the long-term resulting impacts to the American River Parkway in terms of aesthetics, recreation, and wildlife (biodiversity). To address these public concerns, USACE and the non-federal Partners, have developed Master Responses (MRs) to provide more transparency about projects on the Lower American River, as well as Appendix G, “Engineering,” to better explain the flood risks, and the need for erosion protection in targeted reach by reach approach. Please also refer to MR 1 and MR 7-1, which adds more details on the public outreach completed.
- EPA-1-43 Project Partners did not receive specific comments from anyone indicating that they were members of an at-risk community or direct representatives of an at-risk community. However, there were many comments at the public meetings concerned with impacts to at-risk communities, including low-income and/or minority communities. Please refer to MR 14 which summarizes comments received related to the social impacts to at-risk communities.
- EPA-1-44 USACE and the non-federal Partners are committed to ongoing public outreach after the close of the NEPA/CEQA public comment period. USACE participated in the Community Conversation with U.S. Representative Ami Bera on April 8, 2024. The recorded presentation is available on sacleveeupgrades.com. USACE worked to address public concerns received during that public outreach. Additionally, the Lower American Riverbank Protection Working Group (BPWG) met on April 30, and August 13, 2024, with sessions planned quarterly. The BPWG is open for public attendance. The Technical Resource Advisory Committee (TRAC), which includes members from resource agencies (USFWS, NFMS), as well as Sacramento County Regional Parks, and National Park Service, are continuing quarterly meetings to ensure impacts to resources are minimized and projects are designed in compliance with relevant local, State, and Federal laws and regulations.
- During the public comment period, USACE was able to develop tree removal maps for American River Erosion Contract 3B and provide to the public to reduce concerns on the removal of heritage oak trees. MR 3 has been developed to answer public concerns about tree removal with the process for selecting and avoiding native trees, especially heritage oak trees, to the greatest extent while achieving the flood risk objectives and meeting public safety criteria.
- EPA-1-45 Appendix G, “Engineering,” has been developed to demonstrate how local expertise was inputted into project designs from preliminary stages to the 100 percent design during quarterly BPWG and TRAC meetings.
- EPA-1-46 Construction information updates will be mailed to affected community members; these updates will include road closures and alternate routes with 2 weeks to 1 month notice. Construction information updates are available to the public on sacleveeupgrades.com. Email notices will be sent upon sign-up.

MR 11 describes assistance methods for unhoused individuals who are living in the construction footprint of the Proposed Action. MR 12 has been developed to resolve public concerns on property acquisition, loss of real estate values, and methods for obtaining relocation assistance. Local ordinance (Sacramento City Code Chapter 8.140 and Sacramento County Code of Ordinances Chapter 9.120) and USACE, CVFPB, and local levee maintaining agency safety requirements prohibit camping on levee and within 25 feet of levees to avoid damage to critical infrastructure and to ensure that levees can be easily inspected and maintained. The local agency requirements will also be implemented under the No Project Alternative and require the removal of encampments within the footprint of the various project components to prevent threats to public health, safety, and welfare from damage to critical infrastructure. Additionally, active construction would result in unsafe conditions to unhoused campers in the project footprint. Encampments on the project site would therefore be subjects to removal regardless of USACE action to implement the ARCF 2016 Project. The Levee Maintaining Agencies will coordinate with the City or County to request that a task force including local law enforcement and service providers safely remove encampments from work areas prior to construction of the proposed improvements, with service support as described below.

Services for those displaced from the project sites, including the Sacramento River and American River levees and the Magpie Creek site, are offered by both Sacramento City and Sacramento County. As part of the Local Homeless Action Plan and in conjunction with the City-County Partnership Agreement, the Coordinated Access System (CAS) has been developed by Sacramento Steps Forward. The CAS is a streamlined system that matches people experiencing homelessness with housing and service options. This process prioritizes limited local shelter and housing resources, so people with the highest vulnerability can be connected to support as quickly as possible. These services can be accessed by calling 2-1-1. In Sacramento County, the Homeless Engagement and Response Team (HEART) consists of counselors and peers that assist those in encampments obtain housing and other mental health services.

Local ordinance (Sacramento City Code Chapter 8.140 and Sacramento County Code of Ordinances Chapter 9.120) and USACE, CVFPB, and local levee maintaining agency safety requirements prohibit camping on levee and within 25 feet of levees to avoid damage to critical infrastructure and to ensure that levees can be easily inspected and maintained. The local agency requirements will also be implemented under the No Project Alternative and require the removal of encampments within the footprint of the various project components to prevent threats to public health, safety, and welfare from damage to critical infrastructure. Additionally, active construction would result in unsafe conditions to unhoused campers in the project footprint. Encampments on the project site would therefore be subjects to removal regardless of USACE action to implement the ARCF 2016 Project. The Levee Maintaining Agencies will coordinate with the City or County to request that a task force including local law enforcement and service providers

safely remove encampments from work areas prior to construction of the proposed improvements, with service support as described below.

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National Marine Fisheries Service

- NMFS-1 Consultation with NMFS was reinitiated in May of 2024 to update the construction schedule and to provide any other updates necessary to have the BO match the Final SEIS/SEIR as well as update the scientific and commercial data. A new BO will be included with the Final SEIS/SEIR document as an Appendix.
- NMFS-2 See response to NMFS-1-1. USACE’s reinitiation of consultation includes proposed changes to the off-site mitigation as described by the commenter.
- NMFS-3 Comment acknowledged; no additional take is being requested in the 2024 BA.
- NMFS-4 Comment acknowledged.
- NMFS-5 USACE has considered additional information, including the articles referenced by the commenter. Please refer to the responses to CBD-3-7 and CBD-3-16, which address the Flora et al. (2021, 2021, 2022, 2023) studies. Sections 2.3 “Background Data and Ancillary Studies” and 3.2 “Background Data and Ancillary Studies” of Appendix G, “Engineering” describe the data and studies utilized.

1.4 Responses to State Agency Comments

Central Valley Regional Water Quality Control Board

- RWQCB-1-1 Project Partners appreciate the CVRWQCB providing the laws and regulations that are required under Section 13240 of the Porter-Cologne Water Quality Control Act along with the requirements for updating the Basin Plan. USACE has a current CWA 401 Water Quality Certification (WDID# 5A34CR00819-001) and have undergone construction on multiple contracts under this permit to date. USACE will continue to abide by the conditions stated in this permit and will renew this permit for future projects.

- RWQCB-1-2 See response to RWQCB 1-1. In addition, USACE appreciates the CVRWQCB information on Antidegradation Policy Considerations and that the SEIS/SEIR should evaluate potential impacts to both surface and groundwater quality. Impacts to these resources were analyzed in the SEIS/SEIR in section 4.3.4 “Water Quality” and discussed in detail in section 3.4 “Water Quality” of Appendix B “Detailed Analyses”.
- RWQCB-1-3 USACE appreciates the information the CVRWQCB provided on the Construction General Permit Order No. 2009-0009-DWQ (which USACE is tracking is now 2022-0057-DW). USACE will continue to follow the requirements stated in this permit and USACE’s contractors will continue to obtain a Storm Water Pollution Prevention Plan (SWPPP) and adhere to the conditions of said permit along with its reporting requirements.
- RWQCB-1-4 USACE appreciates the CVRWQCB providing information on the CWA Section 404 Permit process. Since USACE is the permitting entity for CWA Section 404, and USACE cannot permit themselves, a consistency determination for CWA Section 404 compliance is provided in Appendix K.
- RWQCB-1-5 USACE appreciates the CVRWQCBs information on the CWA 401 permit process and has already obtained a 401 permit for the ARCF project (WDID#5A34CR00819-001).
- RWQCB-1-6 USACE appreciates the information on Waste Discharge Requirements from the CVRWQCB. USACE has not determined that there would be any non-jurisdictional Waters of the US that could be considered Waters of the State.
- RWQCB 1-7 The USACE contractor is required to acquire any additional state permits to complete the construction activities, this includes the dewatering and NPDES permits if they are applicable.
- RWQCB 1-8 See response to RWQCB-1-7
- RWQCB 1-9 See response to RWQCB-1-7

State Lands Commission

- SLC-1 The real estate team including real estate professionals from USACE, SAFCA and DWR continue to work with the State Lands Commission over Jurisdictional issues related to the construction. MR 12 elaborates on the real estate considerations for ARCF.
- SLC-2 Please refer to the response to comment SLC-1.
- SLC-3 USACE and partners appreciate the Commission pointing out the environmentally superior alternative under CEQA.
- SLC-4 USACE also thanks the Commission for providing valuable feedback on the SEIS/SEIR and will be sure to coordinate with the Commission any needed leasing once the SEIR is certified.

SLC-5 USACE and CVFPB will be sending out notifications of any Final documents once CEQA is certified and the ROD is signed for NEPA.

1.5 Responses to Local Agency Comments

City of Sacramento

- City-1 The comment identifies City requirements related to access, hauling, and traffic control. The project will comply with these requirements, as described in Appendix B, Section 2.1, “Transportation.”
- City-2 The comment discusses the need for a pavement assessment to be conducted prior to and after construction work. The City of Sacramento is a local responsible agency, and therefore, the project will comply with pavement assessment requirements for those haul routes located within the city of Sacramento. Refer to Section 1.6.3, “State and Local Planning,” in the SEIR and Section 1.5.3, “State and Local Planning,” in the 2016 ARCF GRR FEIS/EIR for more information about State and local planning requirements.
- City-3 The comment identifies specific requirements of a construction traffic control plan per the City of Sacramento Code. As discussed in Section 1.6.3, “State and Local Planning, in the SEIR and Section 1.5.3, “State and Local Planning,” in the 2016 ARCF GRR FEIS/EIR, the City of Sacramento Ordinances were considered during the preparation of the project within the SEIS/SEIR. The project will comply with these requirements, as further described in Mitigation Measure TRANS-1 in Appendix B, Section 2.1, “Transportation.”

Cordova Recreation and Park District

- CRPD-1 Section 3.5.2, “American River Erosion Contracts 3B North, 3B South, and 4B” includes additional information regarding clearing and grading associated with the proposed improvements, and also describes site restoration activities and operations and maintenance. As the commenter states, the specific locations of the piezometers, which are considered at a program level in the SEIS/SEIR, have not been identified. The commenter also summarizes text from the draft SEIS/SEIR document; please note that the proposed schedule for the construction of Contract 3B has been updated in the Final SEIS/SEIR to occur in 2026 and 2027. The Project Partners understand that the commenter continues to be in contact with SAFCA representatives concerning a temporary construction easement (TCE) for the Larchmont staging area.
- CRPD-2 The Project Partners appreciate the commenter’s summary of feedback received from the public regarding the proposed project.
- CRPD-3 The commenter suggests changes to Mitigation Measure REC-1 to include language specifying that park closures would be as short as possible, and specifying pedestrian access at Larchmont Park. The comment also includes a mention of financial issues related to real estate under NEPA. The Project

Partners believe that additions proposed by the commenter are better addressed in detail during the real estate process.

- CRPD-4 The land cover types identified in Figure 4.1-1 are intended to reflect the vegetation conditions from a habitat/biological resources prospective. The Project Partners have not edited the land cover type at Larchmont Park as proposed by the commenter.
- CRPD-5 The Final SEIS/SEIR includes additional information concerning the design process and efforts by the Project Partners to retain trees throughout the area affected by the proposed improvements, including Larchmont Park. As described on Page 2.2-23 in Appendix B, Section 2.2, “Recreation,” the Project Partners will consult with CRPD prior to removal of any tree.
- CRPD-6 The commenter suggests that construction should be limited to the hours under local noise ordinance by amendment to Mitigation Measure VIS-2. Mitigation Measure NOI-1 addresses actions to reduce noise, including scheduling of construction work. This mitigation measure does not include a strict limit as proposed by the commenter in order to maintain flexibility to address unexpected or emergency conditions in the field during construction.
- CRPD-7 Mitigation Measure TRANS-1 is focused on reducing potential effects on traffic circulation. The commenter’s suggestion to minimize traffic in residential neighborhoods and along active parks is consistent with the process for identifying haul routes presented in Chapter 3, “Description of Project Alternatives.”
- CRPD-8 As shown on Figure 3.5.2-14, “American River Erosion Contract 3B Haul Routes,” Linda Rio Drive and Rogue River Drive are not proposed as haul routes.
- CRPD-9 The Record of Decision and consideration of the SEIR for certification under CEQA are currently proposed for June and July of 2025. The Project Partners anticipate that project construction would begin no earlier than November 2025.
- CRPD-10 The commenter summarizes the recommendations addressed in detail in the responses to Comments CRPD-1 through CRPD-9.
- CRPD-11 The Project Partners appreciate the commenter’s update concerning the TCE process.

Mission Oaks 1

MISSION OAKS-1-1 through -3 Oak Meadow Park has been removed from consideration and the Final SEIS/SEIR has been updated accordingly for staging at American River Erosion Contract 3B.

Sacramento Metropolitan Air Quality Management District

SMAQMD-1 Figure 2.1.1-1 of the SEIS/SEIR shows all ARCF 2016 Project components. It is inaccurate to describe these project components as active verse inactive because

all ARCF 2016 Project components are either being proposed (Proposed Action) or have already been adopted and approved for construction. The components shown in yellow are ARCF 2016 Project components that are not a part of the Proposed Action and have been evaluated under previous environmental documents. The components shown in orange are part of the Proposed Action and are being evaluated under this SEIS/SEIR. A discussion has been added to the detailed Air Quality analysis in Appendix B, Section 3.5.3, “Analysis of Environmental Effects,” on page 3.5-9, to clarify that ARCF 2016 Project components that would be constructed concurrently with the Proposed Action are included in the analysis as they would contribute to a cumulative net increase of criteria air pollutions in one or more years. The ARCF 2016 Project components that are included in this discussion but are not a part of the Proposed Action include: Sacramento River Erosion Contract 2, Sacramento River Erosion Contract 4, Lower American River Contract 3A, and the Sacramento Weir Widening Project.

- SMAQMD-2 In response to the comment, table headers for Tables 3.5-1 and 3.5-2, on page 3.5-3, have been updated to reflect the attainment status more accurately for the specific project area.
- SMAQMD-3 Per the commenters request, a map showing the boundaries of the air districts in the project area and nonattainment areas has been prepared and is included in Section 3.5, “Air Quality.”
- SMAQMD-4 In response to the commenters request, additional language has been added to clarify that although the Sacramento Region is currently designated as “serious” nonattainment for the 2015 8-hour ozone federal standard, the SFNA has submitted a voluntary reclassification request to change this designation for “serious” to “severe-15.”
- SMAQMD-5 In response to the commenters request, additional language has been added to Appendix B Section 3.5.3, “Analysis of Environmental Effects,” on page 3.5-9, to detail the modeling approach and assumptions for Sacramento River Erosion Contract 3, which relies upon the use of Sacramento River Erosion Contract 2 barge modeling.
- SMAQMD-6 A note was added to Table 3.5-4, on page 3.5-13, to clarify that the Sacramento Weir ARCF 2016 Project component are in Yolo County and therefore, emissions generated from this project component would not be included in the evaluation against the SMAQMD significance thresholds. The Sacramento Weir emissions have been removed from the CEQA threshold evaluated for both Tables 3.5-3 and 3.5-4, located on pages 3.5-11 through 3.5-12. Additionally, clarifications have added to Table 3.5-4 to describe the Sacramento Weir Contribution to the evaluation of General Conformity. The Sacramento Weir ARCF 2016 Project component is located within the SFNA for ozone and PM_{2.5}, therefore, ozone and PM_{2.5} emissions generated from this project component are included in the evaluation of General Conformity. The Sacramento Weir is not located within the

SFNA for PM₁₀, therefore, PM₁₀ emissions generated from this project component have been removed from the evaluation of General Conformity.

SMAQMD-7 In Table 3.5-3, on page 3.5-11 and 3.5-12, the PM_{2.5} maximum daily significance threshold have been revised to reflect the current standards of 82 lbs./day.

SMAQMD-8 In Table 3.5-4, on pages 3.5-12 and 3.4-13, General Conformity thresholds have been revised to reflect current standards of 25 tons per year for ROG and NO_x, and 100 tons per year for PM₁₀ and PM_{2.5}.

SMAQMD-9 The conclusions made in Table 3.5-4, on page 3.5-12 and 3.5-13, as well as the evaluation under Impact “3.5-a,b,” on page 3.5-20, have been updated to show that NO_x emissions exceed General Conformity *de minimis* levels in construction years 2024 through 2026. Implementing Mitigation Measures AIR-1 through AIR-5 would reduce impacts to a less-than-significant level. In addition to BMPs and on-site controls to reduce emissions, mitigation includes paying a fee to reduce NO_x emissions at off-site sources.

SMAQMD-10 The higher unmitigated ROG emissions shown in construction year 2026 was due to a typographical error. Table 3.5-4, on page 3.5-13 has been revised to correct this error.

SMAQMD-11 See response to SMAQMD-6.

SMAQMD-12 Revisions have been made to the Appendix B Section 3.5, “Air Quality” No Action Alternative analysis on page 3.5-18 to state that in addition to enhanced exhaust control practices for off-road equipment and using on-road heavy-duty diesel trucks or equipment that comply with USEPA 2010 on-road emission standards, use of tier 3 and 4 marine engines and electrical equipment, as feasible, as well as contributing to SMAQMD’s off-site mitigation fee program sufficiently to offset the amount of emissions generated from project activities will be implemented to reduce emissions to a less-than-significant level.

SMAQMD-13 Mitigation Measure AIR-4 has been revised to state that USACE anticipates purchasing offsets for NO_x emission in 2024 through 2026, because the ARCF 2016 Project is forecast to exceed the *de minimis* threshold. USACE is not anticipating purchasing offsets for NO_x in 2027.

SMAQMD-14 Mitigation Measure AIR-3 has been modified to require use of renewable diesel fuel. Please refer to the response to comment EPA-5, which includes the revisions to the mitigation measure.

SMAQMD-15 Mitigation Measure AIR-4 has been revised to state that USACE anticipates purchasing offsets for PM₁₀ emissions when the local thresholds are exceeded based on the Construction Mitigation Tool, as shown:

Mitigation Measure AIR-4: Use the Air District’s Off-site Mitigation Fee to Reduce NOx and PM₁₀ Emissions.

The Project Partners shall implement the measures listed below to reduce NOx and PM₁₀ construction-related emissions.

Pursuant to air district thresholds of significance, if the projected construction-related emissions exceed the NOx and/or PM₁₀ thresholds of significance, based on the equipment inventory and use, USACE shall contribute to SMAQMD’s and/or BAAQMD’s off-site mitigation fee program sufficiently to offset the amount by which the project’s NOx and PM₁₀ emissions exceed the threshold. If emissions for the ARCF 2016 Project in any given year will exceed the *de minimis* threshold of 25 tons per year for NOx, USACE will enter into an agreement with SMAQMD and/or BAAQMD to purchase offsets for all NOx emissions in any year that projected emissions would exceed the threshold. The determination of the estimated mitigation fees shall be conducted in coordination with SMAQMD and/or BAAQMD before any ground disturbance occurs for any phase of project construction. (USACE anticipates purchasing offsets for NOx emissions in 2024 through 2027-6, because the ARCF 2016 Project is forecast to exceed the *de minimis* threshold. Estimated fees for the Proposed Action are \$37,350 annually to SMAQMD for emissions in the SVAB.) All mitigation fees shall be paid prior to the start of construction activity to allow air districts to obtain emissions reductions for the proposed project. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), USACE shall work with SMAQMD and BAAQMD to ensure emission calculations and fees are adjusted appropriately.

Timing: Before and during construction

Responsibility: USACE

SMAQMD-16 Please refer to MR 6, which addresses public health and air quality impacts. The Project Partners have completed a Health Risk Assessment (HRA) for the Sacramento River Erosion Contract 3B project due to its size and proximity to residences and the O.W. Erlewine Elementary School. The HRA identified a maximum risk exposure (chances in 1 million for carcinogenic risk) of 6.06. The estimated risk presented here represents the point of maximum exposure (PMI) and does not exceed the SMAQMD-adopted thresholds of significance of an incremental cancer risk of 10 in one million. For chronic hazard risk, the maximum risk exposure would be 0.09, compared to a threshold of 1 in one million. Therefore, values would not exceed the applicable threshold at any other nearby receptors.

SMAQMD-17 The SMAQMD GHG threshold of 1,100 MT CO₂e per year has been added to SMAQMD discussion under Section 3.6.2.3. “Local.”

SMAQMD-18 The comment recommends looking at other sources of GHG mitigation measures such as those included in CARB’s Scoping Plan and CAPCOA’s greenhouse gas handbook. Both guidance documents were taking into consideration when developing the appropriate mitigation measure. While CARB’s Scoping Plan only

provides a few examples of specific mitigation measures, it recommends prioritizing CEQA GHG mitigation according to a geographic hierarchy as follows:

1. On-site design measures;
2. Off-site GHG mitigation:
 - Funding or implementing local, off-site GHG reduction projects (within the communities or neighborhoods in the vicinity of the project);
 - Funding or implementing non-local, off-site GHG reduction projects;
3. Purchasing and retiring carbon offset credits:
 - a. That originate in the same air basin as the project;
 - b. That originate elsewhere in California;
 - c. That originate outside of California.

Mitigation Measure GHG-1, includes a variety of feasible measures to help reduce GHG emissions, including a selection of onsite design measures, off-site GHG mitigation, and purchasing and retiring carbon offset credits.

CAPCOA's greenhouse gas handbook includes specific quantified and non-quantified mitigation measures categorized by nine economic sectors including: transportation, energy, water, lawn and landscaping, solid waste, natural and working lands, construction, refrigerants, and miscellaneous. The two sectors that the Proposed Action would contribute to are transportation and construction. The Proposed Action includes the following quantified and non-quantified measures identified in CAPCOA's greenhouse gas handbook within Mitigation Measure GHG-1:

Transportation (Trip Reduction Programs)

- T-8: Provide Ridesharing Program
- T-10: Provide End-of-Trip Bicycle Facilities
- T-11: Provide Employee-Sponsored Vanpool

Construction

- C-1-B: Use Cleaner-Fuel Equipment
- C-2: Limit Heavy-Duty Diesel Vehicle Idling
- C-4: Use Local and Sustainable Building Materials

Mitigation Measure GHG-1 implements feasible measures to reduce construction-related GHG emissions to a less-than-significant level. Therefore, no revisions are proposed for Mitigation Measure GHG-1.

SMAQMD-19 Clarifying language has been added to Appendix B, Section 3.5.3, “Analysis of Environmental Effects,” to explain how American River Erosion Contract 3B and 4B Erosion Improvements modeling presents worst-case scenario assumptions, where multiple phases of work would operate with full equipment simultaneously. Additionally, Site names (3-1 and 4-2) have been added to the Project name in Table 3.5-3 to clarify what activity related emissions (tree removal, erosion repair, and monitoring) emissions are summed to get a total worst-case scenario emissions total per year.

SMAQMD-20 The Sacramento Weir is not a part of the Proposed Action; therefore, it is not evaluated in this SEIS/SEIR. The Sacramento Weir is a part of the ARCF 2016 Project and would be constructed concurrently with components of the Proposed Action. Therefore, emissions generated from the Sacramento Weir are included in this cumulative impact analysis. Previous environmental analysis was conducted for the Sacramento Weir and can be found here:
<https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/Sacramento-Weir/>.

SMAQMD-21 See response SMAQMD-5. The CalEEMod model run, and barge model run for Sacramento River Erosion Contract 3 are included in Appendix C, and labeling has been updated to clarify the barge run information.

SMAQMD-22 The proposed construction schedule was updated after air quality modeling had been conducted for American River Contract 4A Erosion Improvements. Therefore, CalEEMod outputs reflect the original construction year assumption of 2025, however, the more accurately anticipated construction year is 2027, as shown in Tables 3.5.3 and 3.5.4, on pages 3.5-11 through 3.5-14. Additionally, using modeling emissions in construction years 2025 provide more conservative emissions outputs due to slightly higher emission rates than year 2026. This is due to slight emission rate reductions year after year based on assumption that newer and cleaner equipment would be used. Therefore, the modeling assumptions provide a conservative approach and therefore, no revisions are proposed.

Sacramento River Erosion Contract 4 is not a part of the Proposed Action; however, it would be constructed concurrently. Therefore, air quality emissions that would be generated from this ARCF 2016 project component were pulled from previously adopted environmental documents and are not included in Appendix C. See additional text added to Section 3.5.3, “Analysis of Environmental Effects,” on page 3.5-9.

SMAQMD-23 The proposed construction schedule was updated after air quality modeling for both American River Mitigation and Sacramento River Mitigation had been completed. Therefore, CalEEMod outputs reflect the original construction year assumptions of 2024 and 2025, however, the more accurately anticipated construction years are 2026 and 2027, as shown in Tables 3.5-3 and 3.5-4, on pages 3.5-11 through 3.5-14.

SMAQMD-24 The Master Sheet Data is a reference sheet for all possible equipment usage for barge activities and does not represent all equipment used as part of the Proposed Action. The equipment noted in this comment, Crane (tier 0 and tier 2), Grader (Tier 1) are not used as part of the Proposed Action. See model runs for Phase 1 through 5, as shown in Appendix C for the list of equipment that would be used.

SMAQMD-25 Please refer to the responses to EPA-5 and SMAQMD-14; renewable diesel is now required. Mitigation Measure AIR-5 also requires use of higher-tier marine motors where available. Emissions modeling for the Sacramento River Erosion Contract 3 project conservatively assumed use of Tier 2 equipment based on the use of this equipment on prior ARCF erosion protection contracts.

Sacramento County Regional Parks 1

PARKS-1-1 USACE appreciates your concern about the public review period and the fact that fell during the holiday season (Dec 22nd - Feb 5th). As a result, USACE extended the public comment period to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1 for more information.

Sacramento County Regional Parks 2

PARKS-2-1 The comment does not address the content or adequacy of the SEIS/SEIR, and no additional response is required.

PARKS-2-2 A discussion of the ARCF SEIS/SEIR scoping process is provided in Section 8.1, “Summary of Scoping Process,” of the SEIS/SEIR. A formal scoping process started with publication of the NOI in the Federal Register on October 7, 2022, and ended on December 31, 2022. Additionally, a newspaper notice was published in the Sacramento Bee on October 19, 2022, and an email notice was sent to all known Interested Parties on October 21, 2022, which included the Sacramento County Regional Parks. A comment was received from the Sacramento County Regional Parks during the scoping process, which proposed an alternative design to the ARMS to allow for preservation of a portion of the isolated 30-acre pond. Based on comments received from the commenter during scoping, two alternative designs for the ARMS, which include preserving a portion of this man-made pond were evaluated in the ARCF SEIS/SEIR. Please refer also to MR 7, which discusses public outreach.

PARKS-2-3 As discussed in Section 4.1.2, “Format and Content,” on page 4-109, Appendix B provides detailed analysis for each topic section. Due to NEPA page limitations for an EIS, the bulk of the analysis required for compliance with CEQA is provided in Appendix B. Please refer also to MR 7, which addresses the document format.

PARKS-2-4 The comment criticizes the organization of the document. The comment notes an error between the text in Chapter 3, “Description of Project Alternatives” on page 3-7 identifying Alternative 2 as the Proposed Action while the text in the same chapter on page 3-9 and 3-10 in Table 3.3.4-1 identifies Alternative 6 as the

Proposed Action. The former reference of Alternative 2 as the Proposed Action is correct, and the text within Table 3.3.4-1 is revised from Alternative 6, Proposed Action to Alternative 2, Proposed Action at each occurrence in the table in the Final SEIS/SEIR to clarify this error. Alternative 6 is correctly referred to elsewhere in the SEIS/SEIR as the No Project Alternative (CEQA).

PARKS-2-5 As stated in the SEIS/SEIR on page 3-3, in 2019, the designs along the American River were refined to incorporate alternative erosion protection measures to minimize impacts to heritage oaks, riparian habitat, and to create higher-quality onsite mitigation. Please refer to MRs 2 and 3 with regards to improvements under Contracts 3B for additional information on the scope and approach of improvements and tree removal and plantings under both contracts. Please refer also to MR 10, which clarifies the approach to Contract 4B. Further, the SEIS/SEIR considered and analyzed potential impacts from implementation of Contracts 3B North, 3B South, and 4B on all resources within the Parkway in Chapter 4, “Affected Environment and Environmental Consequences,” and in Appendix B, “Detailed Analyses.”

PARKS-2-6 The Lower American River Contracts 3B and 4B were originally analyzed in the ARCF GRR FEIS/EIR and erosion protection designs have been continually refined through a series of alternatives considered since 2016. Section 3.3, “Alternatives Development and Screening,” in the SEIS/SEIR and Section 2.5, “Design Development” in Appendix G, “Engineering,” provide additional details on the alternatives considered during the design progression. As discussed on page 3-3, the ARCF SEIS/SEIR states that in 2019, the designs along the American River were refined to incorporate alternative erosion protection measures to minimize impacts to heritage oaks, riparian habitat, and to create higher-quality onsite mitigation. Additionally, as discussed in Section 3.3.2, “Alternatives Considered, but Rejected from Detailed Analysis,” on page 3-4 and 3-5, several alternatives were initially considered for the American River Contact 3B site; however, they were rejected from detailed consideration due to not meeting environmental or flood risk reduction needs or having additional environmental impacts.

Please refer to MR 2, which addresses the scope and approach to Contract 3B, and MR 10, which addresses the purpose and development of Contract 4B.

PARKS-2-7 Please refer to MR 4 regarding analysis of impacts on recreation and commuting from Contract 3B; although impacts would be significant and unavoidable in the short term as a result of construction, long-term impacts would be less than significant. The SEIS/SEIR described alternatives that were considered but rejected; please see response to comment Parks-2-6 regarding this issue.

PARKS-2-8 Please refer to MR 10 for concerns regarding LAR Contract 4B. The TRAC and BPWG meet based on need during design process. Section 2.5, “Design Development” in Appendix G, “Engineering,” describes the involvement of the TRAC in the design process, and Table 2-2, “Influence of collaboration on the

Lower American River Designs” specifically identifies strategies considered during this collaborative process to address short-term recreation impacts.

PARKS-2-9 Language has been added to section 3.3.2 “Alternatives Considered, but Rejected from Detailed Analysis” of the SEIS/SEIR to provide more details on the Contract 3B alternatives considered but rejected. Please see response to comment Parks-2-6 and Parks-2-8, which address alternatives considered for Contracts 3B North and South and 4B, and the engagement with the TRAC. The comment states that no alternatives were presented for Contract 4B. However, the comment points out that Contract 4B needs to be considered with Contracts 3B North and 3B South. As described in the SEIS/SEIR in Chapter 3, “Description of Project Alternatives,” Section 3.5, “Alternative 2: Proposed Action,” Contract 4B would only be implemented if Contracts 3B North and 3B South were implemented first. The alternatives for Contracts 3B North and 3B South that were presented and rejected from further consideration would also apply to and preclude the implementation of Contract 4B being implemented alone. Therefore, the rejected alternatives for Contracts 3B North and 3B South also serve as alternatives considered and rejected for Contract 4B. Further, should Contracts 3B North and 3B South not be implemented, Contract 4B would also not be implemented. As for the comment on piecemealing, the SEIS/SEIR documents the analysis of impacts from the Proposed Action, including all the components described in Chapter 3, “Description of Project Alternatives,” Section 3.5, “Alternative 2: Proposed Action,” including Contracts 3B North, 3B South, and 4B. Therefore, because there is no separate analysis of Contracts 3B North, 3B South, and 4B, or any other Proposed Action components in separate NEPA/CEQA documents, there is no piecemealing of the Proposed Action.

The following changes were made to Section 3.3.2.2 “American River Erosion Contract 3B North and South, and 4B” to address comments on Contract 3B Alternatives considered but rejected.

For American River Erosion Contract 3B North and South ~~and 4B~~, three alternatives were initially considered but rejected from detailed consideration under NEPA and CEQA due to not meeting environmental or flood risk reduction needs, and additional alternative designs were considered and rejected as designs were refined.

Initially, designs included removing the material that form the islands upstream of Howe Avenue to increase channel capacity that would address stage impacts from the placement of erosion protection materials. This design was considered for its potential to reduce significant hydraulic impacts and to increase conveyance through the Lower American River in the area. This initial design concept also involved adding width to the riverbank to address erosion concerns and adding additional on-site mitigation habitat. The upstream work on Site 3-1 would have remain similar to what is currently proposed in this design. Regrading the island ~~created~~ would have resulted in increased impacts to riparian habitat and impacts to unique habitats on the island that would have been permanently removed from the American River in that area. In addition, movement of the fill would have

been expensive. Additional hydraulic modeling determined that the island did not need to be regraded for channel capacity. Since it was determined that there was no longer a significant hydraulic impact for a stage risk increase related to stage increase, this design was no longer needed. For these reasons, Because this alternative would have resulted in increased impacts to riparian habitat and was determined not to avoid a stage increase impact, this alternative was rejected.

Soil-filled revetment was also proposed to be placed at select areas of an existing revetment site to address potential future operations and maintenance (O&M) concerns. Use of soil-filled revetment at these locations would have increased the project footprint and was determined to have a higher result in a significant increased impacts related to vegetation, listed species, aesthetics and recreation, and would have resulted in the removal of and most heritage oaks in the area mitigation plantings from the previous work needed to be removed where soil-filled revetment would be added. As a result of these significant impacts, aAlternative erosion protection methods were selected to reduce impacts to heritage oaks (*Quercus* spp.), aesthetics and recreation in the area and this alternative was rejected. Based on additional analysis, evaluation, and review the design team determined that the existing erosion protection features met flood risk objectives.

Finally, grading ~~was proposed on the of the opposite south~~ riverbank ~~of (opposite the proposed erosion protection locations on the north riverbank)~~ was proposed to mitigate hydraulic stage impacts from Site 3-1, eliminate the need to remove material from the islands in the river, and increase inundation of a natural levee for habitat gain purposes. This alternative was initially considered because at the time it was determined that there would be a significant hydraulic impact (stage increase) without the grading. Regrading this area would have had significant impacts to elderberries (*Sambucus* spp.), which provide habitat to the federally listed valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*). Additional hydraulic modeling determined that the area did not need to be regraded to meet flood risk objectives for stage increase at the site, so there was no longer a significant hydraulic impact. Consequently, this alternative was not selected rejected due to these impacts because it had a greater higher significant significant impact to VELB than the Proposed Action.

For more information on the development of alternatives, see Appendix G Engineering Appendix, Section 1.7.4 “Erosion Protection Design Alternatives”; Section 1.7.5 “Design Approach”. Design development, including coordination and collaboration on Contract 3B, is further described in Appendix G Section 2.5.2 “Contract 3B”.

PARKS-2-10 The comment is an introductory statement for comments that follow and does not require additional response.

PARKS-2-11 Please refer to Section 1.7.4, "Erosion Protection Design Alternatives," and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled “Design Alternatives,” of Appendix G, “Engineering. Please refer also to MR 15-1 and DOI-1-16. Figure

3.5.2-2 is a figure from the original Final EIS/EIR for the ARCF 2016 Project. Figures 3.5.2-15, 3.5.2-16, and 3.5.2-26 include examples of a launchable rock toe. In order to provide the most up to date information example cross sections from the designs, examples of tiebacks, updated footprints, and footprints of tree removal areas have been added to Section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. The approximate acreage of erosion types has been added below. Section 3.3.2, "Alternatives Considered but Rejected from Detailed Analysis" of the SEIS/SEIR has been updated and Section 1.7.4, "Erosion Protection Design Alternatives" in Appendix G also discusses alternatives considered during design. The use of "typically designed" was in reference to the typical designs specifically at American River Erosion Contract 3B. Cobble is no longer being added to planting benches. Instead, the planting benches will be topped with soil filled burlap bags and coir fabric. The design team has not conducted a sediment transport analysis for this direct application since the MMFS BO requires filling the riprap voids and the void spacing is limited by design riprap needed for flood risk protection. However, for a different feature along the river margins where cobble material is considered, it was determined that cobble could be mobilized under an approximate 10-year flood event to 25-year flood event. Under normal river conditions, it is expected the features placed along the river margins will naturally aggrade substrate.

Please refer to MR 4, which addresses placement of revetment and effects on recreation. Please refer also to MR 15, which includes a discussion of tree preservation and removal, and describes mitigation requirements for arborist supervision or inspection. Please refer to the discussion of alternatives analysis in the responses to Parks 2-6 and 2-9, and discussion of engagement with the TRAC in the response to Parks 2-8.

Table 29. Acreage of Project Features

Site	Launchable Trench and Levee Bank Protection (acres)	Planting Bench with Launchable Toe/Stability Toe (acres)	Levee Bank Protection (acres)	Riverbank Bank Protection (acres)	Stormwater Outfall Bank Protection (acres)	Tiebacks (acres)
3-1	N/A	5.0	1.4	1.2	0.1	N/A
4-2	1.4	N/A	0.5	N/A	N/A	N/A
4-1	9.3	2.3	0.2	3.8	0.1	0.3

PARKS-2-12 Section 4.3.1.2.2 in the first Paragraph under title "American River Erosion Contract 3B North and South, American River Erosion Contract 4B" discusses that there would be a short-term significant and unavoidable impacts on recreation from possible equestrian trail closures. In addition, Appendix B Section 2.2.3.4 under impact 2.2-c for American River Erosion Contract 3B and 4B there is more details provided on the impacts of closures of the equestrian trails. Formal trails at the Contract 3B site will be returned to their existing condition once work is completed, so there would be no long-term impacts to the trails.

PARKS-2-13 In regard to planting the shoreline, the Instream Woody Material (IWM) is dense, and it is not possible to plant within the IWM. However, Project Partners are proposing to plant up to the IWM. IWM that is situated at elevations suitable for plant growth will have plant growth volunteer within the IWM. Natural recruitment of woody and emergent aquatic species has already occurred at Site 2-1 (LAR Contract 1) (Figures below). Based on actual performance of Site 2-1, from which the river flows and elevations used in the American River Erosion Contract 3B designs are based on, the portion of the benches that is below the vegetation line (the line above which vegetation can grow/be sustained based on typical river water levels) is relatively small. Discussions with the USFWS and NMFS concluded that some soil substrate unvegetated habitat that is likely to occur below the natural vegetation line is expected and provides habitat.

The IWM is intended to provide habitat during the time that it takes for vegetation to establish and provide fine structure similar to woody debris. Therefore, there is no plan to replace IWM after a sufficient amount of revegetation occurs. Based on results from the recently installed and planted Site 2-1 (Figures below), it is reasonable to expect that revegetation sufficient to replace the IWM will occur within the first few years after the sites are planted. In the long term, the new IWM is likely to be created from natural processes, with beaver browse contributing significant quantities of fallen trees. This can be seen at some of the older planting benches installed with erosion features constructed in the early 2000's. In particular, downed trees are evident on the planting bench on the south bank of the American River upstream and downstream of the Guy West Bridge.

It has been noted that substantial recruitment of willows, button brush, cottonwoods, box elder are occurring on the benches of site 2-1 within the Instream Woody Material (IWM). It is expected that the woody vegetation growing through the IWM will serve to further anchor the IWM and make it unlikely that it will be carried away. Due to the natural recruitment within the IWM it is currently expected that the IWM may not require significant maintenance to keep it from being discharged from the benches.

The designs for Contract 3B do not include above ground chains, or cable. All above ground lashing will be natural fiber rope.

Please refer to section 4.1.3, "Analysis of Environmental Effects" of Appendix B for a discussion on what the vegetation free zone is.



Figure 43. Typical Examples of Replanting

- PARKS-2-14 MR 5 adds detail on mitigation measures, and the discussion in Appendix B, Section 4.3, “Special-status Species” addresses survey requirements associated with tree removal. All efforts will be made to avoid tree and vegetation removal in the bird nesting season and the commenter makes a valid point that high flows could exclude part of this desired timeframe from vegetation removal. All contract sites will always have one or more approved biological monitors on site to monitor for wildlife disturbance and advise construction activities to reduce impacts. In addition to Mitigation Measure BIRD-1 the SEIS/SEIR also includes VELB-1, BAT-1, and BUOW-1 that require biologists to monitor construction activities impacts on these species. Pre-construction surveys are completed prior to construction starting and biologists monitor within the 24 hours leading up to mobilization in each area.
- PARKS-2-15 Please see figure 3.5.2-22 of the SEIS/SEIR for an example cross section of Site 4-2 and section 3.5.2, “American River Erosion Contracts 3B North, 3B South and 4B” of the SEIS/SEIR has had language updated for American River Contract 3B to provide more clarity. USACE has landscape architects, who have years of experience designing levee projects on the American River designing the replanting plans. Through the design process the landscape architects have regularly coordinated with the civil engineers to ensure that enough soil is being added to areas so that onsite mitigation is successful. Section 3.5.2, “American River Erosion Contracts 3B North, 3B South and 4B” of the SEIS/SEIR has been updated to provide more details on onsite mitigation. Additionally, MRs 4-1, 4-2, and 15-2 provide added clarity on replantings and what the area is expected to look like once vegetation has reestablished. Additionally, MRs 3-3 and 3-4 provide examples of replanting success found on previous erosion projects. Commentor states that the document repeatedly uses the terms “as with” but does not provide a specific example. Examples of the use of “as with” in the description of the project that Project Partners have found are being used to explain when similar erosion methods or feature qualities are being used at the sites.
- PARKS-2-16 Use of Oak Meadow Park as a staging area has been removed from the text of the Final SEIS/SEIR.
- PARKS-2-17 Contract 4B is still progressing through USACE design and is analyzed at a program level in the SEIS/SEIR. Please refer to MR 10, which provides additional detail on the purpose and process for developing Contract 4B, and to Appendix G, “Engineering,” for additional information on Contract 4B. Please refer also to revisions to Mitigation Measure VEG-2 (described in MR 5 and in Appendix B, Section 4.1, “Vegetation and Wildlife,” which outline requirements for tree preservation on site, including use of arborists and ecologists.
- PARKS-2-18 Please see response to comment PARKS-2-17.
- PARKS-2-19 USACE determined that Figures 3.5.2-11 and 3.5.2-12 were missing from the SEIS/SEIR, and these figures have subsequently been included in the document. These same figures were included in both public presentations, and added to the

USACE website. The discussion of Contract 4B in Chapter 3, “Description of Project Alternatives,” has been expanded and updated in the Final SEIS/SEIR to clarify the actions proposed as part of Contract 4B. See also MRs 3, 5, and 10, and Appendix G, “Engineering,” for more information on Contract 4B and velocity and scour.

PARKS-2-20 This response addresses multiple comments in association with Lower American River (LAR) Contract 4B.

- LAR Contract 4B is located on the right (north) bank upstream of Howe Avenue and on the left (south) bank upstream of Watt Avenue. Contract 4B is located immediately adjacent to Contract 3B; specifically, in between the footprint of Contract 3B and the levee crown. Contract 4B is focused on addressing two key erosion risks along the Lower American River, specifically in river Segment 3-11 on the north bank upstream of Howe Avenue and Segments 3-8 and 4-1 on the south bank upstream of Watt Avenue. One of the erosion risks being addressed by Contract 4B pertains to lone tree scour.

A risk assessment completed in 2022 determined certain trees on or near the levee embankment adjacent to the Contract 3B erosion protection footprint pose an unacceptable risk to the levee’s integrity. The purpose of Contract 4B is to address this risk to the levee while protecting these trees in place by installing erosion protection around the base of the trees. However, if engineering analyses demonstrate that a design solution to protect a given tree in place is not achievable, or if based on input from landscape architects and qualified arborists, a design solution would likely result in a given tree’s death, tree removal may be required.

The intent of lone tree scour evaluations and remediation is to address the risk of erosion jeopardizing the levee while protecting all native tree species in place. Non-native tree species which pose a threat will be reviewed on a per tree basis with the Technical Resource Advisory Committee (TRAC) to determine preference for removal or protection. The TRAC is a group of local stakeholders (county parks & others), regulating agencies and Subject Matter Experts (SME) who advise on design decisions.

Potential design actions considered for Contract 4B include (Included in Section 2.5.4.2, “Potential Actions” of Appendix G, “Engineering”):

- No Action. Additional engineering analyses concludes that individual trees are not a risk.
- Erosion Protection. This action would place erosion resistant material around the tree to prevent, or limit, the local scour from occurring similar to scour countermeasures placed near bridge piers. Unlike bridge piers, the health of trees can be impaired if the tree roots are damaged thereby limiting excavation to place materials and total fill depth that can be

placed over roots to prevent erosion. Unique treatments for different tree types and loadings will be developed for each tree type.

- Tree Removal. This action carefully considers the types of trees (native versus non-native), the size of scour depth, and the potential impact of the scour to the levee prism above the levee toe. Removal of trees is not preferred due to the short and long-term loss of riparian habitat and would likely be limited to non-native invasive vegetation or trees of poor health.

Coordination with Sacramento County Regional Parks would continue throughout the design and construction processes for consistency and compliance with the tree preservation and protection ordinance (Title 19, Chapter 19.12⁶⁹). Please refer to MR 10 for additional details on the purpose and goals of LAR Contract 4B.

- To inform the design process and quantify tree removals associated with American River Erosion Contract 3, including Contract 4B, qualified Environmental Science Associates biologists/arborists conducted a survey of the bank protection construction footprint, including access and staging areas in 2019 and 2020 (ESA 2020⁷⁰). Appendix B4.1, “Vegetation and Wildlife” has been amended to include a more detailed analysis of survey efforts completed to date, along with anticipated tree impacts.
- Mitigation Measure VEG-2, “Retain, Protect, and Plant Trees On-Site” has been updated in Appendix B4.1, “Vegetation and Wildlife” to include tree protection zones to be established under the guidance of a qualified arborist/ecologist.
- Mitigation Measure VEG-2, “Retain, Protect, and Plant Trees On-Site” has been updated in Appendix B4.1, “Vegetation and Wildlife” to include inspection of preserved and protected trees adjacent to grading and construction activity prior to initiation of construction activities, during construction activities within tree protection zones, and prior to removal of tree protection zone fencing/flagging at the end of construction. VEG-2 also includes submittal of a report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage to the Project Partners, by the qualified arborist/ecologist, or their representative, following each inspection, and these reports can also be made available to Sacramento County Regional Parks.

PARKS-2-21 In early 2021, the American River Erosion Contract 3 (sites 1-1, 3-1, 4-1) underwent standard 35 percent reviews which included various technical, environmental compliance and stakeholder reviews. All sites were assessed to meet flood risk reduction objectives, but the designs at Sites 3-1 and 4-1 were identified as having significant impacts to high value habitat including riparian

⁶⁹ <https://ecode360.com/44038090>

⁷⁰ ESA. October 2020. *Revised Draft American River Common Features 2016 Project, American River Erosion Protection, American River Contract 3 Detailed Resource Assessment Report*; Sacramento, CA.

forest, aesthetics and recreation. As a result, sites 3-1 and 4-1 were given the new title contract 3B and the design team was directed to redesign the proposed bank protection to reduce habitat impacts. Site 1-1 was deemed to have minimized environmental impacts and was allowed to proceed under the new title of American River Erosion Contract 3A. The result was that contract 3 became two new contracts (Contract 3A and Contract 3B) under separate design paths and separate timelines.

The redesign of American River Erosion Contract 3B involved a series of design charrettes to gain input from various stakeholders and the TRAC as well as significant advancements in the River System hydraulic modeling and geotechnical research. The result was a refined design which reduced the overall footprint, connected existing revetment sites and carefully threaded its way around and between high value features such as high value trees (heritage oaks), unique geological features and improved aesthetics.

During technical evaluations of the new American River Erosion Contract 3B design, several segments (Segments 3-11, 3-7, 3-8 and 4-1) failed to meet flood risk reduction objectives due to two factors. 1) On the overbank, above the proposed design and near the water side levee toe, velocities were deemed to exceed the capacity of the soils to resist erosion. 2) The second factor involved large trees subject to a phenomenon known as lone tree scour (similar to erosion caused by some bridge piers). Both conditions would require treatment. The design team began contemplating low impact solutions for these limited areas to avoid impact to the trees. As the design progressed, it was determined that these conditions existed within an area known as the Vegetation Free Zone (VFZ). The VFZ is a special designation (national levee safety policy) for the area adjacent to the water side levee toe that must be free of vegetation (except for grasses) to maintain the integrity of the levee under high flow conditions. The design team was stuck. To advance the design and meet flood risk reduction objectives and comply with national policy, the trees would need to be removed. But removal of high value trees was not acceptable to stakeholders. The only alternative was to develop a protective design that would allow retention of the high value trees and pursue a design deviation (policy deviation) which would be required for the VFZ. Design deviations typically involve years of analysis to justify retention of vegetation in the VFZ. This approach might save the high value trees, but it would delay installation of much needed flood protection by at least two years.

In order to retain the opportunity to save trees, the team elected to carve out the portion of the American River Erosion Contract 3B footprint which included the excess velocities and lone tree scour issues so they could be addressed separately. This area became Contract 4B. This approach allowed the remaining footprint of American River Erosion Contract 3B to proceed on its normal design path while giving the Contract 4B team the opportunity to develop designs which could save high value trees, while meeting flood risk reduction objectives and obtaining a design deviation to retain these trees in the VFZ.

American River Erosion Contract 4B is in the initial phases of developing designs (10 percent design) to address lone tree scour and velocity issues while saving high value trees. The American River Erosion Contract 4B design process will follow USACE's normal design development process used on all contracts including engagement with the TRAC to receive valuable input and guidance. The resulting designs, along with significant analytical justification will be submitted to the design deviation process for approval of retention of vegetation within the VFZ. Creating a separate contract does cost additional time and money but it is necessary to save trees.

Please note the initial buffered footprint of American River Contract 3B in the Draft SEIS/SEIR did overlap Contract 4B. This has now been fixed, and they no longer overlap.

PARKS-2-22 Please refer to the response to PARKS-2-21 and MR 10.

PARKS-2-23 Please refer to the response to PARK-2-21 and MR 10. Please also see updated maps of American River Erosion Contract 3B that have been added to section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. American River Erosion Contract 3B and 4B erosion work does not overlap, though construction access, haul routes and staging areas would overlap. Project Partners are analyzing the American River Erosion Contract 3B designs at a project level and providing program-level analysis for Contract 4B while the American River Erosion Contract 4B designs are under development. The Project Partners agree that minimizing impacts to trees, wildlife and recreation is important. Section 2.2.3.4 of Appendix B under impact 2.2-c under the fifth paragraph under title "American River Erosion Contract 3B North and South, American River Erosion Contract 4B" discusses the recreational impacts of the timing of these contracts. In addition, USACE added a new Appendix G, "Engineering," to the SEIS/SEIR. See Section 2.5.4 (In Appendix G, "Engineering") for more information on the approach and designs to Contract C4B.

PARKS-2-24 Please refer to MR 3-1 and MR 10. Contract Specifications for American River Erosion Contract 3B and 4A include requirements for arborists when Contractor trims trees. This requirement is similarly expected to be included in the American River Erosion Contract 4B Specifications once designs get further along. Please refer to MR 15, which addresses riparian forest, and the Appendix G, "Engineering."

PARKS-2-25 The comment does not address the adequacy of the SEIS/SEIR in meeting NEPA or CEQA. No further response is required.

PARKS-2-26 The commenter states that the ARMS site was not authorized in the 2016 document, this is partially correct. The Project Authority covers the impacts to habitats as well as the required compensatory mitigation. However, at the time the authority and authorization were received, the project details were not developed enough to name any specific offsite mitigation location. The commenter also

states that there are multiple inconsistencies between Table ES-1 and Table 4.4.1-5 but does not specifically identify any inconsistencies.

PARKS-2-27 This response addresses multiple comments in association with the American River Mitigation Site (ARMS) at the Urrutia Property.

- In 2021, the Arden Pond mitigation site was analyzed in the Draft Supplemental EIS/ EIR for the LAR Contract 2 project, to comply with NEPA and CEQA. In addition, the use of the Arden Pond site as compensatory mitigation for impacts on salmonids, YBCU, and VELB was analyzed and authorized in the BOs issued by NMFS and USFWS in 2021 for the ARCF project. Extensive coordination with Sacramento County Regional Parks and the resource agencies (NMFS and USFWS) was conducted during the development of the Arden Pond mitigation site concept that was analyzed in the Draft Supplemental EIS/EIR; however, several public comments received, including those provided by Sacramento County Regional Parks, regarding Arden Pond centered around potential impacts on native avian communities due to a reduction in pond size and loss of the existing habitat islands, and requested evaluation of alternative sites along the LAR Parkway for development as ARCF compensatory mitigation. As result, Arden Pond was removed from consideration as on option due to public comments requesting mitigation be sited elsewhere in the Parkway.

The September 2020 American River Common Features Mitigation Site Concept Development and Evaluation Report, prepared by GEI Consultants, identified Ancil Hoffman, Sacramento Bar, Rossmoor Bar, Glen Hall/Paradise Beach, Lower River Bend, and Upper River Bend as potential mitigation sites along the LAR, in addition to the Urrutia and Arden Pond sites. The Ancil Hoffman mitigation site identified in the 2020 GEI report is associated with the habitat project completed by the Sacramento Water Forum (Water Forum) in 2021, the Lower River Bend mitigation site is associated with the Water Forum's 2024 habitat project, and the Glen Hall/Paradise Beach mitigation site is associated with LAR Contracts 2-1 and 2-2. As a result, these three sites are no longer viable mitigation options. The estimates for modified/created and enhanced habitats from the 2020 GEI report for the remaining three sites is presented in the Table A below.

Table A. Alternative Mitigation Site Summary

Mitigation Site Number	Mitigation Site Name	Modified/Created and Enhanced Habitat Acreage
ARM-009	Sacramento Bar	23.1
ARM-010	Rossmoor Bar	10.4
ARM-026	Upper River Bend	16.8
	Remaining acreage estimates	50.3

Note: Adapted from September 2020 American River Common Features Mitigation Site Concept Development and Evaluation Report, prepared by GEI Consultants

These data show that the combined and estimated maximum mitigation acreages that could be generated from these three sites is 50.3 acres, all below the ordinary high-water mark. Current compensatory mitigation acreage estimates for ARCF on the LAR are salmonids 66-76 acres, YBCU 55-62 acres, and VELB 10-15 acres. These mitigation sites would not achieve any of the requisite VELB mitigation and fall short of both the salmonid and YBCU mitigation needs. Whereas, the Urrutia property would achieve all the salmonid, YBCU, and VELB compensatory mitigation need, while consolidating the restoration effort at one large site, as preferred by USFWS and NMFS. As a result, the Urrutia Property was identified as the preferred location for ARCF compensatory mitigation on the LAR. Please refer to MR 8 for additional analyses and information regarding the Wild and Scenic Rivers Act, along with MR 9-3 and MR 9-5 for additional details on design coordination undertaken for ARMS, along with additional detail analyses and information on the history, design, and environmental impacts and values associated with this project.

- The commenter identifies several concerns related to CEQA and NEPA alternatives analysis. Please refer to the responses to Parks-2-77, -78, and -79 which provide additional discussion on the alternatives.
- The feasibility of retaining a portion of the existing pond at the Urrutia Property, while still achieving the compensatory mitigation needs was explored in-depth by the design team. Please refer to MR 9-3 Feasibility Study and Coordination, MR 9-5 Concept Refinement, and MR 9-6 Concept Evaluation for a detailed summary of the various design concepts explored and coordination with USFWS, NMFS, and Regional Parks. As can be seen from the figure series presented in MR 9-7 Hydrology, the water depths and wetted extents vary from month to month. In average winter and early spring months (mid-December through April) the site would have a wetted extent similar to the extent of the existing pond, at $\pm 50 - 55$ acres of wetted habitat with water depths ranging from 2 feet to 9 feet. In this condition, areas with water depths up to 2.5 feet would provide suitable habitat for salmonids, which would represent a smaller proportion of the overall wetted habitat acreage, while deeper water habitats would remain viable to support the migratory waterbirds (diving ducks) that are known to use the site for roosting habitat between December and February.
- MR 9-11 provides a detailed analysis of the existing and proposed habitat values for the ARMS at Urrutia Property, including an in-depth analysis of effects of the proposed concept on diving ducks. Diving ducks have been cited by Regional Parks, the Central Valley Bird Club, and others as the primary species of concern related to the unique habitat values the Urrutia pond offers, especially when there is a scarcity of deep open -water habitat. As can be seen from the results in MR 9-11, overall diving duck habitat suitability is anticipated to increase over the existing condition with project implementation. The increase in habitat suitability is driven by the increase in

vegetative cover, which increases food availability at the site, and by adding structural complexity to the existing pond through the creation of a lower open water/seasonal wetland zone that will be buffered from shore by a low elevation, willow-dominated riparian zone. Improved onsite foraging value could result in reduced overall energetic expenditure requirements.

Furthermore, Ducks Unlimited has documented that waterfowl often select more sheltered habitats for roosting during migration to conserve body heat and save energy. Energy costs are highest on clear nights when heat loss is greatest in open habitats. Studies conducted by Ducks Unlimited showed that at the same ambient temperature, flooded willow wetlands with dense woody cover provided more favorable microclimate conditions for roosting ducks than flooded agricultural fields or deep-water habitats because the closed canopy shielded birds from heat loss as well as avian predators like great horned owls and bald eagles (Ducks Unlimited 2009⁷¹). As a result, increased vegetative cover and habitat complexity is anticipated to increase overall stopover habitat value for migrating diving ducks by reducing energetic expenditures not only during foraging activities but also for roosting and predator avoidance.

- To understand the potential effects of the project on the bald eagle pair, USACE met with USFWS on March 22, 2023. In that meeting, USFWS indicated that construction activities could occur within 660 feet of the nest, during the bald eagle nesting season (late December – early July), with receipt of a disturbance permit from USFWS prior to construction. However, avoidance and minimization of permanent impacts and recreational access features within 330 feet of the nest, were encouraged.

Bald eagles are extremely opportunistic when acquiring prey during the nesting season and may recover fish stranded by fluctuating river flows; exploit salmonid spawning runs and other fish species as they move from lakes and reservoirs into tributary streams; retrieving carrion or moribund fish post-spawn from inland reservoirs; capturing waterfowl during flightless periods; collecting road-killed mammals; and raiding waterbird colonies (Jackman and Jenkins 2004⁷²). The American River and Sacramento River appear to be the predominant foraging habitats for this nesting pair, based on field observations over multiple site visits by Project Partner contracted biologist. Foraging activity in the existing mining pit/pond has not been observed; however, waterfowl do exhibit a predator avoidance response to eagle presence when rafting in the pond during the early winter months (December – February) and may be a temporal food source for the eagle pair at ARMS. In the post-construction condition, ARMS would provide a mosaic of tidal wetland and riparian habitats that are projected to provide higher quality bald eagle foraging habitat than in the current condition.

⁷¹ <https://www.ducks.org/conservation/waterfowl-research-science/ducks-after-dark>

⁷² Jackman, R.E. and M.J. Jenkins. 2004. Protocol for Evaluating Bald Eagle Habitat and Populations in California. USFWS, Sacramento, CA. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83707>

The post-construction condition would support more than 16 acres of open water and transitional tidal wetland habitat designed to be inundated throughout most of the year; even at the lowest water levels in late Fall, approximately 12 acres would remain tidally inundated. In mid-December through April, the inundated area would expand to approximately 50 acres, including riparian scrub vegetation surrounding the open water area. The increases in shoreline complexity, combined with availability of exposed tidal flats during the later part of the nesting season (May – July), are anticipated to increase overall foraging value for the eagle nesting pair in the post-construction condition at ARMS (Watson 2002⁷³, Watson et al. 1991⁷⁴) and will not have an adverse impact on foraging in the American or Sacramento Rivers; therefore, implementing mitigation actions at ARMS is not anticipated to have a substantial adverse effect on bald eagle foraging habitat availability.

- The NMFS 2021 BO identified Arden Pond and degradation of the island just upstream of Howe Avenue boat launch as the compensatory mitigation strategy for LAR associated fisheries impact. Since both concepts have been abandoned due to public comments and further feasibility analyses, identification of an alternative large mitigation site (100 + acres) on the LAR was necessary. At the time of the NMFS 2021 BO, a large mitigation site for the Sacramento River fisheries impacts had not been identified and was, therefore, generalized as a large mitigation site (100+ acres).

Coordination with NMFS has consistently resulted in the determination that USACE shall make every effort to compensate for LAR impacts on native riparian habitat, in the LAR Parkway to the greatest extent practicable and only seek to mitigate LAR impacts on the Sacramento River as a last possible resort. USACE reinitiated consultation with NMFS on May 13, 2024, which included the ARMS at Urrutia Property. The consultation package was deemed complete by NMFS on August 14, 2024, and a BO is expected to be reissued by February 2025. Furthermore, USACE reinitiated consultation with USFWS on May 15, 2024, which included the ARMS at Urrutia Property and a BO is expected to also be reissued February 2025. Please refer to MR 9-3 and MR 9-5 for details on coordination with NMFS by the Project Partners regarding the ARMS.

- Please refer to MR 9 for additional details on the site history (MR 9-1), feasibility study and coordination (MR 9-2), preliminary site investigations (MR 9-3), concept refinement (MR 9-4), concept evaluation (MR 9-5), 35 percent civil design (MR 9-6), construction sequencing (MR 9-10), existing and proposed habitat values (MR 9-11), and alignment with the Parkway Plan (MR 9-12).

⁷³J.A. Watson. 2002. Comparative Home Ranges and Food habits of Bald eagles nesting in four aquatic habitats in western Washington. <https://www.jstor.org/stable/3536608>

⁷⁴ Watson, James W., et al. "Foraging Ecology of Bald Eagles in the Columbia River Estuary." *The Journal of Wildlife Management*, vol. 55, no. 3, 1991, pp. 492–99. JSTOR, <https://doi.org/10.2307/3808981>.

- PARKS-2-28 Please refer to MR 9, which addresses proposed improvements on the ARMS site, including access considerations during and after mitigation site development. The ARMS site is intended to address mitigation needs related to ARCF 2016 construction within the Lower American River Parkway – other impacts would be mitigated elsewhere. MR 9-12 discusses the ARMS project design in relation to the 2008 LAR Parkway Plan. USFWS determined that it was unnecessary to complete a new Fish and Wildlife Coordination Act, so long as they were involved in the design process for both of the Mitigation Sites. Nighttime construction work at ARMS would not likely be permitted based on the presence of the bald eagle nest.
- PARKS-2-29 The text referenced by the commenter under “American River Mitigation Site” on page 4-143 has been updated and revised to reflect the lack of public access to the site.
- PARKS-2-30 Please refer to MR 9, which addresses proposed improvements on the ARMS site, especially MR 9-11, which addresses existing and proposed habitat values and suitability for various common wildlife and special-status species, both during and after mitigation site development. Section 3.3.2 discusses the elimination of alternatives based on retaining a portion of the pond.
- PARKS-2-31 Please refer to Appendix B, Section 2.2, “Recreation,” particularly to Impact 2.2-c, which addresses recreational impacts in more detail. Please refer also to MR 9, which addresses proposed improvements on the ARMS site, including access considerations during and after mitigation site development. As the project designs, haul and access routes are finalized, if the final project design is not fully covered by the programmatic analysis listed in this document, then additional NEPA and CEWA compliance will occur per the appropriate federal and state laws.
- PARKS-2-32 Please refer to MR 9, which addresses proposed improvements on the ARMS site, particularly MR 9-12, which addresses American River Parkway Plan alignment.
- PARKS-2-33 Please refer to MR 9, which addresses proposed improvements on the ARMS site, and includes renderings of future appearance of the site in MR 9.
- PARKS-2-34 Figure 4.1-3 in Appendix B, Section 4.1, “Vegetation and Wildlife,” illustrates the habitat type surrounding the pond as “ruderal herbaceous/grassland.” Please also refer to MR 9-11, which addresses existing and proposed habitat values at the ARMS.
- PARKS-2-35 Please refer to the response to Parks-2-29.
- PARKS-2-36 Please refer to MR 15-8, which addresses wildlife movement and corridors.
- PARKS-2-37 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”

- PARKS-2-38 Table 4.4.1-3 has been corrected to add ARMS to the “project component” field for Impacts 4.1-a and 4.1-b. Please refer to Appendix B, Section 4.1, “Vegetation and Wildlife,” for detailed analysis and conclusions related to this impact. Please refer to MR 9-11, which addresses the existing and proposed habitat values at the ARMS.
- PARKS-2-39 Please refer to MR 15, which addresses impacts to riparian vegetation, particularly MR 15-1 and MR 15-5. Please refer also to Appendix B, Section 4.1, “Vegetation and Wildlife,” for detailed analysis and conclusions related to habitat conversion.
- PARKS-2-40 The commenter raises issues with Impact 4.1-a regarding wildlife movement corridors and wildlife movements. Please refer to MR 15-8, which addresses wildlife movement, and MR 9-11, which addresses habitat value for various special-status and common wildlife species.
- PARKS-2-41 Additional field studies have been conducted, including at the ARMS site and at the Contract 3B project site. Please refer to MR 2 and MR 3, which describe surveys and studies completed as part of the Contract 3B design process, MR 9, which describes studies supporting the ARMS design, and MR 15 and revisions to Appendix B, Section 4.1, “Vegetation and Wildlife,” which provide additional information on studies along the American River.
- PARKS-2-42 Figures in Chapter 3, “Description of Project Alternatives,” including Figures 3.5.2-4 through 3.5.2-9, illustrate the location of the ordinary high-water mark (OHWM). Although the comment requests that the OHWM elevation (and associated flows) should be stated, the OHWM elevation varies across the approximately 3.5 miles of river between the downstream and upstream ends of the Contract 3B project site.
- PARKS-2-43 Please refer to Appendix B, Section 4.1, “Vegetation and Wildlife,” which includes more detailed information concerning habitats on the American River. Please also refer to MR 15, which includes information on riparian habitats and impacts.
- PARKS-2-44 Please refer to the discussion of hydrology under MR 9-7, which addresses the proposed design for the ARMS and an anticipated hydrograph for the site post-construction.
- PARKS-2-45 Please refer to MR 9-11, which addresses habitat suitability at ARMS for a variety of common and special-status wildlife.
- PARKS-2-46 Please refer to revised text in Appendix B, Section 4.1, “Vegetation and Wildlife.”
- PARKS-2-47 The 2016 ARCF GRR FEIS/EIR used a slightly modified version of the California Wildlife Habitat Relationship System, and this classification was carried forward in this SEIS for consistency. This allows Project Partners to carry forward the environmental baseline established in 2016. CEQA and the resources

agencies that regulate riparian habitat impacts associated with the proposed project – USFWS, NMFS, and NPS – do not require the use of a specific vegetation mapping system to deem the analysis as adequate. Inconsistencies in the tables and figures in the Vegetation and Wildlife have been corrected. Project Partners define riparian scrub as a subset of valley foothill riparian and riparian scrub is not shown in the vegetation maps. The footnote in Table 4.1-2 has been updated to state Valley Foothill Riparian. Please refer to MR 9-11 for refined analysis of existing and proposed habitats and values associated with the ARMS project and MR 15-1 for analysis on the Lower American River Contract 3B riparian forest analysis.

- PARKS-2-48 The text in question generally summarizes types of wildlife which use valley foothill riparian habitats and is not intended to be a comprehensive list of all species which could use the habitat. No change to the document is proposed in response to this comment.
- PARKS-2-49 The commenter states the SEIS/SEIR is dismissive of the types of wildlife present in the project area. Please refer to MR 9-11, which addresses habitat values for wildlife at the ARMS site, and MR 15-8, which addresses wildlife corridors.
- PARKS-2-50 The comment identifies several concerns about the setting discussion presented in Appendix B, Section 4.1, “Vegetation and Wildlife,” but does not identify any issues associated with the impact analysis in the SEIS/SEIR. Please refer to MR 9, which addresses habitat suitability at the ARMS site, and MR 15, which addresses riparian forest and wildlife movement, and Appendix G, “Engineering,” which describes data that informed designs on Contract 3B.
- PARKS-2-51 The commenter provided quoted text regarding species that wetlands provide habitat for and how well agricultural fields provide habitat but does not raise a specific issue relating to the analysis in this SEIS/SEIR. The commenter requests the design of the ARMS site to retain the pond. Please refer to MR 9, which addresses proposed improvements on the ARMS site.
- PARKS-2-52 This comment identifies several concerns related to the baseline habitat information presented in Appendix B, Section 4.1, “Vegetation and Wildlife,” but does not propose specific changes or indicate that these concerns would affect or change the impact analysis presented later in this section.
- PARKS-2-53 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act and the American River Parkway Plan.
- PARKS-2-54 The commenter advised the MBTA prohibits the direct loss of birds, nests, or eggs, regardless of nest siting. This is correct and the SEIS/SEIR does not refute this therefore, no comment needed.
- PARKS-2-55 The commenter calls out errors in the water quality regulatory setting, some text has been updated as a result. The commenter requested a copy of the Programmatic CWA 401 water quality certificate obtained by USACE. The CWA

401 certificate will be posted to the sacleveeupgrades.com website. Please refer to MR 7, which addresses public outreach and requests for documentation. A 404(B)(1) analysis for the discharge of material into waters of the U.S. and is included in the final SEIS as Appendix K.

PARKS-2-56 The commenter states that USACE has not coordinated with Sacramento County Regional Parks regarding O&M strategies. USACE looks forward to working with Sacramento County Regional Parks to develop long term maintenance strategies.

PARKS-2-57 The commenter states that the environmental baseline is incomplete because it was not based on site-specific surveys for vegetation mapping. However, site-specific surveys have been conducted, and informs the analysis, as described in MR 2, MR 3, MR 9, and MR 15, as well as Appendix B, Section 4.1, “Vegetation and Wildlife.” There is no uniform approach to vegetation mapping for CEQA analyses and the SEIS/SEIR analysis is based on these survey results in combination with current and geographically relevant databases, which are sufficient for the purposes of this SEIS/SEIR.

PARKS-2-58 The commenter requests the SEIS/SEIR add a specific reference to habitat impact acreages in the ARCF GRR FEIS/EIR to facilitate review of the Design Refinements impacts by the public and Responsible and Trusted Agencies. The following text has been added to section 4.1.3 “4.1.3 Analysis of Environmental Effects” of Appendix B:

“Table 15 on page 126 of the ARCF GRR FEIS/EIR provides details of habitat impact acreages estimated in the ARCF GRR FEIS/EIR.”

The commenter also requests the SEIS/SEIR identifies the total acreage of the ARMS site and the habitats present. Please refer to MR 9, which addresses proposed improvements on the ARMS site, including acreage information. Please refer to PARKS 2-47 for habitat classifications.

PARKS-2-59 Please refer to MR 9-11, which addresses existing habitat, habitat suitability for a variety of common and special-status species at the ARMS site. Please refer also to MR 7, which addresses public outreach and data requests.

PARKS-2-60 The commenter requests to be involved with the development of the Vegetation Management Plan identified, and states that monitoring of mitigation plantings should continue for a minimum of 5 years. Please refer to MR 5, which specifies that monitoring will be the responsibility of the contractor for 3-5 years, with USACE taking responsibility for the following 5 years. USACE intends to continue to consult with Sacramento County Regional Parks on actions in the Parkway.

PARKS-2-61 A rookery is a group of birds that nest together in a concentrated area. Mitigation Measure Bird-1, “Avoid and Minimize Effects on Nesting Birds,” includes preconstruction surveys by a qualified biologist to identify active nest sites within 100 feet of construction of migratory birds, and 500 feet for special-status birds.

For any active bird nest found, regardless of the season, a protective buffer would be established and implemented until the nest is no longer active. As a result, implementation of Mitigation Measure Bird-1 would minimize potential effects on active rookeries to less than significant.

- PARKS-2-62 Please refer to MR 9-11, which addresses habitat suitability for a variety of common and special-status species at the ARMS.
- PARKS-2-63 The mitigation measure VEG – 2 has been updated, and the revised text can be found Appendix B Section 4.1 and in Appendix I, Master Response 5. The comment does not specifically refer to one Lower American River Erosion contract, however the comment appears to be located within a series of comments on ARMS and is responded to accordingly. Please refer to MR 9-11 for information on the existing habitat, tree species and counts. MR 9-12 addressed the projects intent and designs in relation to the 2008 American River Parkway Plan, which addresses tree removal, including total numbers of trees proposed for preservation and removal, and size classifications. Exhibits have also been prepared to visually convey this information. Appendix G, “Engineering,” and Appendix B, Section 4.1, “Vegetation and Wildlife,” also provide details on tree preservation and removal.
- PARKS-2-64 Please refer to MR 9-11, which addresses habitat suitability for a variety of common and special-status species at the ARMS.
- PARKS-2-65 Please refer to MR 15, which addresses impacts to riparian vegetation including wildlife corridors in MR 15-8. Please refer also to MR 9-11, which addresses habitat suitability for a variety of common and special-status species at the ARMS.
- PARKS-2-66 Please refer to MR 9-11, which addresses habitat suitability for a variety of common and special-status species at the ARMS. Please refer also to updated and refined impact analyses in Appendix B, Section 4.1, “Vegetation and Wildlife,” and Section 4.3, “Special-status Species.”
- PARKS-2-67 Please refer to MR 9-11 for additional details regarding existing and proposed habitat values for the ARMS at Urrutia project. In addition, the Sensitive Natural Habitats Section of Appendix B 4.1 Vegetation and Wildlife stated that riparian habitat qualifies as a sensitive natural community; therefore, riparian habitat on the Urrutia property and all other projects analyzed in the SEIS/SEIR were considered sensitive natural communities.
- PARKS-2-68 The commenter states the SEIS/SEIR lack a clear presentation of impacts to riparian habitat. Please refer to MR 9-11 for additional details regarding existing and proposed habitat values for the ARMS at Urrutia project, including trees and riparian habitats. The proposed ARMS at Urrutia Property is anticipated to result in a net increase in riparian vegetative cover and diversity by 45.8 acres over existing conditions. In addition, please refer to the updated Appendix B 4.1

Vegetation and Wildlife for details on riparian and tree associated impacts on the Urrutia property and all other projects analyzed in the SEIS/SEIR.

- PARKS-2-69 The vegetation community classifications were chosen to more closely align with the California Wildlife Habitat Relationships System. CEQA and the resources agencies that regulate riparian habitat impacts associated with the proposed project – USFWS, NMFS, and NPS – do not require the use of a specific vegetation mapping system to deem the analysis as adequate. Riparian Forest/Scrub was not a mapped community for any of the projects analyzed in the SEIS/SEIR; therefore, the footnote in Table 4.1-2 has been updated to state Valley Foothill Riparian and align better with the data as presented. The compensatory mitigation need for impacts on riparian habitats has already been defined and approved during consultation with USFWS, NMFS, and NPS under the ESA, FWCA, and WSRA.
- PARKS-2-70 A detailed analysis of the effects of riparian removal associated with Contract 3B is provided in MR 15, and the analysis of riparian effects for all projects analyzed in the SEIS/SEIR has been updated in Appendix B 4.1 Vegetation and Wildlife. MR 15-1 provides an analysis of habitat effects for Contract 3B, including impact acreages for Site 3-1, Site 4-1, and Site 4-2, along with estimates for removed and protected trees. MR 15-2 outlines the onsite replanting strategy, which includes a diverse assemblage of native riparian species across five distinct replanting zones – mixed riparian, upper bank, lower bank, willow container, and riparian planting bench. Species assemblages for each replanting zone were based on elevation and inundation patterns expected post construction. MR 15-3 outlines the performance standards to be implemented for the onsite replanting zones, while MR 15-4 summarizes maintenance activities that are likely to be performed in an effort to meet performance standards. A summary of short-term and long-term effects, including regrowth rates for tree species to be replanted in each zone, is provided in MR 15-5.
- PARKS-2-71 Please refer to MR 15, which addresses riparian forest (particularly MR 15-3 on replanting performance and MR 15-5 on short- and long-term impacts), and Appendix G, “Engineering.” Also refer to updates to Mitigation Measure VEG-2 in section 4.1.3 “Analysis of Environmental Effects” in Appendix B.
- PARKS-2-72 Please refer to MR 9, which addresses proposed improvements on the ARMS site, especially MR 9-1, “Site History,” and MR 9-11, “Existing and Proposed Habitat Values.”
- PARKS-2-73 Please refer to MR 9, which addresses proposed improvements on the ARMS site, especially MR 9-11, “Existing and Proposed Habitat Values,” and MR 9-12, “American River Parkway Plan Alignment.”
- PARKS-2-74 Please refer to MR 9, which addresses proposed improvements on the ARMS site, especially MR 9-11, “Existing and Proposed Habitat Values,” and MR 9-12, “American River Parkway Plan Alignment.”

PARKS-2-75 The 404(b)(1) analysis is included as Appendix K and describes the alternatives considered for the Urrutia site and the selection of the LEDPA. Please refer also to MR 9-13.

Section IV(b) of the 404(b)(1) analysis states: “The proposed ARMS at the Urrutia property is the LEDPA because it would restore and enhance onsite habitat functions and values to as close to pre-mining habitat conditions as possible. The goal is to improve conditions for 35 special-status species that may rely upon these habitats for all or part of their life cycle, while still achieving the compensatory mitigation needs for salmonids, yellow-billed cuckoo (YBCU), and VELB on the LAR. The proposed design surface elevations are set to achieve winter and spring water surface elevations (WSEs) that would mimic pond-like conditions, while still providing shallow water habitat for salmonids and other species that rely upon diverse riparian and floodplain habitats, thus supporting the greatest cross-section of species. Additionally, movement of wildlife should be enhanced post-construction by the increased structural complexity and vegetative cover over existing conditions. Lastly, the proposed project was developed in consideration of the Parkway Plan policies, along with the terms and conditions of other relevant governing permits and authorizations and the project expands upon the 2008 City of Sacramento project conceptualized for the site.”

PARKS-2-76 As the commenter reports, the text of Impact 4.1-e specifies that the project will comply with County ordinance with respect to tree removal.

PARKS-2-77 Mitigation Measure VEG-2 is applicable to the entire Proposed Action, including actions undertaken to mitigate for the project impacts. The designs are created to impact the least amount of vegetation possible, preservation areas will be fenced, preconstruction environmental awareness training will be provided, and a qualified arborist will be required if any work in preserved areas becomes necessary. The discussion on eliminating Alternatives for ARMS that include retaining a portion of the pond are discussed in section 3.3.2.5. CEQA requires that the impacts of implementing mitigation measures be analyzed in the EIR (State CEQA Guidelines section 15126.4(a)(1)(d)). The SEIR analyzes a No Project Alternative, the Proposed Action, and Alternatives 4a and 4b, and identifies an environmentally preferred alternative. The CVFPB will make findings on the alternatives, and may approve any CEQA alternative based on substantial information in the record, including the SEIR, its appendices, and the Findings. If the CVFPB were to select a different alternative than USACE, these discrepancies would need to be resolved during the project-level analysis for the ARMS.

PARKS-2-78 CVFPB analyzed the specific alternative proposed by the commenter as Alternative 4a, and in fact developed Alternative 4b in an effort to ensure that a feasible alternative retaining a portion of the pond was considered after the advent of the bald eagle nest resulted in a new significant impact under the commenter’s proposed alternative. The commenter now objects to the pond retained in Alternative 4b because “the size is no longer suitable for night roosting by waterbirds” but offers no evidence to support this assertion. Please refer to MR 9-

11, “Existing and Proposed Habitat Values,” particularly the discussion of diving ducks under “Common Wildlife.”

- PARKS-2-79 Please refer to MR 9, which addresses proposed improvements on the ARMS site, including MR 9-2, which addresses project purpose and need. The discussion on eliminating Alternatives for ARMS that include retaining a portion of the pond are discussed in section 3.3.2.5.
- PARKS-2-80 Please refer to revised and expanded impact analysis related to wildlife migration and movement in Appendix B, Section 4.1, “Vegetation and Wildlife.” Please refer also to MR 15, especially MR 15-8, which addresses wildlife corridors.
- PARKS-2-81 Please refer to MR 9-1, which presents a site history. Please refer also to the discussion of “Aquatic Resources” under MR 9-11. The 404(b)(1) analysis is provided in Appendix K. MR 9-11 also provides additional detail on existing and proposed habitat values.
- PARKS-2-82 The Central Valley Regional Water Quality Control Board (Water Board) regulates waters of the State, which are not also waters of the U.S., under the Porter Cologne Water Quality Control Act. Impacts on waters of the State are authorized by the Water Board through the issuance of a Waste Discharge Requirement, not a Section 401 Water Quality Certification under the Clean Water Act. The Clean Water Act is reserved only for impacts on waters of the U.S. The Urrutia pond aligns with the historical LAR main channel (see Figure 4, in MR 9-11), which is defined as a traditional navigable water by USACE; as a result, the Urrutia pond is anticipated to be classified as a historical Section 10 water by USACE and defined as a water of the U.S. The ARCF project has a programmatic 401 permission, and individual project components will file notices of intent consistent with the 401.
- PARKS-2-83 This comment does not raise a specific issue related to the analysis provided in the SEIS/SEIR. The Project Partners will continue to consult with Sacramento County Regional Parks.
- PARKS-2-84 Please refer to MR 9, which summarizes NMFS engagement in the ARMS design process.
- PARKS-2-85 Please refer to MR 3, MR 5, and MR 15 (especially MR 15-2, MR 15-3, and MR 15-4), which provide additional information on performance and long-term management of restoration sites. The Project Partners will continue to consult with Sacramento County Regional Parks.
- PARKS-2-86 Please refer to MR 9-11 for additional details regarding existing and proposed habitat values for the ARMS at Urrutia project, including riparian habitats and special-status fishes. The proposed ARMS at Urrutia Property is anticipated to result in a net increase in riparian vegetative cover and diversity by 45.8 acres over existing conditions. In addition, please refer to the updated Appendix B 4.1 Vegetation and Wildlife for details on riparian and tree associated impacts on the ARMS at Urrutia project. As discussed in MR 9-11, federally protected salmonids

may become stranded in the Urrutia pond during LAR high flow events that result in overbank conditions, which can occur during 2-year flood events and higher.

- PARKS-2-87 Please refer to MR 9, particularly MR 9-11, which addresses aquatic resources, and MR 9-13, which summarizes conclusions.
- PARKS-2-88 These alternatives are considered in detail for CEQA purposes, and Section 3.3.2.5 of the Final SEIS/SEIR describes why these alternatives were rejected from consideration under NEPA. These alternatives were rejected from detailed consideration under NEPA because they would not meet the remaining VELB and salmonid mitigation requirements onsite, forcing the project to identify and pursue another offsite mitigation. Neither the ARCF 2016 Project nor the Planning Guidance Notebook (USACE Civil Works policy) provides authority for USACE to spend appropriations on recreation improvements or the long-term management of a non-life and safety feature; the pond would be considered a recreational feature since it does not meet species habitat mitigation criteria.
- PARKS-2-89 The comment identifies an erroneous reference in the Draft SEIS/SEIR. The correct reference is to Appendix D, as stated by the commenter. Text in Section 4.3.1, “Existing Conditions/Affected Environment” of Appendix B, “Detailed Analyses,” has been revised in the Final SEIS/SEIR as follows:
- Please refer to Appendix D, “Biological Resources Mapping and Data,” for the complete species lists.
- PARKS-2-90 Impact analyses in Appendix B, Sections 4.1, “Vegetation and Wildlife,” 4.2, “Special-status Fishes,” and 4.2, “Special-status Species” have been updated in the Final SEIS/SEIR.
- PARKS-2-91 Impact analyses in Appendix B, Sections 4.1, “Vegetation and Wildlife,” 4.2, “Special-status Fishes,” and 4.2, “Special-status Species” have been updated in the Final SEIS/SEIR, including revisions proposed by the commenter. See also the response to comment PARKS-2-89.
- PARKS-2-92 The analysis for the ARMS and SRMS are presented at a program level with the data available at the time of preparation. Please refer to MR 9, particularly MR 9-11, which addresses existing and proposed habitat values in detail, including aquatic resources values.
- PARKS-2-93 Western pond turtle was identified as the only special-status reptile with the potential to utilize existing onsite habitats (annual grassland, pond, riverine, and riparian woodland) for nesting, basking, foraging, and brumation (inactivity during low temperatures). Protocol-level surveys have not been performed to date; therefore, presence is assumed in all onsite suitable habitats. Western pond turtles have been determined to do best in habitats with a large amount of emergent basking sites (rocks, IWM, emergent and floating mats of aquatic vegetation), native plants and shrubs, access to uplands, and lower disturbance regimes from grazing, agriculture, industrial and recreational activities (Yarnal

2019⁷⁵, USGS 2006⁷⁶). Existing habitat value is limited by the pond's very narrow littoral shelf with limited basking and highly compacted uplands with asphalt/construction debris at the surface from historical site activities.

Post-construction upland and riparian habitat conditions would be improved in a manner beneficial to sustaining healthy, viable populations of pond turtle. Removal of asphalt, debris, and compacted soils; combined with the control of target nonnative, invasive vegetation and establishment/recruitment of native, pollinator-friendly herbaceous species would enhance upland habitats that may be utilized by pond turtles for nesting. The addition of approximately 60 pieces of IWM would increase basking site availability significantly over the existing condition, in which basking sites are limited due to the narrow littoral shelf and relative absence of large woody debris/floating mats of aquatic vegetation.

Construction-related effects on pond turtles are expected to include initial site grading, fill placement in the pond, and dewatering. Initial site grading activities would occur to the greatest extent practicable, between August 1 and November 30 to minimize conflicts with nesting, brumating, and hatchling turtles (Stevens 2024⁷⁷). Fill placement in the pond would occur incrementally over three construction seasons, leaving some open water habitat available throughout construction, as described in the Construction Sequencing section in MR 9-10. Lastly, mitigation measure TURTLE-1 has been updated in the revised Appendix B 4.3 Special-Status Species to include additional protective measures for western pond turtle.

Implementation of TURTLE-1 would serve to minimize construction-related conflicts with pond turtles. When combined with the proposed reclamation, restoration, and enhancement activities, habitat value for western pond turtles is expected to increase post-project, due to the expansion of more native floodplain habitats, introduction of a significant amount of IWM that could be used for basking habitat, and soil amendments that could improve upland nesting habitat conditions. An estimated 13 acres of annual grassland habitats would experience a type conversion to open water/wetland transition and riparian habitats usable by pond turtles, while leaving 28.2 acres of annual grasslands for reclamation and enhancement to more suitable nesting conditions.

PARKS-2-94 Please refer to MR 9-11, which addresses the existing and proposed habitat values at the ARMS.

PARKS-2-95 The commenter states that because Alternatives 4a and 4b would have similar construction impacts on special status species compared to the proposed action, it is unclear why these alternatives could be rejected from consideration under NEPA. Special status species impacts from construction would be focused on the

⁷⁵ Yarnal, Cristina, "Best Management Practices for the Conservation of Western Pond Turtle Populations in California" (2019). Master's Projects and Capstones. 976. <https://repository.usfca.edu/cgi/viewcontent.cgi?article=2149&context=capstone>

⁷⁶ https://sdmmp.com/upload/SDMMP_Repository/0/4fnpv18xm0sqtw29j7d3rz56bkychg.pdf

⁷⁷ Stevens, M. 2024. Comments on the Draft Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report for the 2016 American River Watershed Common Features Project, Sacramento CA

higher quality riparian habitat along the riverbank, which would be similarly affected by the proposed action and the referenced Alternatives. It is unclear what relationship the commenter believes this conclusion has to the alternative consideration under NEPA.

1.6 Responses to Comments at Public Meetings

During the public meetings, many commenters expressed opposition to the American River Erosion Contract 3B project, requested additional information related to the need for the American River Erosion Contract 3B project improvements, and asked questions related to the process or to the analysis. Most of these comments were general in nature rather than calling out specific issues related to the environmental analysis, and were a primary input in developing the master responses in Section 1.3, which were intended to address the broad categories of concerns that were identified in a comprehensible, narrative fashion. Most of the responses to the comments received in the meeting transcript or chat files refer to these master responses; where specific questions are asked the responses may address those issues.

January 10 Public Meeting Verbal Comments

MTG-1-1	Please refer to MR 1.
MTG 1-2	Please refer to MR 1.
MTG 1-3	Please refer to MR 6.
MTG 1-4	This comment does not identify any issue related to the analysis in the SEIS/SEIR.
MTG 1-5	Please refer to MR 5 and MR 15.
MTG 1-6	Please refer to MR 2
MTG 1-7	Please refer to MR 2.
MTG 1-8	Please refer to MR 6
MTG 1-9	Please refer to MR 6.
MTG 1-10	Please refer to MR 6.
MTG 1-11	Please refer to MR 13.
MTG 1-12	Please refer to MR 6.
MTG 1-13	Please refer to MR 4.
MTG 1-14	Detours will be developed in coordination with Regional Parks. Project Partners did not incorporate possible decrease in bicyclist commuters into the Greenhouse Gas calculations.
MTG 1-15	Please refer to MR 2.

MTG 1-16	The commenter provides an example of a USACE project where the initial design was changed. Please refer to MR 2 and Appendix G, “Engineering.”
MTG 1-17	The commenter references the downstream location of mitigation and states that it won’t improve conditions in the Contract 3 project site. Please refer to MR 4, MR 5, and MR 15.
MTG 1-18	Please refer to MR 2.
MTG 1-19	The Contract 3B project site is an area that has been heavily modified from its natural condition. Please refer to MR 2 and Appendix G, “Engineering.”
MTG 1-20	Please refer to MR 1.
MTG 1-21	Please refer to MR 7.
MTG 1-22	Please refer to MR 2-6 and MR 7.
MTG 1-23	Please refer to MR 7.
MTG 1-24	Please refer to MR 5 and MR 15.
MTG 1-25	Each project component identifies haul routes that will be considered.
MTG 1-26	All of the haul routes for the proposed project are included in the SEIS/SEIR document. The alternatives considered in the document do not vary the haul routes since all of the alternatives being considered in the SEIS/SEIR are at the same locations as the proposed action, and access to these sites is similar among the various alternatives.
MTG 1-27	All of the project improvements for the proposed action are included in the SEIS/SEIR document.
MTG 1-28	The commenter asserts that the proposed action will not provide a flood protection benefit to Sacramento. Please refer to MR 2 and Appendix G, “Engineering.”
MTG 1-29	Please refer to MR 4 and MR 8.
MTG 1-30	Please refer to MR 2.
MTG 1-31	Please refer to MR 1.
MTG 1-32	This comment does not identify any issue related to the analysis in the SEIS/SEIR.
MTG 1-33	Please refer to MR 7.
MTG 1-34	Please refer to MR 2.
MTG 1-35	Please refer to MR 5 and MR 15.

MTG 1-36	Please refer to MR 2.
MTG 1-37	Please refer to MR 5 and MR 15.
MTG 1-38	Please refer to MR 1 and MR 7.
MTG 1-39	Please refer to MR 2.
MTG 1-40	Please refer to MR 2 and MR 6.
MTG 1-41	Please refer to MR 2 and MR 7.
MTG 1-42	Please refer to MR 2 and MR 7.
MTG 1-43	Please refer to MR 2 and MR 3.
MTG 1-44	Please refer to MR 2 and MR 3.
MTG 1-45	Please refer to MR 2.
MTG 1-46	Please refer to MR 6.
MTG 1-47	Please refer to MR 3, MR 5, and MR 15.
MTG 1-48	Please refer to MR 7.
MTG 1-49	Please refer to MR 5 and MR 15.
MTG 1-50	Please refer to MR 5 and MR 15.
MTG 1-51	Please refer to MR 5 and MR 15.
MTG 1-52	Planting palettes were selected to include plants with cultural significance.
MTG 1-53	Please refer to MR 7.
MTG 1-54	Please refer to MR 6.
MTG 1-55	Please refer to MR 2.
MTG 1-56	Please refer to MR 1.
MTG 1-57	Please refer to MR 5 and MR 15.
MTG 1-58	Please refer to MR 6.
MTG 1-59	Please refer to MR 2 and Appendix G, "Engineering."
MTG 1-60	Please refer to MR 2 and MR 7.
MTG 1-61	Please refer to MR 2.
MTG 1-62	Please refer to MR 6.

MTG 1-63	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 1-64	Please refer to MR 1 and MR 7.
MTG 1-65	Please refer to MR 4.
MTG 1-66	Please refer to MR 7.
MTG 1-67	Please refer to MR 7.
MTG 1-68	Please refer to MR 4, MR 5, MR 8, and MR 15.
MTG 1-69	Please refer to MR 6, MR 7 and MR 13.
MTG 1-70	Please refer to MR 1 and MR 7.
MTG 1-71	Please refer to MR 5 and MR 15.
MTG 1-72	Please refer to MR 2, MR 5, and MR 15.
MTG 1-73	Please refer to MR 5 and MR 15.
MTG 1-74	Please refer to MR 4, section 4.3.4 “Water Quality” of the SEIS/SEIR, and section 3.4 “Water Quality” of Appendix B, “Detailed Analysis”.
MTG 1-75	Please refer to MR 1 and MR 7
MTG 1-76	Please refer to MR 1 and MR 2.
MTG 1-77	Please refer to MR 7.
MTG 1-78	This comment does not identify any issue related to the analysis in the SEIS/SEIR.
MTG 1-79	Please refer to MR 15.
MTG 1-80	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 1-81	Please refer to MR 6.
MTG 1-82	Please refer to MR 2, MR 3-5, MR 5 and MR 15.
MTG 1-83	Please refer to MR 2, MR 7 and Appendix G, “Engineering.”.
MTG 1-84	Please refer to MR 7.
MTG 1-85	Please refer to MR 1.
MTG 1-86	Please refer to MR 2.
MTG 1-87	Please refer to MR 4 and MR 13.
MTG 1-88	Please refer to MR 2, MR 7, and Appendix G, “Engineering.”

MTG 1-89 Please refer to MR 7

MTG 1-90 Please refer to MR 7

January 10 Public Meeting Chat Comments

Chat-1-1 Please refer to MR 7.

Chat 1-2 Please refer to MR 7.

Chat 1-3 Please refer to MR 3 and MR 15.

Chat 1-4 Please refer to MR 3 and MR 15.

Chat 1-5 Please refer to MR 5 and MR 15.

Chat 1-6 Please refer to MR 3-5.

Chat 1-7 Please refer to MR 1.

Chat 1-8 Please refer to MR 3 and MR 15.

Chat 1-9 Please refer to MR 2-3 and MR 3-7.

Chat 1-10 Please refer to MR 1.

Chat 1-11 Please refer to MR 1.

Chat 1-12 Please refer to MR 1.

Chat 1-13 Please refer to MR 1.

Chat 1-14 Please refer to MR 1.

Chat 1-15 Please refer to MR 5 and MR 15.

Chat 1-16 Please refer to MR 4.

Chat 1-17 Please refer to MR 5 and MR 15.

Chat 1-18 Please refer to MR 1.

Chat 1-19 Please refer to MR 5 and MR 15.

Chat 1-20 Please refer to MR 7.

Chat 1-21 Please refer to MR 1.

Chat 1-22 Reference to a Contract 3 within the meeting and SEIS /SEIR may refer to many things. There is LAR Erosion Contract 3A and 3B as well as Sacramento River Erosion Contract 3. Without more context this is impossible to answer

Chat 1-23 Please refer to MR 5 and MR 15.

- Chat 1-24 The construction of each of the contracts is managed separately, and all information is available at the project website at www.sacleveeupgrades.com. Noticing of the SEIS/SEIR was completed in compliance with CEQA and NEPA as described in MR 7.
- Chat 1-25 Please refer to MR 2.
- Chat 1-26 Please refer to MR 5 and MR 15.
- Chat 1-27 Project Partners assume commenter is referring to American River Erosion Contract 3B when commenter refers to “area 3a”. Please refer to MR 5 and MR 15.
- Chat 1-28 Please refer to MR 2-8.
- Chat 1-29 The Sacramento Weir expansion is intended to manage floodwaters from Folsom Dam on the American River and direct into the bypass system, thereby reducing flood risk along the Sacramento River levees. Compared to the pre-ARCF 2016 Project condition, the Sacramento Weir expansion will increase the volume of floodwaters flowing into the bypass resulting in reduced water levels along the levees. The erosion improvements along the Sacramento River are addressing pre-ARCF 2016 Project erosion risks.
- Chat 1-30 Please refer to MR 2-1 and MR 2-4.
- Chat 1-31 Please refer to MR 2, MR 3 and MR 15.
- Chat 1-32 Please refer to response to Chat 1-30.
- Chat 1-33 Please refer to MR 2.
- Chat 1-34 Please refer to MR 2 and MR 3.
- Chat 1-35 Please refer to Appendix G, “Engineering,” and MR 3, MR 5, and MR 15.
- Chat 1-36 Please refer to MR 3-3 and MR 3-4.
- Chat 1-37 Please refer to MR 3-3 and MR 3-4.
- Chat 1-38 This comment expresses opposition to the project but does not identify any issue related to the analysis in the SEIS/SEIR.
- Chat 1-39 Please refer to MR 3-5.
- Chat 1-40 Please refer to MR 5 and MR 15.
- Chat 1-41, 42 Please refer to MR 2, MR 3, MR 5, and MR 15.
- Chat 1-43 Please refer to MR 6.
- Chat 1-44 Please refer to MR 5 and Section 4.1.3 “Analysis of Environmental Effects” of Appendix B, “Detailed Analyses”.

- Chat 1-45, 46 The mitigation site for impacts on the American River is described in the SEIS/SEIR as the American River Mitigation Site (ARMS) refer to section 3.5.5 “American River Mitigation Site (Program Level)” of the SEIS/SEIR. Please refer to MR 9 for additional details on this site.
- Chat 1-47 Please refer to MR 3 and MR 15.
- Chat 1-48 This comment expresses opposition to the project but does not identify any issue related to the analysis in the SEIS/SEIR.
- Chat 1-49, 50 Please refer to MR 5 and section 3.5 “Alternative 2: Proposed Action” of the SEIS/SEIR.
- Chat 1-51 Please refer to MR 5, MR 15 and section 3.5 “Alternative 2: Proposed Action” of the SEIS/SEIR.
- Chat 1-52 The specific sources of soils and rocks are not identified in the SEIS/SEIR. Construction specifications for each contract will require that materials be obtained within specified distances (discussed in section 3.3.3 “Alternatives Considered in Detail in the SEIS/SEIR” of the SEIS/SEIR) from the project sites, and will identify standards which these materials must meet.
- Chat 1-53 Please refer to MR 1.
- Chat 1-54 Please refer to MR 2, MR 5 and MR 15. The commenter asserts that cultural resources are known to be present in the project area and would be disturbed but offers no evidence to support this statement.
- Chat 1-55 Please refer to MR 5 and MR 9.
- Chat 1-56 Advancing Alternatives 4a and 4b under CEQA only allowed a comparative analysis of the impacts of these alternatives with the Proposed Action. Section 3.3, “Alternatives Development and Screening,” in the SEIS/SEIR includes a discussion of how the alternatives were selected for detailed analysis under NEPA and CEQA. If CVFPB selects Alternative 4a or 4b as their proposed action to carry forward, additional environmental review will be required to comply with NEPA and CEQA requirements.
- Chat 1-57 Please refer to MR 1.
- Chat 1-58 Please refer to MR 2, MR 5 and MR 8. The commenter asserts that cultural resources are known to be present in the project area and would be disturbed but offers no evidence to support this statement.
- Chat 1-59 Please refer to MR 5 and MR 15.
- Chat 1-60 Thank you for the question. None of the levee modification contracts discussed in the SEIS (i.e., LAR Contract 4A and Magpie Creek) include geotextile fabric use within the levee embankment.

- Chat 1-61 The piezometer project component is analyzed at a program level and specific locations have not yet been identified.
- Chat 1-62 Please refer to MR 9.
- Chat 1-63, 64 This comment does not identify any issue related to the analysis in the SEIS/SEIR.
- Chat 1-65 Please refer to Appendix B Section 5.1, “Cultural Resources,” in the SEIS/SEIR.
- Chat 1-66 Please refer to MR 1 and MR 7.
- Chat 1-67 The intent of the piezometer network is to understand seepage forces throughout the system in real time and help the local maintaining agencies responsible for long term operation, maintenance, repair, replacement, & rehabilitation (OMRR&R) to know if there are previously unknown or developing seepage issues anywhere along the levee system. The information gathered from the network will be compared to the seepage analyses conducted during the various ARCF project authorizations’ design phases to determine if the levee systems are performing as expected.
- Chat 1-68 Please refer to MR 1.
- Chat 1-69 Please refer to section 4.5 "Cultural Resources" of the SEIS/SEIR and section 5.1 "Cultural and Tribal Cultural Resources" of Appendix B for an analysis of impacts on cultural resources. USACE and Project Partners are following all laws and guidance for consulting Native American Tribes.
- Chat 1-70 Please refer to MR 7.
- Chat 1-71 Please refer to MR 1.
- Chat 1-72 Please refer to MR 1.
- Chat 1-73 Please refer to MR 1.
- Chat 1-74 Please refer to MR 5 and response to Indiv-843.
- Chat 1-75 Please refer to MR 1.
- Chat 1-76 Please refer to MR 1.
- Chat 1-77 The SEIS/SEIR states (Section 3.5.2.1.3, “Construction Schedule, Materials, and Equipment”) that the Contract 3B would include site preparation in 2026, two years of active construction in 2026 and 2027, and revegetation continuing into 2028.
- Chat 1-78 Please refer to MR 1 and MR 7.

- Chat 1-79 The SEIS/SEIR states (Section 3.5.5.1, “Features of the Proposed Action and Construction Details”) that construction of the ARMS would include four years of active construction in 2026, 2027, 2028, and 2029.
- Chat 1-80 The specific locations for piezometer placement have not yet been determined. Installing the piezometers uses different equipment than would be used in construction of the other project components, is minimally invasive and would be of short duration at each location. Installing piezometers systematically and separate from construction is more efficient.
- Chat 1-81 Please refer to MR 7.
- Chat 1-82 No construction will begin before certification of the document.
- Chat 1-83 ARCF projects must be approved by USACE as well as the CVFPB prior to initiating construction. Other agencies (including USFWS and NMFS) also have permitting authority over the projects.
- Chat 1-84 Please refer to MR 1.
- Chat 1-85 Please refer to MR 1.
- Chat 1-86 Please refer to MR 5 and MR 15.
- Chat 1-87 Please refer to MR 1.
- Chat 1-88 Please refer to MR 5 and MR 15.
- Chat 1-89 Please refer to MR 7.
- Chat 1-90 Please refer to MR 1 and MR 7.
- Chat 1-91 Cumulative impacts of the project components and other regional projects, including the previous ARCF 2016 projects, are discussed in the SEIS/SEIR in Chapter 5, “Cumulative and Growth-inducing Effects.”
- Chat 1-92 Please refer to MR 1.
- Chat 1-93 Please refer to MR 7.
- Chat 1-94 Please refer to MR 2.
- Chat 1-95 Please refer to MR 7.
- Chat 1-96 Please refer to MR 3-3, MR 3-4, MR 5 and MR 15.
- Chat 1-97 Please refer to MR 7.
- Chat 1-98 Please refer to MR 2, MR 5, and MR 15.
- Chat 1-99 Please refer to MR 1.

- Chat 1-100 Please refer to MR 1.
- Chat 1-101 Please refer to MR 2.
- Chat 1-102 Please refer to MR 2, Appendix G, “Engineering,” and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
- Chat 1-103 Please refer to Appendix G, “Engineering.” The intent of the piezometer network is to understand seepage forces throughout the system in real time and help the local maintaining agencies responsible for long term operation, maintenance, repair, replacement, & rehabilitation (OMRR&R) know if there are previously unknown or developing seepage issues anywhere along the levee system. This monitoring network will not provide any information which can be used to monitor the performance of the erosion protection improvements along the Sacramento and American Rivers.
- Chat 1-104 Please refer to MR 7.
- Chat 1-105 Please refer to MR 1 and MR 7.
- Chat 1-106 Please refer to MR 2-6.
- Chat 1-107 Please refer to MR 7.
- Chat 1-108 Please refer to response to CHAT 1-46.
- Chat 1-109 Please refer to MR 7.
- Chat 1-110 Please refer to MR 2-6 and MR 15-1.
- Chat 1-111 Please refer to MR 2 and section 1.6 “Levee Erosion Failure Processes” of Appendix G “Engineering”.
- Chat 1-112 Please refer to MR 1 and MR 7.
- Chat 1-113 Please refer to MR 3-3, MR 3-4, and MR 15-2.
- Chat 1-114 Please refer to MR 4.
- Chat 1-115 Please refer to response to Chat 1-111.
- Chat 1-116 Please refer to MR 2, Appendix G, “Engineering,” and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
- Chat 1-117 Please refer to MR 4.
- Chat 1-118 Cumulative impacts of the project components and other regional projects, including the previous ARCF 2016 projects, are discussed in the SEIS/SEIR in Chapter 5, “Cumulative and Growth-inducing Effects.” Please also refer to MR 4, MR 5, and MR 15.
- Chat 1-119 Please refer to MR 2-9.

Chat 1-120 Please refer to MR 5.

Chat 1-121 Please refer to MR 3.

Chat 1-122 Please refer to MR 2 and MR 3.

Chat 1-123 Please refer to the response to Chat 1-56.

Chat 1-124 Please refer to the response to Chat 1-65.

Chat 1-125 Please refer to MR 2-3 and 3-7.

Chat 1-126 Please refer to MR 1 and MR 7.

Chat 1-127 Please refer to MR 2.

Chat 1-128 Please refer to MR 5.

Chat 1-129 Please refer to MR 1.

Chat 1-130 Please refer to MR 7.

Chat 1-131 Cumulative impacts of the project components and other regional projects, including the previous ARCF 2016 projects, are discussed in the SEIS/SEIR in Chapter 5, “Cumulative and Growth-inducing Effects.” Please refer to MR 15.

Chat 1-132 Please refer to MR 2 and MR 3.

Chat 1-133 Please refer to MR 3-3 and MR 3-4.

Chat 1-134 Please refer to MR 2.

Chat 1-135 Please refer to MR 2 and MR 3-2.

Chat 1-136 Please refer to MR 7.

Chat 1-137 Please refer to MR 2.

Chat 1-138 Please refer to MR 2 and MR 3.

Chat 1-139 Please refer to MR 3-1.

Chat 1-140 Please refer to MR 7.

Chat 1-141 Please refer to MR 3, MR 15, and sections 1.7.4 “Erosion Protection Design Alternatives” and 2.5.2 “Contract 3B” of Appendix G “Engineering”.

Chat 1-142 Please refer to MR 4 and MR 6.

Chat 1-143 Please refer to MR 12.

Chat 1-144 Please refer to MR 6, MR 13 and MR 15.

Chat 1-145 Please refer to MR 6.

Chat 1-146 Please refer to MR 5 and MR 15.

Chat 1-147 Please refer to MR 2.

Chat 1-148 This comment expresses opposition to the project but does not identify any specific concern regarding the analysis in the SEIS/SEIR.

Chat 1-149 Please refer to MR 7.

Chat 1-150 Please refer to MR 6 and MR 15-7.

Chat 1-151 Please refer to MR 5.

Chat 1-152 Please refer to MR 7.

Chat 1-153 Please refer to MR 5.

Chat 1-154 Please refer to MR 2-4.

Chat 1-155 Please refer to response to MTG 1-13.

Chat 1-156 Please refer to MR 7. This comment expresses opposition to the project but does not identify any specific concern regarding the analysis in the SEIS/SEIR.

Chat 1-157 Please refer to response to MTG 1-13.

Chat 1-158 Please refer to MR 15-1 and MR 15-8. Section 3.5.2 “American River Erosion Contracts 3B North, 3B South, and 4B” include maps showing the ordinary high water mark and the American River Erosion Contract 3B footprint.

Chat 1-159 Please refer to MR 1 and MR 7.

Chat 1-160 Please refer to MR 1.

Chat 1-161 Please refer to MR 2-3 and MR 3-7.

Chat 1-162 Please refer to MR 1.

Chat 1-163 Please refer to MR 2.

Chat 1-164 Please refer to MR 2.

Chat 1-165 Please refer to MR 1.

Chat 1-166 Please refer to MR 1 and MR 7.

Chat 1-167 This comment expresses opposition to the project but does not identify any specific concern regarding the analysis in the SEIS/SEIR

Chat 1-168 Please refer to the response to Chat-1-77.

- Chat 1-169 Please refer to section 4.3.6 “Greenhouse Gas Emissions, and Energy Consumption” of the SEIS/SEIR and section 3.6 “Greenhouse Gas Emissions, and Energy Consumption” of Appendix B “Detailed Analyses”. Please also refer to MR 15-6, which addresses carbon sequestration.
- Chat 1-170 Please refer to MR 6.
- Chat 1-171 Please refer to MR 1 and MR 7.
- Chat 1-172 Please refer to MR 2, MR 5 and MR 15.
- Chat 1-173 Please refer to MR 1 and MR 7.
- Chat 1-174 This comment does not identify any issue related to the analysis in the SEIS/SEIR.
- Chat 1-175 This comment does not identify any issue related to the analysis in the SEIS/SEIR.
- Chat 1-176 Please refer to MR 6.
- Chat 1-177 Please refer to MR 2.
- Chat 1-178 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 1-179 Please refer to MR 1 and “section 2.1.6 “LAR Contracts 1 and 2” of Appendix G, “Engineering”.
- Chat 1-180 Please refer to MR 2 and section 1.6 “Levee Erosion Failure Processes” of Appendix G “Engineering”.
- Chat 1-181 Please refer to MR 7.
- Chat 1-182 Please refer to MR 1 and MR 7.
- Chat 1-183 Please refer to MR 7 and MR 15.
- Chat 1-184 Please refer to MR 7 and MR 15.
- Chat 1-185 Please refer to MR 1.
- Chat 1-186 Please refer to MR 2-6 and MR 7.
- Chat 1-187 Please refer to MR 5.
- Chat 1-188 Please refer to MR 7.
- Chat 1-189 Project Partners assume the comment is asking if the public needs to review both the ARCF GRR Final EIS/FEIR as well as the Draft SEIS/SEIR. The language cited by the commenter is NEPA only language. This is a supplemental document, for NEPA means the document is only assessing the changes that have occurred since the 2016 document. For CEQA, the Draft document must reanalyze the

project as a whole. Commenter can review just the Draft SEIS/SEIR to understand the entire project and its impacts. However, if commenters would like to see what has changed, then they would need to review both documents.

- Chat 1-190 Please refer to MR 1 and MR 7.
- Chat 1-191 Please refer to MR 1.
- Chat 1-192 Please refer to MR 7.
- Chat 1-193 Please refer to MR 7.
- Chat 1-194 Please refer to MR 5 and MR 15.
- Chat 1-195 Please refer to MR 2.
- Chat 1-196 Please refer to MR 6.
- Chat 1-197 Please refer to MR 2.
- Chat 1-198 Please refer to MR 1.
- Chat 1-199 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 1-200 Please refer to MR 1 and MR 7.
- Chat 1-201 Please refer to section 4.2.2 “Recreation” of the SEIS/SEIR and section 2.2 “Recreation” of Appendix B “Detailed Analyses”.
- Chat 1-202 Coordinating and acquiring permits from FEMA is part of the Project Partners responsibility. Generally, the CLOMR F is acquired (if necessary) after the project is constructed and as-builts can be provided to FEMA.
- Chat 1-203 Please refer to MR 1, MR 2 and MR 15.
- Chat 1-204 Please refer to MR 6.
- Chat 1-205 Please refer to MR 2.
- Chat 1-206 Please refer to MR 6.
- Chat 1-207 Please refer to MR 2, MR 3-2, and MR 6.
- Chat 1-208 Please refer to MR 2 and section 1.6 “Levee Erosion Failure Processes” of Appendix G “Engineering”.
- Chat 1-209 Please refer to MR 6 and Mitigation Measure EJ-3 in section 2.5.3.4 “Effects Analysis” of Appendix B “Detailed Analyses”.
- Chat 1-210 Please refer to MR 3-5.
- Chat 1-211 Please refer to MR 1 and MR 7.

Chat 1-212 Please refer to Chat 1-132.

Chat 1-213 Please refer to MR 7.

Chat 1-214 Please refer to MR 6.

Chat 1-215 Please refer to MR 6.

Chat 1-216 Please refer to MR 7, MR 5 and MR 15.

Chat 1-217 Please refer to MR 2.

Chat 1-218 Please refer to MR 5, MR 7, and response to Indiv-843.

Chat 1-219 Please refer to MR 4 and response to Indiv-725-9.

Chat 1-220 Please refer to MR 1.

Chat 1-221 Please refer to MR 6.

Chat 1-222 Please refer to MR 2 and Appendix G, “Engineering.”

Chat 1-223 Please refer to MR 7.

Chat 1-224 Please refer to MR 2 and Appendix G, “Engineering.”

Chat 1-225 Please refer to MR 2.

Chat 1-226 Please refer to MR 7.

Chat 1-227 Please refer to MR 2, MR 6, and Appendix G, “Engineering.”

Chat 1-228 Please refer to MR 1 and MR 7.

Chat 1-229 Please refer to MR 1 and MR 7.

Chat 1-230 Please refer to MR 4.

Chat 1-231 Please refer to MR 2-3, MR 3-7, MR 4 and MR 8.

Chat 1-232 Please refer to MR 1 and MR 7.

Chat 1-233 Please refer to MR 7. Biological Opinions from NMFS and USFWS have been posted to USACE’s website: <https://www.sacleveeupgrades.com/> Under “Recent Documents”.

Chat 1-234 Please refer to MR 4, MR 6, MR 7 and MR 13.

Chat 1-235 Please refer to MR 2 and MR 6.

Chat 1-236 Please refer to MR 7.

Chat 1-237 Please refer to MR 1 and MR 2.

- Chat 1-238 Please refer to MR 2, MR 3-7, and MR 7.
- Chat 1-239 Please refer to MR 7.
- Chat 1-240 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 1-241 Please refer to MR 1 and MR 7.
- Chat 1-242 Please refer to MR 2, MR 3, MR 5 and MR 15.
- Chat 1-243 Please refer to MR 2.
- Chat 1-244 Please refer to MR 3 and MR 15.
- Chat 1-245 Please refer to MR 15-8.
- Chat 1-246 Please refer to MR 5, MR 7, and MR 8. Biological Opinions from NMFS and USFWS have been posted to USACE’s website:
<https://www.sacleveupgrades.com/> Under “Recent Documents”.
- Chat 1-247 Please refer to MR 7.
- Chat 1-248 Flood risk management in the American River Basin utilizes a system of features, such as levees and reservoirs, that operate in tandem to reduce the risk of flood hazards. However, no feature or operation can eliminate or mitigate all flood risks. The remaining potential flood risk is known as residual risk (ER 1105-2-101). As stated in Section 3.19 of the ARCF General Reevaluation Report, “USACE does not identify a target level of risk reduction but rather identifies the plan which reasonably maximizes net benefits.” The ARCF 2016 project objective of safely passing a 160,000 cubic feet per second (cfs) flow through the Lower American River (LAR) levee system maximizes net benefits gained by the proposed/constructed improvements along LAR and the other improvements included in the ARCF 2016 Project (Alternative 2 of the GRR). The LAR erosion protection improvements constructed via LAR Contracts 1, 2, 3A, 3B, 4A, and 4B represent the minimum amount of erosion protection improvements necessary to confidently say the LAR levees will safely pass the 160,000 cfs flood event.
 Chat 1-249 The cost sharing of the ARCF project is discussed in the Chief’s Report and the GRR documents. The question does not influence the analysis or decisions of the SEIS and no changes to the text will be made.
- Chat 1-250 Please refer to MR 2, MR 3-1, MR 5, and Appendix G, “Engineering.”
- Chat 1-251 and -252 Cumulative impacts of the project components and other regional projects, including the previous ARCF 2016 projects, are discussed in the SEIS/SEIR in Chapter 5, “Cumulative and Growth-inducing Effects.”
- Chat 1-253 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 1-254 Please refer to MR 13.
- Chat 1-255 Please refer to MR 1.

Chat 1-256	Please refer to MR 15.
Chat 1-257	Please refer to MR 2.
Chat 1-258	Please refer to MR 2.
Chat 1-259	Please refer to MR 7.
Chat 1-260	Please refer to MR 7.
Chat 1-261	Please refer to MR 7.
Chat 1-262	Please refer to MR 1.
Chat 1-263	Please refer to MR 2.
Chat 1-264	Please refer to MR 7.
Chat 1-265	Please refer to MR 2.
Chat 1-266	Please refer to MR 2, Appendix G, “Engineering,” and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
Chat 1-267	Please refer to MR 3-7.
Chat 1-268	Please refer to MR 3, MR 5 and MR 15.
Chat 1-269	Please refer to MR 8.
Chat 1-270	Please refer to MR 1.
Chat 1-271	Please refer to MR 7.
Chat 1-272	Please refer to MR 6.
Chat 1-273	Please refer to MR 7.
Chat 1-274	Please refer to MR 7 and MR 15.
Chat 1-275	Please refer to MR 7.
Chat 1-276	Please refer to MR 7.
Chat 1-277	Please refer to MR 7.
Chat 1-278	Please refer to MR 7.

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MTG-2-1	Please refer to MR 1 and MR 7.
MTG 2-2	Please refer to MR 7.
MTG 2-3	Please refer to MR 2.

MTG 2-4	Please refer to MR 1 and MR 2.
MTG 2-5	Please refer to MR 7.
MTG 2-6	Please refer to MR 2 and Appendix G, “Engineering”.
MTG 2-7	Please refer to MR 1.
MTG 2-8	Please refer to MR 7.
MTG 2-9	Please refer to MR 15.
MTG 2-10	The play area is outside the project area. Additionally, the project area would be fenced off from the public, so there would be no access to the project area from kids playing in the play area.
MTG 2-11	Please refer to MR 4.
MTG 2-12	Please refer to section 3.5.3 “Analysis of Environmental Effects” of Appendix B “Detailed Analyses”, specifically Mitigation Measures AIR-1 and AIR-2 in.
MTG 2-13	Please refer to MR 3, MR 7, and MR 15.
MTG 2-14	Please refer to MR 3, MR 7, and MR 15
MTG 2-15	Please refer to MR 6.
MTG 2-16	Please refer to MR 5 and MR 15.
MTG 2-17	Please refer to MR 5 and MR 15.
MTG 2-18	Please refer to MR 4. Barges are not feasible to complete the Contract 3B repairs due to the limited depth of the American River. Furthermore, the designs the Contract 3B improvements are not all accessible from the river edge due to the width of the floodplain bench between the summer water surface and the levee at some locations.
MTG 2-19	Please refer to MR 4.
MTG 2-20	USACE, DWR, and CVFPB have been in consultation with Tribes in accordance with Section 106 of the National Historic Preservation Act and California Natural Resources Agency policy.
MTG 2-21	Please refer to MR 1.
MTG 2-22	Please refer to MR 7.
MTG 2-23	Please refer to MR 1 and MR 7. Impacts related to haul truck traffic are addressed in Section 2.1, “Transportation” of Appendix B, “Detailed Analysis.”
MTG 2-24	Please refer to MR 7.

MTG 2-25	Please refer to MR 1 and MR 7.
MTG 2-26	Please refer to MR 2 and Appendix G, “Engineering”.
MTG 2-27	Please refer to MR 2-4, MR 4 and MR 15.
MTG 2-28	Please refer to MR 4.
MTG 2-29	Please refer to MR 6.
MTG 2-30	Please refer to MR 4.
MTG 2-31	Please refer to MR 2, MR 4, and sections 1.7.4 “Erosion Protection Alternatives” and section 2.5.2 “Contract 3B” of Appendix G, “Engineering.”
MTG 2-32	Please refer to MR 2, MR 3-3, MR 3-4, and MR 4.
MTG 2-33	Please refer to MR 7.
MTG 2-34	Please refer to MR 7 and the revisions to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
MTG 2-35	Please refer to MR 7, MR 2, Appendix G, “Engineering,” and the revisions to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
MTG 2-36	Please refer to MR 2, MR 3 and Appendix G, “Engineering”.
MTG 2-37	Please refer to section 4.3.1 “Aesthetics and Visual Resources” in the SEIS/SEIR, section 3.1 “Aesthetics and Visual Resources” in Appendix B, and MR 4.
MTG 2-38	The commenter requests a delay in implementing the project but does not offer any issue related to the analysis in the SEIS/SEIR.
MTG 2-39	Please refer to MR 7.
MTG 2-40	Please refer to MR 13.
MTG 2-41	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 2-42	Please refer to MR 7, MR 2, MR 15 and Appendix G, “Engineering.”
MTG 2-43	Please refer to MR 7.
MTG 2-44	Please refer to MR 6.
MTG 2-45	Please refer to MR 5 and MR 8.
MTG 2-46	Please refer to MR 7.
MTG 2-47	Please refer to MR 7.
MTG 2-48	Please refer to MR 2, MR 3, and Appendix G, “Engineering.”

MTG 2-49	Please refer to MR 2-9.
MTG 2-50	Please refer to MR 2-9.
MTG 2-51	Please refer to MR 6 and sections 1.7.4 “Erosion Protection Alternatives” and section 2.5.2 “Contract 3B” of Appendix G, “Engineering.”
MTG 2-52	Contract 3B includes erosion improvements on both the south bank of the river (Site 4-1) and the north bank of the river (Sites 3-1 and 4-2).
MTG 2-53	Responses to comments in the meeting transcript and chats are included in the Final SEIS/SEIR.
MTG 2-54	Please refer to MR 5, MR 8, MR 9, and MR 15.
MTG 2-55	Please refer to MR 2, MR 3, MR 5, MR 8-3 and MR 15.
MTG 2-56	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 2-57	Please refer to MR 7.
MTG 2-58	Please refer to MR 2, MR 3, and Appendix G, “Engineering.”
MTG 2-59	Please refer to MR 6.
MTG 2-60	Please refer to MR 7.
MTG 2-61	Please refer to MR 6 and section 2.1 “Transportation and Circulation” of the SEIS/SEIR.
MTG 2-62	Please refer to MR 2, MR 6 and Appendix G, “Engineering”.
MTG 2-63	Please refer to MR 2, MR 5, MR 6, and MR 15.
MTG 2-64	Please refer to MR 2 and MR 7.
MTG 2-65	Please refer to MR 1.
MTG 2-66	Please refer to MR 5 and MR 15.
MTG 2-67	Please refer to MR 3, MR 5, and MR 15.
MTG 2-68	Please refer to MR 2 and response to Chat 1-248.
MTG 2-69	Please refer to MR 3, MR 5, MR 6, MR 13, and MR 15.
MTG 2-70	Please refer to MR 2 and response to Chat 1-248.
MTG 2-71	Please refer to MR 6.
MTG 2-72	Please refer to MR 1, MR 2, and MR 3.
MTG 2-73	Please refer to MR 7.

MTG 2-74	Please refer to MR 7 and MR 15.
MTG 2-75	Please refer to section 4.2.2 “Recreation” in the SEIS/SEIR and MR 15.
MTG 2-76	Please refer to MR 5 and MR 6.
MTG 2-77	Please refer to MR 7.
MTG 2-78	Please refer to MR 2 and MR 8.
MTG 2-79	Please refer to MR 5, MR 6, MR 8 and MR 9.
MTG 2-80	The commenter expresses opposition to the project but does not identify issues related to the analysis in the SEIS/SEIR.
MTG 2-81	The commenter expresses opposition to the project but does not identify issues related to the analysis in the SEIS/SEIR.
MTG 2-82	Please refer to MR 4 and MR 13.
MTG 2-83	Please refer to MR 5 and MR 15.
MTG 2-84	Please refer to MR 4 and Appendix G, “Engineering.”
MTG 2-85	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 2-86	Please refer to section 4.4.3 “Special Status Species” of the SEIS/SEIR, MR 5 and MR 15.
MTG 2-87	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 2-88	Please refer to MR 2 and MR 15.
MTG 2-89	Please refer to MR 7.
MTG 2-90	The commenter requests a delay in implementing the project but does not offer any issue related to the analysis in the SEIS/SEIR.
MTG 2-91	Please refer to MR 5 and MR 15.
MTG 2-92	Please refer to MR 2 and Appendix G, “Engineering.”
MTG 2-93	Please refer to MR 1.
MTG 2-94	The commenter expresses opposition to the project but does not identify issues related to the analysis in the SEIS/SEIR.
MTG 2-95	Please refer to MR 2 and MR 7.
MTG 2-96	Please refer to MR 2, MR 5 and MR 15.
MTG 2-97	Please refer to MR 7.

MTG 2-98	Please refer to MR 1 and MR 6.
MTG 2-99	The commenter expresses opposition to the project but does not identify issues related to the analysis in the SEIS/SEIR.
MTG 2-100	Please refer to MR 5, MR 8, and MR 15.
MTG 2-101	Please refer to MR 7 and MR 8.
MTG 2-102	Please refer to MR 13.
MTG 2-103	The commenter expresses opposition to the project. Please refer to MR 2 and Appendix G, “Engineering.”
MTG 2-104	The commenter expresses opposition to the project. Please refer to MR 7
MTG 2-105	Please refer to MR 2.
MTG 2-106	Please refer to MR 7 and MR 15-8.
MTG 2-107	Please refer to MR 2 and MR 3.
MTG 2-108	Please refer to MR 1.
MTG 2-109	Please refer to MR 7.

January 16 Public Meeting Chat Comments

Chat-2-1	Please refer to MR 7.
Chat 2-2	Please refer to MR 2 and Appendix G, “Engineering.”
Chat 2-3	Please refer to MR 7.
Chat 2-4	Please refer to MR 3.
Chat 2-5	Please refer to MR 6.
Chat 2-6	Please refer to MR 7.
Chat 2-7	Please refer to MR 3-5.
Chat 2-8	Use of Oak Meadow Park as a staging area has been removed from the Final SEIS/SEIR.
Chat 2-9	The SEIS/SEIR includes impact analysis for several project components, including erosion repairs on both the Sacramento and American Rivers, and the purpose and need statement reflects the need for the ARCF 2016 project as a whole.
Chat 2-10	Please refer to MR 15.
Chat 2-11	Please refer to MR 4.

Chat 2-12	Please refer to section 3.5.2 “American River Erosion Contracts 3B North, 3 South, and 4B” in the SEIS/SEIR and section 2.2 “Recreation” in Appendix B “Detailed Analyses”.
Chat 2-13	Please refer to MR 7 and section 3.5.2.1.3 “Construction Schedule, Materials, and Equipment” in the SEIS/SEIR.
Chat 2-14	Please refer to MR 5.
Chat 2-15	Please refer to the response to Chat-1-103.
Chat 2-16	Please refer to MR 7.
Chat 2-17	Please refer to MR 2.
Chat 2-18	Please refer to MR 5, MR 15, and response to Indiv-843.
Chat 2-19	Please refer to MR 6.
Chat 2-20	Please refer to MR 15-6.
Chat 2-21	Please refer to MR 2.
Chat 2-22	Please refer to section 2.3.3.1 “Model Selection” of Appendix G “Engineering”.
Chat 2-23	Please refer to section “Onsite Mitigation” in MR 5 and MR 14.
Chat 2-24	Please refer to MR 2 and MR 3.
Chat 2-25	Please refer to MR 7.
Chat 2-26	Please refer to MR 5 and MR 15.
Chat 2-27	Please refer to response to CBD-7.
Chat 2-28	Please refer to MR 2, Appendix G “Engineering” and response to DOI 1-55.
Chat 2-29	Please refer to MR 2-4.
Chat 2-30	Please refer to response to CBD-7.
Chat 2-31	Please refer to MR 4.
Chat 2-32	Please refer to MR 7 and Appendix G, “Engineering.”
Chat 2-33	Please refer to MR 7.
Chat 2-34	Please refer to MR 7.
Chat 2-35	Please refer to MR 7.
Chat 2-36	Please refer to MR 2, MR 5, and MR 9.

- Chat 2-37 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 2-38 Please refer to MR 2-4.
- Chat 2-39 Please refer to Chat 1-103.
- Chat 2-40 This comment does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-41 Please refer to section 2.3 “Background Data and Ancillary Studies” of Appendix G, “Engineering.”.
- Chat 2-42 Please refer to section 2.3 “Background Data and Ancillary Studies” of Appendix G, “Engineering.”.
- Chat 2-43 On April 8, 2024, Congressman Bera hosted a public meeting regarding ARCF. He notes the positions of the project sponsors and local groups during the introductory remarks. Overall, the message was clear - The flood risk to Sacramento is unacceptably high and USACE with Project Partners is completing this project to reduce the overall flood risk to the surrounding community. For additional information on the Flood Risk Management System, site selection and site evaluations and design standards and criteria please review the Engineering Appendix.
- Chat 2-44 Please refer to MR 7.
- Chat 2-45 Please refer to MR 7.
- Chat 2-46 Please refer to MR 1.
- Chat 2-47 Please refer to MR 7.
- Chat 2-48 Please refer to MR 2.
- Chat 2-49 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 2-50 Please refer to MR 7.
- Chat 2-51 No construction will begin before CEQA documentation has been certified.
- Chat 2-52 Please refer to MR 1 and MR 7.
- Chat 2-53 Please refer to MR 1.
- Chat 2-54 Please refer to MR 5 and MR 15.
- Chat 2-55 As the Folsom Dam owner and operator, the U.S. Bureau of Reclamation (USBR) is responsible for daily operations at the dam during normal, non-flood conditions; however, per the Flood Control Act of 1944, the U.S. Army Corps of Engineers (USACE) is responsible for operations of Folsom Dam when the reservoir pool encroaches into the flood control space of the reservoir (the top 400,000 acre-feet of storage space). Operations requirements of Folsom Dam for

flood control purposes were originally developed by USACE for the USACE constructed dam in the 1950's. Since the dam's completion, modifications to flood control operation requirements of Folsom Dam have been made via water control manual updates which account for improvements made to the dam under recent USACE projects (e.g., Folsom Dam Outlet Modifications, Folsom Dam Raise, etc.). As the dam owner and operator, USBR has been a partner to and involved in each of those Folsom Dam improvement projects and subsequent water control manual updates, including the update which increased the emergency objective release at Folsom Dam from 115,000 cubic feet per second (cfs) to 160,000 cfs. USBR is invited to attend and actively participate in two public facing meetings: the Lower American River Bank Protection Working Group and the Technical Resource Advisory Committee

- Chat 2-56 Please refer to MR 2.
- Chat 2-57 Please refer to MR 1 and MR 7.
- Chat 2-58 Please refer to MR 2 and MR 7.
- Chat 2-59 Please refer to MR 7.
- Chat 2-60 Please refer to MR 7.
- Chat 2-61 Please refer to MR 2.
- Chat 2-62 Please refer to MR 2.
- Chat 2-63 Please refer to MR 2, MR 3 and MR 5.
- Chat 2-64 Please refer to MR 1 and MR 7.
- Chat 2-65 Please refer to MR 1 and MR 7.
- Chat 2-66 Please refer to MR 4 and edits to Chapter 3, "Description of Project Alternatives" in the Final SEIS/SEIR.
- Chat 2-67 Please refer to MR 5 and MR 15.
- Chat 2-68 Please refer to MR 1.
- Chat 2-69 Please refer to MR 2 and response to DOI 1-55.
- Chat 2-70 Please refer to MR 2-2.
- Chat 2-71 This comment does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-72 Please refer to MR 2.
- Chat 2-73 Please refer to MR 7.
- Chat 2-74 Please refer to MR 1.

Chat 2-75	Please refer to MR 2.
Chat 2-76	Project Partners did consider transplanting trees. However, it would be logistically difficult as tree clearing occurs at a different time from construction of the erosion protection features and would require longer construction timelines increasing impacts to recreation and the nearby neighborhoods. Tree clearing occurs during the flood season, so transplanting the trees would also leave large pits that in some situations put the levee at risk until construction would begin in the summer for the erosion protection features. Excavation of pits could also lead to erosion causing sediment discharges during flows. Additionally, trees would need to be level to be transplanted and due to the riverbank slopes few trees would qualify for transplanting. Project Partners would also expect high mortality rates for large trees transplanted. For all of these reasons, Project Partners chose not to transplant.
Chat 2-77	Please refer to MR 2 and section 2.3 “Background Data and Ancillary Studies” of Appendix G, “Engineering.”
Chat 2-78	Please refer to MR 2-4.
Chat 2-79	Please refer to MR 7.
Chat 2-80	Please refer to MR 7.
Chat 2-81	Please refer to MR 7.
Chat 2-82	Please refer to MR 1 and MR 7.
Chat 2-83	Please refer to MR 2 and section 2.3 “Background Data and Ancillary Studies” of Appendix G, “Engineering.”
Chat 2-84	Please refer to MR 2.
Chat 2-85	Please refer to MR 2 and Appendix G, “Engineering.”
Chat 2-86	Please refer to MR 7.
Chat 2-87	Please refer to MR 7.
Chat 2-88	Please refer to MR 7.
Chat 2-89	Please refer to MR 1.
Chat 2-90	Please refer to MR 7.
Chat 2-91	Please refer to MR 1.
Chat 2-92	Please refer to MR 1 and MR 7.
Chat 2-93	Please refer to MR 2.
Chat 2-94	Please refer to MR 7.

Chat 2-95 Please refer to MR 7.

Chat 2-96 Please refer to MR 7.

Chat 2-97 Please refer to MR 7.

Chat 2-98 Please refer to MR 3-2 and section 2.5.2 “Contract 3B” of Appendix G “Engineering.”

Chat 2-99 Please refer to MR 2-2 and 3-2.

Chat 2-100 Please refer to MR 6 and MR 7.

Chat 2-101 Please refer to Appendix G, “Engineering,” and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.

Chat 2-102 Please refer to MR 7.

Chat 2-103 Please refer to MR 7 and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.

Chat 2-104 This comment does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-105 Please refer to MR 7.

Chat 2-106 Please refer to MR 6.

Chat 2-107 Please refer to MR 3 and MR 15.

Chat 2-108 Please refer to MR 5 and MR 7.

Chat 2-109 Please refer to MR 7.

Chat 2-110 Please refer to MR 2, Appendix G, “Engineering,” and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.

Chat 2-111 Please refer to MR 8.

Chat 2-112 Please refer to MR 7.

Chat 2-113 Please refer to MR 7.

Chat 2-114 Please refer to MR 4, section 4.2.2 “Recreation” of the SEIS/SEIR and section 2.2 “Recreation” of Appendix B “Detailed Analyses”.

Chat 2-115 Please refer to MR 5 and MR 15.

Chat 2-116 Please refer to response to Chat 2-114.

Chat 2-117 Please refer to MR 7.

Chat 2-118 Please refer to MR 7.

- Chat 2-119 There have been past slurry wall work on the Sacramento River as part of the ARCF 2016 project, but this work is not discussed in this SEIS/SEIR. The Piezometer network discussed in this SEIS/SEIR would help monitor seepage forces.
- Chat 2-120 Please refer to MR 7.
- Chat 2-121 Please refer to MR 7.
- Chat 2-122 Please refer edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR, which includes species anticipated to replanted onsite.
- Chat 2-123 Please refer to MR 3-7.
- Chat 2-124 Please refer to MR 7.
- Chat 2-125 Please refer to MR 3-7.
- Chat 2-126 Please refer to MR 7.
- Chat 2-127 Please refer to MR 5 and MR 15.
- Chat 2-128 This comment does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-129 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-130 Please refer to MR 7.
- Chat 2-131 Please refer to MR 7.
- Chat 2-132 Please refer to MR 5, MR 7, and MR 15.
- Chat 2-133 Please refer to MR 5 and MR 15.
- Chat 2-134 Please refer to MR 5 and MR 15.
- Chat 2-135 Please refer to MR 7.
- Chat 2-136 Please refer to MR 2, MR 5 and MR 15.
- Chat 2-137 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-138 Please refer to MR 2-6 and the edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
- Chat 2-139 Please refer to MR 1.
- Chat 2-140 This comment does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-141 Please refer to MR 2.

Chat 2-142 This comment does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-143 Please refer to MR 2 and Appendix G, “Engineering.”

Chat 2-144 Please refer to MR 6.

Chat 2-145 Please refer to MR 7.

Chat 2-146 Please refer to MR 7.

Chat 2-147 Please refer to MR 5, MR 8, and MR 15.

Chat 2-148 Trees that would qualify for Vegetation Design Deviation are in Contract 4B. Please refer to MR 10 and response to CBD 3-8 for more details.

Chat 2-149 Please refer to MR 4, MR 5, MR6, MR 8, and MR 15.

Chat 2-150 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-151 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-152 This comment does not raise any issue related to the analysis in the SEIS/SEIR. Please refer to MR 8.

Chat 2-153 Please refer to MR 6.

Chat 2-154 Please refer to MR 7.

Chat 2-155 Please refer to MR 15-8.

Chat 2-156 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-157 Please refer to MR 4 and MR 14.

Chat 2-158 Please refer to MR 5 and MR 15.

Chat 2-159 Please refer to MR 5 and MR 15.

Chat 2-160 Please refer to MR 3, MR 5 and MR 15.

Chat 2-161 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-162 Please refer to MR 7.

Chat 2-163 Please refer to MR 8.

Chat 2-164 Please refer to MR 7.

Chat 2-165 Please refer to MR 7.

- Chat 2-166 Please refer to MR 4.
- Chat 2-167 Please refer to MR 2 and MR 3.
- Chat 2-168 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 2-169 Please refer to MR 7.
- Chat 2-170 Please refer to MR 7.
- Chat 2-171 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 2-172 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-173 Please refer to MR 8.
- Chat 2-174 Please refer to MR 13.
- Chat 2-175 Please refer to MR 5, MR 15 and edits to Chapter 3, “Description of Project Alternatives” in the Final SEIS/SEIR.
- Chat 2-176 Please refer to MR 1 and MR 7.
- Chat 2-177 The response to the question is a site-specific discussion. In some locations the rip rap is more natural than the existing bank line (Sac River Erosion Contract 2). In other areas the rip rap will provide a more gradual slope rather than a steep drop-off. Most areas above the summer low water elevation will have soil placed over the rip rap, and most areas of rip rap have soil and smaller materials mixed in. Natural recruitment of vegetation can occur on the soil. The proposed design was developed in collaboration with NMFS. Encroachment into the river with the creation of riparian planting benches was one outcome of that collaboration. Implementation of the regreening strategy would replace existing riparian habitat at a minimum of a 1:1 ratio (1 acre impacted: 1 acre regreened) and is consistent with the terms and conditions of the 2021 NMFS BO.
- Chat 2-178 Please refer to MR 5 and MR 15.
- Chat 2-179 Please refer to MR 2 and Appendix G, “Engineering.”
- Chat 2-180 Please refer to MR 2-2, MR 3-1 and MR 3-2.
- Chat 2-181 Please refer to MR 2-2, MR 3-2, MR 8, and sections 1.7.4 “Erosion Protection Alternatives” and 2.5.2 “Contract 3B” of Appendix G, “Engineering.”
- Chat 2-182 Please refer to MR 5 and MR 15.
- Chat 2-183 Please refer to MR 2, MR 3, MR 5, MR 7, and MR 15.
- Chat 2-184 Please refer to MR 6.
- Chat 2-185 Please refer to MR 6.

Chat 2-186 Please refer to MR 7.

Chat 2-187 Please refer to MR 2, MR 3, MR 4 and MR 15.

Chat 2-188 Please refer to MR 7 and MR 15.

Chat 2-189 Please refer to MR 3-7.

Chat 2-190 Please refer to MR 2-3 and MR 3-7.

Chat 2-191 Please refer to MR 2.

Chat 2-192 Please refer to MR 5, MR 8, and MR 15.

Chat 2-193 Please refer to MR 2.

Chat 2-194 Please refer to MR 2, MR 7 and Appendix G, "Engineering."

Chat 2-195 Please refer to MR 7.

Chat 2-196 The project is fully funded and authorized, however there is always a risk of losing funding. Generally, this is uncommon and results from events more significant than missing a milestone or two.

Chat 2-197 Please refer to MR 5, MR 8, and MR 15.

Chat 2-198 Please refer to the response to Chat-2-196.

Chat 2-199 Please refer to MR 7.

Chat 2-200 Please refer to MR 2.

Chat 2-201 The Contract 3B project has not been publicly presented to the Board of Supervisors.

Chat 2-202 Please refer to MR 1, MR 2, and Appendix G, "Engineering."

Chat 2-203 Please refer to MR 7.

Chat 2-204 Please refer to MR 2.

Chat 2-205 Please refer to MR 2-2, MR 3-2, MR 8, and sections 1.7.4 "Erosion Protection Alternatives" and 2.5.2 "Contract 3B" of Appendix G, "Engineering.".

Chat 2-206 Please refer to MR 3 and MR 15.

Chat 2-207 Please refer to MR 2 and Appendix G, "Engineering."

Chat 2-208 Please refer to MR 7.

Chat 2-209 Please refer to MR 3 and MR 15.

Chat 2-210 Please refer to MR 13.

Chat 2-211 Please refer to MR 2 and Appendix G, “Engineering.”

Chat 2-212 Please refer to section 2.1.6 “LAR Contracts 1 and 2” of Appendix G, “Engineering.”

Chat 2-213 Please refer to section 2.1.6 “LAR Contracts 1 and 2” of Appendix G, “Engineering.”

Chat 2-214 Please refer to section 2.1.6 “LAR Contracts 1 and 2” of Appendix G, “Engineering.”

Chat 2-215 Please refer to MR 5.

Chat 2-216 Please refer to MR 4.

Chat 2-217 Please refer to MR 7.

Chat 2-218 Please refer to MR 7.

Chat 2-219 Please refer to MR 7.

Chat 2-220 Please refer to MR 3-7.

Chat 2-221 Please refer to MR 7.

Chat 2-222 Please refer to MR 6.

Chat 2-223 Please refer to MR 2.

Chat 2-224 Please refer to MR 4.

Chat 2-225 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-226 CVFPB and DWR representatives were present at both public meetings.

Chat 2-227 Please refer to MR 7.

Chat 2-228 Please refer to MR 7.

Chat 2-229 Please refer to MR 7.

Chat 2-230 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.

Chat 2-231 Although this comment does not specify a particular location, many areas of Sacramento are designated X (Protected by Levee) by FEMA, do not require flood insurance expressly because these areas which would otherwise be in floodplains are protected by levees that provide an adequate level of protection.

Chat 2-232 This comment does not raise any issue related to the analysis in the SEIS/SEIR

Chat 2-233 Please refer to MR 4 and MR 13.

- Chat 2-234 This comment expresses opposition to the project but does not raise any issue related to the analysis in the SEIS/SEIR.
- Chat 2-235 Please refer to MR 6 and MR 13.
- Chat 2-236 Please refer to MR 7.
- Chat 2-237 Please refer to MR 7.
- Chat 2-238 Please refer to MR 7.
- Chat 2-239 Please refer to MR 7.

1.7 Responses to Form Letters

Form Letter 1

- Form 1-1 Please refer to MR 2, which addresses the design process and scope of improvements for American River Erosion Contract 3B. Appendix G, “Engineering,” also addresses the need for the project.
- Form 1-2 Commentor states that ARCF 2016 Project will impact 11 miles of the Lower American River. Though initially approved to impact 11 miles of the Lower American River, the ARCF 2016 Project would now install erosion control along 6 miles of the Lower American River. Please refer to MR 2, which addresses the performance of prior projects and why the project is necessary. Also refer to MR 3 and MR 15, which addresses tree removal, plantings and wildlife corridors. MR 4 addresses recreational effects.
- Form 1-3 Please refer to MR 2, which addresses the design process and scope of improvements for American River Erosion Contract 3B. Appendix G, “Engineering,” also addresses the need for the project.
- Form 1-4 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act and American River Parkway Plan.

Form Letter 2

Please refer to MR 1, which addresses the comment period and public participation opportunities.

Form Letter 3

- Form 3-1 The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR. Some versions of this form letter include customized information about individual experiences with the Lower American River. Where these personalized comments raise a specific issue related to the analysis in the SEIS/SEIR, an additional response will supplement this response for that specific letter number.

- Form 3-2 Please refer to MR 2, which addresses the project bank protection approach, scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. The commenter states that analysis in the SEIS/SEIR are not adequate but does not identify any specific example of inadequate impact analysis.
- Form 3-3 The commenter states that analysis and mitigation measures in the SEIS/SEIR are not adequate but does not identify any specific example of inadequate impact analysis or mitigation measures. The comment states that a more surgical approach to the proposed improvements would have lesser impacts but offers no evidence to support this claim. Please refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.
- Form 3-4 The commenter characterizes the proposed improvements and the construction methods as being a cause of significant adverse impacts. The commenter also states that access ramps would result in greater impacts than those described in the SEIS/SEIR, and that the public could not understand the specifics of tree removal. Please refer to MR 3, MR 5 and MR 15 for further explanation of tree removal, plantings, and mitigation measures. Please refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.
- Form 3-5 Please refer to MR 6, which addresses air quality, public health and safety.
- Form 3-6 Please refer to MR 6, which addresses air quality, public health and safety.
- Form 3-7 Please refer to MR 6, which addresses air quality, public health and safety.
- Form 3-8 Please refer to MR 2, which addresses Bank Protection concerns and the scope and approach of Contract 3B. Also, please refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.
- Form 3-9 Project Partners agree that a seepage risk does not need to be addressed along the Lower American River with the ARCF 2016 Project. The proposed work for the ARCF 2016 Project along the Lower American River addresses erosion risks not seepage risks (refer to section 1.6 “Levee Erosion Failure Processes” of Appendix G “Engineering” for more details). Please refer to MR 2 and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.
- Form 3-10 Please refer to MR 2, which addresses the scope and approach of Contract 3B. MR 3 and MR 15 addresses tree removal and plantings. Please refer to MR 3-7 for information on erosion near Sacramento State University.

- Form 3-11 Please refer to MR 3-5, which addresses what would occur if erosion features were to launch.
- Form 3-12 Please refer to MR 2 and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer also to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.
- Form 3-13 The commenter incorrectly states that the project would result in miles of riprap along the riverbank in the project area. Please refer to Section 2.5.2, “Contract 3B,” in Appendix G, “Engineering,” for detailed descriptions of the proposed improvements at the various sites proposed for improvements as part of Contract 3B. Please refer also to MR 4, which addresses recreation.
- Form 3-14 Please refer to MR 15-8, which addresses wildlife corridors.
- Form 3-15 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act. MR 3 and MR 15 addresses tree removal and plantings.
- Form 3-16 Please refer to MR 3 and MR 15, which addresses tree removal, wildlife, and habitat.
- Form 3-17 Please refer to MR 4, which addresses recreation, and MR 13 and MR 14, which address physical and mental health, and the social impacts to at-risk communities.
- Form 3-18 The commenter states that impact conclusions in the SEIS/SEIR are incorrect and that all feasible mitigation measures have not been applied to the project but offers no details or evidence to support these assertions. Please refer to MR 3 and MR 15, which addresses tree removal, replanting, and bioengineering approaches. Please refer to Sections 1.7.4 “Erosion Protection Design Alternatives” and 2.5 “Design Development” in Appendix G, “Engineering,” which addresses the design development and alternatives considered.
- Form 3-19 Please refer to Sections 1.7.4 “Erosion Protection Design Alternatives” and 2.5, “Design Development,” in Appendix G, “Engineering,” which addresses the design development and alternatives considered.

Form Letter 4

- Form-4-1 This commenter does not raise a specific issue related to the analysis in this SEIS/SEIR. Some versions of this form letter include customized information about individual experiences with the Lower American River. Where these personalized comments raise a specific issue related to the analysis in the SEIS/SEIR, an additional response will supplement this response for that specific letter number.
- Form-4-2 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

- Form-4-3 The commenter states that analysis and mitigation measures in the SEIS/SEIR are not adequate but does not identify any specific example of inadequate impact analysis or mitigation measures. The comment states that a more surgical approach to the proposed improvements would have lesser impacts but offers no evidence to support this claim. Please refer to Appendix G, "Engineering," for a more in-depth explanation of the design process, data used, and alternatives considered.
- Form-4-4 This commenter does not raise a specific issue related to the analysis in this SEIS/SEIR. Some versions of this form letter include customized information about key issues that are important to the commenter. Where these personalized comments raise a specific issue related to the analysis in the SEIS/SEIR, an additional response will supplement this response for that specific letter number.
- Form-4-5 The commenter states that the analysis of impacts is inadequate in this SEIS/SEIR and calls for the project to not move forward until a more targeted alternative approach to Erosion Control Projects 3B and 4 is presented, but does not raise a specific issue related to the analysis to support this assertion. Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, "Lower American River Erosion Protection," in Appendix G, "Engineering," for an explanation of the design approach for Contracts 3B and 4B.

Form Letter 5

- Form 5-1 The commenter calls for a different approach to erosion control but does not raise any specific issue related to the analysis. Please refer to MR 2, which addresses the scope and approach of Contract 3B and Chapter 2, "Lower American River Erosion Protection," in Appendix G, "Engineering," for an explanation of the design approach for Contracts 3B and 4B.
- Form 5-2 The public comment period was extended 18 additional days, to a total of 63 days ending on February 23, 2024. Additionally, multiple public meetings have been held to provide project information and to record the public's concerns regarding the project design and implementation, primarily focusing on Contract 3B. These meetings included virtual meetings focused on the SEIS/SEIR on January 10, 2024 and January 16, 2024, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. USACE and non-Federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, "Sacramento Levee Upgrades – American River Levees" at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 1 and MR 7, which addresses public outreach.
- Form 5-3 The commenter states that the bank erosion protection work along the American River Parkway is based on minimal, overgeneralized data and does not account for the natural, protective effects of trees. Please refer to MR 3 and MR 15, which

addresses tree removal, plantings, and the use of bioengineering approaches. Please refer to Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B. Additionally, the commenter states the proposal is inconsistent with the American River Parkway Plan and the Wild and Scenic Rivers Act but does not provide specific details on nature of the inconsistencies. Although the commenter does not identify specific inconsistencies, please refer to Section 2.4, “Land Use and Prime and Unique Farmlands,” in Appendix B, “Detailed Analyses.” Please also refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act. Finally, MR 4 addresses some issues of consistency with the American River Parkway Plan with respect to recreation.

Form 5-4 Please refer to MR 2, which addresses the scope and approach of Contract 3B and MR 3, which addresses tree removal and plantings.

Form 5-5 Commentor states that USACE erosion control projects will impact 11 miles of the Lower American River. Though initially approved to improve 11 miles of the Lower American River, the ARCF 2016 Project is will now projected to install erosion control along 6 miles of the Lower American River. Please refer to MR 3 and MR 15, which addresses tree removal, plantings, bioengineering approaches, habitat and wildlife. Please refer also to MR 4, which addresses impacts to recreation. Please refer to MR 2, which addresses the scope and approach of Contract 3B.

Form 5-6 The commenter states that the proposed project will destroy a vital stretch of the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to Section 2.5.2, “Contract 3B,” in Appendix G, “Engineering,” for detailed descriptions of the proposed improvements at the various sites proposed for improvements as part of Contract 3B. Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Form 5-7 Please refer to MR 1 and MR 7 for information on public outreach.

List of Key Concerns (from Form Letters)

This section summaries some of the consistent topics that were discussed in the Form Letters.

1. Limited Evidence for Unnecessary Removal of Trees and Vegetation:

Please refer to MR 2 and MR 3, which address the design process for the Contract 3B improvements and addresses tree removal and plantings. Please refer also to Appendix G, “Engineering,” which provides additional discussion of the erosion risks related to existing vegetation and documents the efforts to preserve large trees. MR 15 also expands on analysis of riparian impacts in the Draft SEIS/SEIR.

The project site would be revegetated following construction of the improvements, with very limited areas of exposed riprap at the location of

launchable toe improvements. Refer to MR 4-2 for more details. Also refer to MR 15-7 for information on urban heat island impacts from Contract 3B.

Please refer to MR 2, MR 3, MR 5, section 3.5.2 “American River Erosion Contracts 3B North, 3B South and 4B” of the SEIS/SEIR, and Appendix G, “Engineering,” which provide comprehensive maps illustrating project footprints and areas of vegetation removal, including tree removal.

2. *Rip Rapped streambanks present significant negative consequences:*

As discussed in detail in MR 2, MR 3, MR 4-2, and Appendix G, “Engineering, the project would result in approximately 2,250 linear feet of exposed riprap at the locations of launchable toe improvements (identified in light blue on Figures 3.5.2-5 and 3.5.2-9 in the Final SEIS/SEIR), bank protection near outfalls (identified in red on Figures 3.5.2-5 and 3.5.2-9 in the Final SEIS/SEIR), and tiebacks (identified in grey on Figures 3.5.2-5 and 3.5.2-9 in the Final SEIS/SEIR, also found on planting benches identified in light blue).

The American River Parkway Plan (Sacramento County 2008), which incorporates the requirements associated with the Wild and Scenic Rivers Act compliance, specifically identifies the need for erosion improvements in the Parkway (Please see Policy 4.16 and the discussion of erosion protection needs, including revetment, on pages 87-89 of the American River Parkway Plan).

Please refer to MR 4, which addresses changes to shoreline and impacts to recreation on the Lower American River, and MR 8, which addresses consistency with the Wild and Scenic Rivers Act. Also refer to MR 3 and MR 15, which addresses success of vegetation at previous erosion protection sites, tree removal and plantings, including planting benches.

3. *Erosion is minimal in USACE’s Contract 3B:*

Project Partners agree that a seepage risk does not need to be addressed along the Lower American River with the ARCF 2016 Project. The proposed work for the ARCF 2016 Project along the Lower American River addresses erosion risks, not seepage risks (refer to Section 1.6 “Levee Erosion Failure Processes” of Appendix G “Engineering” for more details). Please refer to Section 2.3, “Background Data and Ancillary Studies” of Appendix G “Engineering” which provides data to support the proposed design, Section 2.3.3, “Hydraulic Model Analysis” of Appendix G “Engineering” which explains the hydraulic modeling process, and also addresses the other changes in the system, which were accounted for in the design – specifically, the improvements at the Sacramento Weir and prior American River Erosion contracts enabled a reduction in the improvements required as part of Contract 3B. Please also refer to Section 2.1 “Background” of Appendix G “Engineering” which provides a discussion on how Folsom dam is related to the project.

4. *Impact on Wildlife and Critical Habitats:*

Section 4.4 “Ecological and Biological Resources” of the SEIS/SEIR, and Sections 4.4.1 “Vegetation and Wildlife”, 4.4.2 “Aquatic Resources and Fisheries” and 4.4.3 “Special Status Species” address impacts to habitat, wildlife, migratory birds, salmonids, North American Green Sturgeon, and western pond turtle. Please refer to MR 5, which addresses mitigation. MR 15 addresses riparian habitat and impacts in detail for American River Erosion Contract 3B.

5. *Recreational Access:*

Please refer to MR 4, which addresses impacts to recreation on the Lower American River.

6. *Mental Health and Vegetation:*

Please refer to MR 13, which addresses mental health and public health issues. Please also refer to MR 15-1 and 15-2 which discusses trees left in place and planned replanting. Many trees would still be left in place and would be replanted at the project site and would be able to function to absorb noise and filter air.

7. *Cultural Restoration and Inclusion:*

Project Partners coordinated with Tribes on every aspect of the project, including onsite planting palettes. While the Tribes did not direct contribute to the final plant list for American River Erosion Contract 3B, they recommended use of the list they had provided to the Sacramento County Parks as a guide for adding culturally appropriate species to the planting palettes. Project Partners have met directly with Tribes to help with the establish list of plants that will be used in creating a planting palette at ARMs.

8. *Air Quality:*

Please refer to MR 6, which addresses air quality impacts.

9. *Environmental Justice (EJ):*

Please refer to MR 14, which addresses social impacts to at-risk communities.

1.8 Responses to Comments from Individuals and Organizations

American River Parkway Foundation (ARPF)

ARPF-1 Please refer to Section 6.1.11, “Executive Order 13112: Invasive Species Regulation,” of the SEIS/SEIR and Appendix B, Section 4.1.2, “Applicable Laws, Regulations, Policies, and Plans,” which details USACE Invasive Species Policy (2023). These sections include a discussion of regulatory obligations that the proposed project would adhere to in regard to the potential introduction of invasive species to the area. Please also refer to Appendix B, Section 4.1,

“Vegetation and Wildlife,” which refers to existing non-native invasive species in the project site as well as actions to limit invasive species.

- ARPF-2 Please refer to MR 3-1, which addresses tree removal and replanting at American River Erosion Contract 3B and MR 15-1, which addresses impacts to the riparian forest and provides results from tree surveys completed at American River Erosion Contract 3B. Please also see Appendix G Section 2.5, “Design Development,” which discusses tree removal as a project partner concern and resulting design collaboration. MR 9-11 under “Trees” includes a discussion of all mapped trees (as well as a tree mapping approach) in the context of existing versus proposed habitat value of trees at ARMS. General impacts to wildlife and biodiversity in the area are analyzed in Appendix B, Section 4.1, “Vegetation and Wildlife,” and again in more detail in MR 9-11 (vegetative communities, trees, aquatic resources, special-status species, common wildlife, as well as wildlife movement) for ARMS.
- ARPF-3 Staging areas are identified through Section 3.5, “Alternative 2: Proposed Action,” in the SEIS/SEIR. Within this same section, the SEIS/SEIR states that all land used for staging areas would return to original ownership and conditions, as well as be reseeded with native grasses. Please refer to MR 4, which addresses concerns regarding recreational impacts in and around the American River Parkway, including the multi-use equestrian trail. Further, MR 8-6 includes additional detail about access to the parkway, recreational trails, and the river during construction activities.
- ARPF-4 Refer to response to comment ARPF-3, above, for additional information about impacts to recreation, including bike trails in the project area. Please also refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process and alternatives considered. Since releasing the Draft SEIS/SEIR, Project Partners have run into design constraints at American River Erosion Contract 4A, which have made Alternative 3a not feasible to construct. Consistency with County goals, including, “...providing habitat connectivity and travel corridors to support migratory and resident wildlife; providing recreational opportunities; and ensuring public safety,” is addressed in MR 4. MR 15-8 includes additional information about habitat connectivity, and wildlife corridors.
- ARPF-5 Section 4.5, “Cultural Resources,” of the SEIS/SEIR and Appendix B, Section 5.1, “Cultural and Tribal Cultural Resources,” details consultation with Indigenous communities for the project. Additionally, MR 14 includes additional discussion of consultation with/consideration of social impacts to at-risk communities including those with low-income and minority populations that are historically encumbered by socioeconomic and environmental burdens. Similarly, involvement with stakeholders is detailed throughout the SEIS/SEIR, as well as MR 1, MR 3-1, MR 7, MR 8-7, MR 10-2, MR 13, MR 14, and MR 15. The commenter does not identify a specific concern related to consultation and outreach with tribes or stakeholders.

ARPF-6 Please refer to response to comment DOI-1 for a detailed explanation of the process that USACE took to explore alternative options for design and related impacts to the environment. Additionally, section 2.5.2 “Contract 3B” of Appendix G, “Engineering” illustrates which different designs were considered for the American River Erosion Contract 3B during design phase. Refer to MR 5 for details on mitigation.

California Native Plant Society (CNPS) 1

CNPS-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

California Native Plant Society (CNPS) 2

CNPS-2-1 The comment summarizes information from the 2016 ARCF GRR EIS/EIR.

CNPS-2-2 Please refer to MR 5-3, which documents reductions in expected riparian habitat impacts as designs have been refined. Although the 2021 estimates for yellow-billed cuckoo habitat (riparian habitat) had increased from 65 to 72 acres, since 2021 the expected total impact on the lower American River has been reduced to less than 50 acres, due to substantial impact reductions at Contract 3B as designs were refined.

CNPS-2-3 Please refer to the response to comment CNPS-2-2 which addresses riparian impacts, and Sections 2.4, “Site Evaluations and Selection” and 2.5, “Design Development,” in Appendix G, “Engineering,” which document the importance and involvement of the TRAC in the development of the designs for improvements along the American River.

CNPS-2-4 Please refer to Sections 2.4, “Site Evaluations and Selection” and 2.5, “Design Development,” in Appendix G, “Engineering,” which document the importance and involvement of the TRAC in the development of the designs for improvements along the American River, and in eliciting input from the public. Please refer also to MR 1 and Section 2.3, “Community Outreach, Agency Coordination, and Areas of Known Controversy” in the Final SEIS/SEIR.

CNPS-2-5 The Project Partners have provided additional detail on the design for erosion protection work on the American River in Chapter 3, “Description of Project Alternatives,” in the Final SEIS/SEIR. Additional detail has also been added in impact analyses in Appendix B, “Detailed Analyses” in the Final SEIS/SEIR. Several Master Responses also provide additional detail on impacts, including (but not limited to) MR 4 addressing recreation, MR 6 addressing air quality, and MR 15 on riparian impacts.

CNPS-2-6 Please refer to MR 5-3 through 5-6, and MR 15, especially MR 15-5, which addresses short- and long-term riparian impacts.

CNPS-2-7 Please refer to MR 9 and MR 15.

CNPS-2-8 Please refer to MR 2 and also Appendix G, “Engineering,” which provide detailed descriptions of how designs for erosion protection at Contracts 3B, 4A, and 4B have been developed with substantial effort to reduce and avoid impacts on riparian habitats.

CNPS-2-9 Additional discussion of the Alternatives process has been added to Section 3.3, “Alternatives Development and Screening” in the Final SEIS/SEIR. Please refer also to the response to comment CNPS-2-8.

CNPS-2-10 Please refer to MR 9, which addresses the history, design, and existing and proposed habitat values at the American River Mitigation Site.

CNPS-2-11 Please refer to MR 9, especially MR 9-11, “Existing and Proposed Habitat Values.”

CNPS-2-12 Please refer to MR 9, especially MR 9-11, “Existing and Proposed Habitat Values.”

CNPS-2-13 Alternative 4A was proposed for analysis by the Sacramento County Department of Regional Parks and evaluated in the SEIR, and Alternative 4B was identified and analyzed to ensure consideration of an additional viable alternative retaining a portion of the pond.

CNPS-2-14 Please refer to Section 3.3.2.4, “American River Mitigation Site” in the Final SEIS/SEIR, which documents USACE’s determination not to consider an alternative retaining a portion of the pond under NEPA.

CNPS-2-15 SAFCA has pursued an investigation and cleanup of the American River Mitigation Site with approval by the Central Valley Regional Water Quality Control Board under a Corrective Action Plan process, which addresses all applicable requirements for the site.

CNPS-2-16 Please refer to MR 9, especially MR 9-11, “Existing and Proposed Habitat Values.”

CNPS-2-17 Please refer to MR 5-6, “Site Maintenance and Management.” See also MR 15-3 “Draft Onsite Replanting Performance Standards,” and MR 15-4, “Maintenance Activities.”

CNPS-2-18 The comment does not identify specific evidence to support the assertion that the document requires recirculation. Please refer to MR 7, “Public Outreach, and Requests for Documentation.”

CNPS-2-19 The comment does not identify any specific errors or inconsistencies. Please refer also to Section 3.3, “Alternatives Development and Screening” in the Final SEIS/SEIR.

CNPS-2-20 Please refer to expanded impact discussions in Appendix B, “Detailed Analyses” of the Final SEIS/SEIR, as well as MR 4, MR 6, MR 9, and MR 15.

CNPS-2-21 Please refer to the response to CNPS-2-2, as well as MR 3, MR 9, and MR 15

CNPS-2-22 Please refer to MR 9. The habitat and special-status species impacts associated with the ARMS are addressed in detail in the Final SEIS/SEIR.

CNPS-2-23 Chapter 2, “Intended Uses of this Document” identifies several permitting approvals that would be required to implement the project and observes that the list of agencies

included is not exhaustive. The comment also requests that USACE not reinstate various regulatory consultations pending revisions to the SEIS/SEIR. These consultations and processes are independent of the NEPA and CEQA processes.

Center for Biological Diversity 1

- CBD-1-1 USACE appreciates your concern about the public review period and the fact that it fell during the Holiday period (Dec 22nd - Feb 5th). As a result, USACE extended the public comment period out to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1 for more information.
- CBD-1-2 USACE received this information request from CBD and responded by providing CBD with the documents on January 19, 2024.

Center for Biological Diversity 2

- CBD-2-1 USACE received this information request from CBD and responded by providing CBD with the additional documents on January 31, 2024.

Center for Biological Diversity 3

- CBD-3-1 The comment expresses opposition to the project and introduces the topics that are addressed in detailed responses below.
- CBD-3-2 Project Partners agree that the trees in the American River Parkway are important resources. Please refer to MR 3-1 and MR 15-1 for more details. Please refer to Section 1.4.1, "Past Flood Events" in Appendix G, "Engineering," for details as to how the river system has been dramatically altered by humans since some of these heritage oaks grew. Please refer to MR 15-8 for information on wildlife corridors.
- CBD-3-3 Please refer to MR 4, which addresses recreation, and MR 8, which addresses the Wild and Scenic Rivers Act. Please refer also to the detailed responses to CBD-3-4 through CBD-3-21, below.
- CBD-3-4 Please refer to MR 8, which addresses the Federal Wild and Scenic Rivers Act. The American River Parkway Plan, which is the management plan under the Wild and Scenic Rivers Act (Sacramento County 2008, p. 4-91), identifies erosion control measures that could be implemented as part of the erosion control program on pages 4-88 and 4-89. The measures include revetments, biotechnical treatments, bank regrading, river training structures, and non-structural methods. American River Parkway Plan Policy 4.16 specifically states that "Bank scour and erosion shall be proactively managed to protect public levees and infrastructure, such as bridges, piers, powerlines, habitat and recreational resources. These erosion control projects, which may include efforts to anchor berms and banks with rock revetment, shall be designed to minimize damage to riparian vegetation and wildlife habitat, and should include a revegetation program that screens the project from public view, provides for a naturalistic appearance to the site, and restores affected habitat areas."

Please refer also to Section 2.5, “Design Development,” in Appendix G, “Engineering,” and MR 2, which describe the process by which USACE designed the proposed Contract 3B improvements in alignment with the approach proposed on page 4-88 of the Parkway Plan - “consider the nature of the erosion threat and the most effective method for controlling erosion with the least damage to riparian vegetation, wildlife, and the aesthetics of the final product.”

CBD-3-5 Please refer to Section 2.2.1, “Wild and Scenic Rivers Act Considerations” in Appendix G, “Engineering,” which describes the process by which the requirements of the Parkway Plan (described in the response to CBD-3-4) were applied to the design process. Designs are based on the combination of hydraulic, geologic and site conditions, suite of data collection and analysis tools and the identified erosion drivers included as part of the Site Selection Process discussed in Section 2.4, “Site Evaluation and Selection” in Appendix G, “Engineering.” Designs must meet resiliency needs considering the high flood risk and associated high economic and life loss consequence within the project area as discussed in MR 2-2 and MR 3-1. The designs include on-site habitat mitigation measures to rehabilitate biological and ecological functions such as inclusion of planting benches, soil filled revetment, top-soil placed above the soil filled revetment and a re-planting plan with performance of past LAR bank protection features in mind such as those projects captured in Figure 2-33 and 2-34 in Appendix G, “Engineering” (See Section 2.6.4, “Revegetation of Sites”). Flood risk mitigation alternatives based on the flood risk, physical setting and ecological/recreational resources were considered and included in the ARCF GRR, alternatives re-evaluated and assessed per river segment with local, state and federal project partners at the 10 percent design stage via the TRAC. The design development process and design options being advanced are discussed in Section 2.5.2, “Contract 3B” of Appendix G, “Engineering.” Designs at the 35, 65 and 95 percent design stages were communicated and refined with project partners input and with formal quality control procedures within USACE conducted. Designs were evaluated and reformulated to meet minimum flood risk objectives and being sensitive to minimizing habitat and recreational impacts.

CBD-3-6 The ARCF 2016 Project erosion protection improvements must last at least 50 years because of the high risk and economic and life safety consequences. Based on the identified erosion modes of levee failure (e.g. vertical scour and lateral bank erosion, refer to Section 1.6, “Levee Erosion Failure Process,” and Sections 2.5.2.3.1, 2.5.2.4.1, and 2.5.2.5.1, all entitled “Identified Risk Drivers” of Appendix G, “Engineering,” for more details) caused by applicable erosion processes coupled with the high risk and economic and life safety consequences of that risk for this immediate area, added resiliency in the flood risk mitigation measure is necessary. Trees and Vegetation alone cannot provide resiliency in erosion protection as the soil matrix around the root zone will be eroded by high velocities of the design flow of 160,000 cfs, leading to an orphaned fallen tree, leading to its failure. Project Partners have seen trees fall within the American River Erosion Contract 3B site at lower flows than 160,000 cfs. Because trees are susceptible to being undermined by erosion, trees alone cannot be relied on to

provide the required erosion protection to the surrounding communities. Even if only some trees fall over during high flows, erosive forces during these high flows are anticipated to scour behind fallen trees and would leave the area susceptible to failure.

The inadequacy of relying solely on vegetation to arrest/prevent erosion is clear when evaluating the risk posed by Probable Failure Mode (PFM) 3, or failure of the levee foundation due to erosion at the riverbank or riverbank toe. PFM 3 erosion typically starts in the main river channel below summer low water levels at the riverbank's edge where sufficient continuous tree root mass is not available to bolster soil's strength. As erosion of the soil at this elevation progresses into bank and toward the levee, the erosion undermines the trees further up the bank, resulting in them toppling, which eliminates all the benefits their roots provide to the soil higher on the bank. This specific failure process is why trees/vegetation alone are considered inadequate as a form of erosion protection on the Lower American River. If the LAR levees were further away from the main river channel and erosive forces of the river were lower, natural bank protection could be a viable alternative to stone bank protection.

By installing rock-based bank protection along the riverbank, Project Partners can adequately address the risk posed by PFM 3 by sizing the rock to ensure it can withstand the flood's erosive forces. The rock-based bank protection will not only protect the levee from erosion, but it will also protect existing vegetation not disturbed by construction from erosion, too. This bank protection minimizes impacts to vegetation during construction and will also expand the bank line waterward and provide more space for vegetation to establish than previously existed. For the above reasons, vegetation alone cannot be relied on to adequately protect the bank and levees from erosion. Given the life loss and economic consequences of a levee failure, bank protection must be used to have a high confidence the levees will safely pass the 160,000 cfs design flow.

The design process applied was iterative and downscaled to avoid and minimize impacts (for specific examples please refer to MR 3-1) to the environment but meet minimum flood risk objectives. The design includes on-site habitat feature construction where the riprap material along the riverbank is soil filled, includes a topsoil depth placed above the riprap surface and is then planted with vegetation. The design essentially mimics or builds off knowledge gained from previous erosion protection construction efforts on the American river since the late 1990s through 2010s (please refer to MR 3-4 for more details). It is expected the 2016 ARCF Project bank protection improvements will, over time, perform and sustain vegetation similar to, if not better than, these previously constructed erosion protection projects.

The project design has developed based on peer review conducted by local, state and federal agencies including U.S. Fish and Wildlife Service (USFWS), National Marines Fisheries Service (NMFS), National Park Service (NPS), and Sacramento County Department Regional Parks (County Parks) to help balance fish, wildlife, recreational, and visual impacts. In 2021, County Parks and NPS told Project

Partners that the American River Erosion Contract 3B design at that time was too impactful to heritage oaks and would likely be considered inconsistent with the National Wild and Scenic Rivers Act (WSRA). From July 27 to July 29, 2021, a design charrette (a meeting with stakeholders to work through problems) occurred in order to work through redesigning the project to better balance environmental objectives and flood risk reduction objectives. County Parks, NMFS, USFWS, NPS, USACE Environmental Staff, Department of Water Resources (DWR) Environmental Staff, and Sacramento Area Flood Control Agency (SAFCA) Environmental Staff attended and participated the design charrette. During the design charrette the collective design team reviewed river segment at the Lower American River Contract 3B site and worked through the best erosion protection option to meet environmental and flood risk reduction goals. Since 2021, Project Partners have been optimizing and refining the project based on the outcome of the design charrette and have worked to minimize the project footprint and minimize tree removal as much as feasible. The design team used the following environmental priorities to help adjust their designs:

1. Minimum design footprint to meet flood risk objectives.
2. Heritage oaks or any tree larger than 24 inch in diameter – based on collected survey data.
3. Extents of existing Mitigation Sites.
4. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) Habitat.
5. Western Yellow Billed Cuckoo (*Coccyzus americanus*) (Cuckoo) Habitat.
6. Recreational Resources.
7. Sensitive Plants.
8. Wetlands.
9. Shaded Riverine Aquatic (SRA) Habitat.
10. Activities that will decrease air impacts (example: making new ramps to shorten routes).
11. Visual Resources.
12. Unique Aquatic Habitat Features.

During the design process, tree data was used to determine if a tree needs to be removed or can be protected. Two sets of tree data were used. One set was collected by a surveying crew (PSOMAS) in 2019 and 2020 using surveying equipment but only listed species as tree type instead of identifying specific tree species. The second set was collected by an environmental consultant (Environmental Science Associates) in 2020 and updated in 2021 using GPS and included species information. In addition, tree data was used when designing the project and the footprint was moved when feasible to avoid trees, in particular large native trees.

Examples of avoidance and minimization of tree impacts include: installing access ramps within the construction boundary of the erosion protection features as much as feasible, selecting erosion protection methods on the river at a very localized level to minimize the habitat impacts based on the localized conditions, constructing from revetment platforms along the river's edge (away from vegetation) as much as feasible, Contract Specifications for the Lower American River Contract 3B include requirements for protecting trees left in place at the project site, and designing erosion protection features and access ramps to avoid trees where and when feasible. Erosion protection features methods were selected by location to minimize the footprint as much as feasible while still meeting flood risk objectives. For instance, at Site 4-2 and along the Watt Avenue Boat Launch Parking lot at Site 4-1, launchable trench was used as it was able to be put under existing developed areas (a paved road, a parking lot, dirt road, and bike trail) so impacts were focused on infrastructure, like roads, which can easily be replaced once erosion protection features are installed. In addition, a launchable trench was also installed just downstream of Larchmont Park as the riverbank was wide enough in this area to allow installation of a launchable trench away from heritage oaks in a part of the riverbank that tends to contain more shrubs than trees, and protect the unique erosion resistant material along the river's edge that creates a unique fish habitat. Erosion protection was still needed higher up on the riverbank at this location so tie backs were used so that the erosion protection features could be placed between trees. Launchable toe was installed upstream of the Waterton Way River access and Larchmont Park in order to protect the heritage oaks higher up on the riverbank.

Through this process, USACE, SAFCA, and DWR environmental staff have been involved in the review process and providing comments on the environmental impacts as the designs developed. Based on Project Delivery Team engagement with the Risk Cadre (multi-disciplinary teams within USACE with special training in risk assessment that assess USACE infrastructure across the nation) from Spring to Fall 2022, it was determined that the levee was still at risk for failure due to tree scour and high velocities along the levee embankment along areas in the vegetation free zone (the area 15 feet from the levee toe) of the American River Erosion Contract 3B footprint. Typically trees within the vegetation free zone of the levee that are determined to be a risk to the levee will be cut down to reduce the risk of levee failure; however, these trees were determined to be important wildlife habitat and visual resources. These trees in the vegetation free zone became a separate contract, American River Erosion Contract 4B, to allow USACE to complete the additional analysis and documentation to acquire design deviations (which would allow vegetation to remain in the vegetation free zone) without impacting the schedule of American River Erosion Contract 3B. The additional analysis will determine whether the trees in the vegetation free zone can remain in place, not pose a risk to life and safety, and not pose a risk to the integrity of the levee itself. Section 2.5 of Appendix G, "Engineering," includes additional information about American River Erosion Contract 4B. The American River Erosion Contract 3B 95 percent designs were presented to County Parks, NPS, NMFS, and USFWS in October of

2023. The updated American River Erosion Contract 3B 95 percent design set was then transmitted to County Parks, NPS, NMFS, and USFWS in December of 2023. The preliminary American River Erosion Contract 3B 100 percent design set was also transmitted to County Parks, NPS, NMFS and USFWS in June of 2024.

After this cooperative effort to avoid and protect trees, there are still hundreds of trees (refer to Master Response 15-1 for more details) determined to be removed to construct the erosion protection features and meet flood risk reduction objectives. As discussed in MR 2 Question 2, the vegetation alone is not enough protection to address the flood risk problems in the area. Additional erosion protection measures are needed and cannot be installed without removal of some vegetation. These trees must be removed for various reasons including: regrading to meet correct slopes for erosion protection features to function correctly, installation of launchable trench requires excavation, the amount of revetment installed over roots in some areas would kill the tree, leaving some trees would be a safety hazard to those constructing the project and to those recreating in the area after work is complete, and construction equipment's access would be blocked by some trees (ramps were redesigned many times to impact as few trees as feasible, however).

- CBD-3-7 The Flora, et. al. (2021⁷⁸, 2021⁷⁹, 2022⁸⁰, 2023⁸¹) papers demonstrate the importance of incorporating vegetation into 3-Dimensional (3D) hydraulic models (which is not a novel finding), and evaluate different methods to incorporate vegetation into 3D hydraulic models. They do not provide any comparison between 2-Dimensional (2D) or 3D model outputs, nor do they speak to the superiority of either 2D or 3D modeling tools over the other. The 2D hydraulic models USACE utilized to evaluate erosion risk along the Lower American River did incorporate vegetation in the model and demonstrate the same phenomena as the 3D hydraulic models used by Flora, et. al. (2021¹⁹, 2021²⁰, 2022²¹, 2023²²), that vegetation along the riverbank causes an "...effect on redistributing the high-velocity flow away from the banks." Despite this known effect vegetation has on flow patterns along the river, please refer to CBD-3-6 for more details on why natural bank protection alone was not selected for the Contract 3B project site and an overview of the processes and data that informed the development of the Lower American River Contract 3B erosion protection design features. Sections 2.3.3.1, "Model Selection" and 2.3.3.2, "Model Development of Appendix G, "Engineering," addresses concerns related to the vegetative conditions of USACE hydraulic models. Hydraulic modeling performed by USACE included spatially varied roughness associated with vegetation based upon vegetation type, density,

⁷⁸ Flora, K., Santoni, C., & Khosronejad, A. (2021). Numerical Study on the Effect of Bank Vegetation on the Hydrodynamics of the American River under Flood Conditions. ASCE. Journal of Hydraulic Engine

⁷⁹ Flora, K. & Khosronejad, A. (2021) On the Impact of Bed-Bathymetry Resolution and Bank Vegetation on the Flood Flow Field of the American River, California: Insights Gained Using Data-Driven Large-Eddy Simulation. ASCE Library. Journal of Irrigation and Drainage Engineering Volume 147, Issue 9

⁸⁰ Flora, K. and Khosronejad, A., (2022). Uncertainty quantification of large-eddy simulation results of riverine flows: A field and numerical study. Environmental Fluid Mechanics, 22(5)

⁸¹ Flora, K. & Khosronejad, A. (2023). Uncertainty Quantification of Bank Vegetation Impacts on the Flood Flow Field in the American River, California Using Large Eddy Simulations. ESPL Wil

and season. The vegetation did reduce velocities and shear stresses in the overbanks, but the values were still above tolerable thresholds for a vegetation-only solution. See Section 2.3.3, "Hydraulic Model Analysis" in Appendix G, "Engineering" for more information on USACE hydraulic model development.

- CBD-3-8 USACE agrees that the Water Resources Reform and Development Act (WRRDA) of 2014 (H.R. 3080) requires that vegetation should not be removed unless there is a safety risk. USACE is compliant with WRRDA 2014, and the implementation guidance for Section 3013 of WRRDA 214, Vegetation Management Policy (USACE 2017). Please refer to response to CBD-3-6 and Appendix G, "Engineering" for a discussion of why there is a safety risk to the levee and why some vegetation within the proposed erosion protection footprint must be removed to permit construction of the erosion protection features which will address the levee safety risk. Additionally, for American River Erosion Contract 4B, trees in the vegetation free zone of the levees and which have been found to pose an immediate erosion risk to the levee's integrity are being evaluated with the intent to preserve them in place via a variance request (Vegetation Design Deviation request) to Engineering Technical Letter (ETL) 1110-2-583 requirements that no woody vegetation exist in the vegetation free zone. This evaluation and associated variance request are being developed in conformance with the requirements found in the Federal Register (77 FR 9637).
- CBD-3-9 Appendix G, "Engineering," has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.
- CBD-3-10 Please refer to Section 2.3.4, "Geology," and Section 2.5.2, "Contract 3B," in Appendix G, "Engineering," which describe the Pleistocene Fair Oaks Formation (often referred to as erosion resistant material); additional geologic data collection efforts in 2018, 2019, and 2021; and how geology was accounted for in the site selection and design development process. Please see comment CBD-3-5 on alternatives considered.
- CBD-3-11 The ARCF16 Project has been developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. Please refer to the responses to CBD-3-4 and CBD-3-5, as well as MR 8, and Appendix H (Wild and Scenic Rivers Act). MR 4, Impacts to Recreation Access of the Parkway, and MR 5, Impacts to Habitat and Wildlife (from Contract 3B and 4) provide additional information.
- CBD-3-12 The comment inaccurately compares the improvements and impacts identified in the 2016 ARCF GRR Final EIS/EIR with the improvements and impacts identified in the SEIS/SEIR. The 2016 ARCF General Reevaluation Report identified up to 11 miles of erosion protection, but deferred erosion protection site selection because additional analysis was needed to identify and prioritize sites needing erosion countermeasures. The additional site-specific analyses that have been conducted since 2016, together with input from key agency stakeholders, helped the team identify the specific erosion protection measures best suited to

each site. Avoiding and minimizing adverse effects to heritage trees and other native riparian habitat has been a priority consistent with meeting the flood risk management objectives of the Project. The additional engineering analyses and coordination with stakeholders reduced the length of erosion protection along the Lower American River from the 11 miles estimated in the General Reevaluation Report to 6 miles. Please see Appendix G, “Engineering” for additional information on the design development.

- CBD-3-13 The 2016 ARCF FEIS/FEIR discussion on visual impacts did not indicate minimal tree removal, it determined there would be short-term significant unavoidable impacts to visual resources due to tree removal. Specifically on page 307 indicates “*The loss of riparian vegetation from the construction of the launchable rock trenches would have a long-term impact on the visual resources in the Parkway. The launchable rock trenches would be designed to include a planting berm, which would be planted with trees outside of the 15-foot vegetation free zone to compensate for some of the 65 acres of lost riparian habitat. However, the trees would take many years to grow to the similar visual value as those removed. Long-term effects to vegetative visual resources would be less than significant with the implementation of mitigation. However, there would remain a significant and unavoidable short-term effect to visual resources from this vegetation removal.*” As discussed in section 4.1 “Vegetation and Wildlife” of the SEIS/SEIR “*The total riparian impact for completion of all American River erosion contracts is anticipated to be 62 acres, which will be below the 65 acres of impact that was estimated in the ARCF GRR FEIS/EIR.*” The total habitat impact of ARCF projects on the Lower American River is only 8 acres more than what described in the 2016 ARCF FEIS/FEIR and Project Partners acknowledged in the Draft SEIS/SEIR that the increase in 8 acres of impact would be remain short-term significant and unavoidable.

Project Partners understand that the public is still concerned about tree impacts, so additional information has been added to clarify impacts. Additional maps, tree estimations, and a narrative of how trees impacts (particularly impacts to large trees) were minimized are discussed in response to CBD-3-6. Additional information is available in MR 15-1 and MR 15-2.

- CBD-3-14 Water temperatures can be affected by a number of factors, including air temperatures, elevation, flow and velocity, and presence of riparian vegetation. For the American River, the major factor that impacts water temperature are the operations of Folsom Dam. The releases from Folsom are heavily studied and modeled in several recent Central Valley Project/State Water Project Biological Assessments from the Bureau of Reclamation, as well as the responsive Biological Opinions from NMFS (2009, 2019, pending 2024/2025). While the removal of bank vegetation in several areas may seem extensive, the removal is a temporary occurrence that will be vegetated upon completion. Adjacent habitat upstream and downstream will provide interim cover for fish during the construction timeframe. Temporary removal of the amount of vegetation on the proposed sections of the Lower American River is not expected to cause a

measurable increase to water temperatures in the Lower American River due to the small shaded area relative to the surface area of the river and the fact that the volume and temperature of water released from Folsom Dam drive the temperature of the water in the lower American River, overwhelming other influences. Please refer to the response to comment Individual 289-6 for additional information and citations. Please refer also to Section 3.5, "Alternative 2: Proposed Action" of the SEIS/SEIR for a summary of water quality impacts and Section 3.4.3, "Analysis of Environmental Effects," in Appendix B, "Detailed Analyses" for more details. In addition, specific impacts to Shaded Riverine Aquatic (habitat for fish), including mitigation measures to try to reduce impacts, is summarized in Section 3.5 "Alternative 2: Proposed Action," of the SEIS/SEIR and discussed in more detail in Section 4.2.3, "Analysis of Environmental Effects" of Appendix B, "Detailed Analyses." Project Partners expect that vegetation will grow enough to be functional habitat 8-10 years after construction (refer to response to CBD-3-17 for more details) Instream Woody Material will be installed to provide shade while vegetation establishes.

- CBD-3-15 ARCF16 designs achieve the "protect and enhance" mandate through careful site-specific evaluation and modeling, following the evaluation and design development framework recommended by NPS for work on Wild and Scenic Rivers, and through participatory engagement with the NMFS, USFWS, NPS, County Parks, and others. Design development efforts seek to avoid and minimize adverse effects, including to native trees, while meeting the flood risk management objectives of the project. Designs are developed consistent with the Parkway Plan, which is the management plan for this part of the river. Appendix H, "Wild and Scenic Rivers Act" and Appendix G, "Engineering," provide additional relevant discussions.

During construction, recreation would be prohibited or restricted from areas where active construction is underway. This is necessary to assure protection of both recreationists and construction personnel. During revegetation and plant establishment, access to specific sites would also be discouraged for a limited period of time to enable plant establishment, however access would not be blocked. Access to parts of the Parkway not under active construction or plant establishment would remain available to the public consistent with the Parkway Plan and County Parks requirements. In areas not under construction and areas where construction is complete and plants established, the full range of permitted recreational activities would be available, including fishing, beach use, swimming, wading, hiking, wildlife-watching, with the amount and quality of shade improving over time as vegetation is reestablished.

Project Partners acknowledge the value of trees to fish and recreationists. Designs avoid trees to the greatest extent feasible consistent with achieving the flood risk management objectives of the project. Restoring native trees, shrubs, and herbs to most of the sites where construction would occur is part of the project design. As plants and plant communities mature, they provide different habitat values at different developmental stages. In time (8 to 10 years) plantings are expected to

be well developed with mature heights please refer to the table in the response to CBD-3-17 for the projected heights of the trees species after 8 years. Throughout their development the restored plant communities would provide habitat for fish and wildlife, and recreational values to humans. The extent and quality of shading will increase over time as the new plantings mature. See also MR 4, MR 3, and MR 15 for more details on recreation and vegetation.

CBD-3-16 The Flora, et. al. (2021⁸², 2021⁸³, 2022⁸⁴, 2023⁸⁵) papers demonstrate the importance of incorporating vegetation into 3-Dimensional (3D) hydraulic models (which is not a novel finding), and evaluate different methods to incorporate vegetation into 3D hydraulic models. They do not provide any comparison between 2-Dimensional (2D) or 3D model outputs, nor do they speak to the superiority of either 2D or 3D modeling tools over the other. However, USACE agrees with the Flora, et. al. (2021²³, 2021²⁴, 2022²⁵, 2023²⁶) studies that trees slow down flow velocities. Trees and vegetation were incorporated/accounted for in the 2D hydraulic models USACE and Project Partners developed and utilized in the engineering analyses for assessing the erosion risk along the Lower American River. Trees and vegetation are accounted for by adjusting the Mannings Roughness Coefficient to the appropriate value which reflects the presence of trees and vegetation. The Mannings Roughness Coefficient value selected at a given location within the model is based on evaluation of the corresponding real-world location along the river and volume/density of trees and vegetation present at that real-world location. The 2-dimensional models used show that the vegetation on site slows velocities along/near the levee in certain locations along LAR. Please refer to Appendix G, Section 2.3.3, "Hydraulic Model Analysis" for information on the hydraulic modeling tools utilized, their development, and their application. However, even with trees accounted for in the models, Project Partners determined that there is still a risk to the levee (see Section 1.5.1, "Risk and Risk Reduction," and Sections 2.5.2.3.1, 2.5.2.4.1, and 2.5.2.5.1, all entitled "Identified Risk Drivers," in Appendix G, "Engineering" for more specific information on why there is a risk to the levee at the Lower American River Contract 3B Site).

The ARCF 2016 Project erosion protection improvements must last at least 50 years because of the high risk and economic and life safety consequences. Based on the identified erosion modes of levee failure (e.g. vertical scour and lateral bank erosion, refer to Section 1.6, "Levee Erosion Failure Processes," and Sections 2.5.2.3.1, 2.5.2.4.1, and 2.5.2.5.1, all entitled "Identified Risk Drivers," in Appendix G, "Engineering" for more details) caused by applicable erosion processes coupled with the high risk and economic and life safety consequences

⁸² Flora, K., Santoni, C., & Khosronejad, A. (2021). Numerical Study on the Effect of Bank Vegetation on the Hydrodynamics of the American River under Flood Conditions. ASCE. Journal of Hydraulic Engine

⁸³ Flora, K. & Khosronejad, A. (2021) On the Impact of Bed-Bathymetry Resolution and Bank Vegetation on the Flood Flow Field of the American River, California: Insights Gained Using Data-Driven Large-Eddy Simulation. ASCE Library. Journal of Irrigation and Drainage Engineering Volume 147, Issue 9

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⁸⁵ Flora, K. & Khosronejad, A. (2023). Uncertainty Quantification of Bank Vegetation Impacts on the Flood Flow Field in the American River, California Using Large Eddy Simulations. ESPL Wil

of that risk for this immediate area, added resiliency in the flood risk mitigation measure is necessary. Trees and Vegetation alone cannot provide resiliency in erosion protection as the soil matrix around the root zone will be eroded by high velocities of the design flow of 160,000 cfs, leading to an orphaned fallen tree, leading to its failure. Project Partners have seen trees fall within the American River Erosion Contract 3B site at lower flows than 160,000 cfs. Because trees are susceptible to being undermined by erosion, trees alone cannot be relied on to provide the required erosion protection to the surrounding communities. Even if only some trees fall over during high flows, erosive forces during these high flows are anticipated to scour behind fallen trees and would leave the area susceptible to failure.

The inadequacy of relying solely on vegetation to arrest/prevent erosion is clear when evaluating the risk posed by Probable Failure Mode (PFM) 3, or failure of the levee foundation due to erosion at the riverbank or riverbank toe. PFM 3 erosion typically starts in the main river channel below summer low water levels at the riverbank's edge where sufficient continuous tree root mass is not available to bolster soil's strength. As erosion of the soil at this elevation progresses into bank and toward the levee, the erosion undermines the trees further up the bank, resulting in them toppling, which eliminates all the benefits their roots provide to the soil higher on the bank. This specific failure process is why trees/vegetation alone are considered inadequate as a form of erosion protection on the Lower American River. If the LAR levees were further away from the main river channel and erosive forces of the river were lower, natural bank protection could be a viable alternative to stone bank protection.

By installing rock-based bank protection along the riverbank, Project Partners can adequately address the risk posed by PFM 3 by sizing the rock to ensure it can withstand the flood's erosive forces. The rock-based bank protection will not only protect the levee from erosion, but it will also protect existing vegetation not disturbed by construction from erosion, too. This bank protection minimizes impacts to vegetation during construction and will also expand the bank line waterward and provide more space for vegetation to establish than previously existed. For the above reasons, vegetation alone cannot be relied on to adequately protect the bank and levees from erosion. Given the life loss and economic consequences of a levee failure, bank protection must be used to have a high confidence the levees will safely pass the 160,000 cfs design flow.

The design process applied was iterative and downscaled to avoid and minimize impacts (for specific examples please refer to MR 3-1) to the environment but meet minimum flood risk objectives. The design includes on-site habitat feature construction where the riprap material along the riverbank is soil filled, includes a topsoil depth placed above the riprap surface and is then planted with vegetation. The design essentially mimics or builds off knowledge gained from previous erosion protection construction efforts on the American river since the late 1990s through 2010s (please refer to MR 3-4 for more details). It is expected the 2016 ARCF Project bank protection improvements will, over time, perform and sustain

vegetation similar to, if not better than, these previously constructed erosion protection projects.

Alternatives development and screening are discussed in section 3.3 of the SEIS/SEIR. Appendix G, Engineering, has been added to provide additional design-development process and rationale. Appendix H, Wild and Scenic Rivers Act sections 1 and 2 discuss the collaboration and coordination and the guidance provided by NPS for design development and consistency analyses in WSRA-designated rivers and how the Project has incorporated this guidance into design development. Design development for the LAR elements of the ARCF16 Project has been highly collaborative among the Project Partners, outside experts, and regulatory agencies including NPS, NMFS, USFWS, and Regional Parks. The LAR design teams coordinate with NPS and other regulatory agencies throughout the design process and specifically when designs are at 35 percent, 65 percent, 95 percent, and 100 percent. This is accomplished through standing interagency forums convened by others, such as the Technical Resource Agency Committee (TRAC), and WSRA-focused coordination meetings hosted by Sacramento District. This collaborative process results in an iterative conversation between the design team and other agencies that includes presentation of the designs, receipt of suggestions and other feedback from reviewing agencies, design adjustment and engineering analyses, and a new agency review.

Design team members also completed NPS-recommended technical training and follow the procedures identified in the training and in NPS guidance to ensure the project is developed consistent with the requirements of the WSRA compliance. Best practices are incorporated into the project based upon NPS recommendations and universal avoidance and minimization measures. Additional information about the design approach and methods are found in Appendix G, "Engineering." Further discussion of NPS guidance and best management practices incorporated into the project is provided in Appendix H, WSRA.

- CBD-3-17 USACE has consulted with the US Fish & Wildlife Service to determine mitigation requirements. Impacts from projects on the American River will be mitigated by planting 2 acres for every 1 acre of impact at mitigation site(s) within the parkway. Figures 3.5.2-16 and 3.5.2-21 through 3.5.2-28 have been added to the SEIS/SEIR to visually show where onsite mitigation will be located. Long term on-site mitigation habitat management commitments are included in the ESA BOs. These areas would be replanted with woody vegetation. Willow (*Salix gooddingii*, *Salix laevigata*, *Salix lasiandra* and *Salix lasiolepis*) containers, other native trees (*Acer negundo*, *Alnus rhombifolia*, *Fraxinus latifolia*, *Plantanus racemosa*, *populus fremontii*, and *Quercus lobata* are anticipated to be planted), shrubs (*Artemesia douglassiana*, *Baccharis pilularis*, *Baccharis salicifolia*, *Cephalanthus occidentalis*, *Cercis occidentalis*, *Frangula californica*, *Mara macrocarpa*, *Rosa californica*, *Rubus ursinus*, *Sambucus mexicana*, and *Symphoricarpus albus* var. *Laevigatus*), vines (*Aristolochia californica*, *Clematis lingustifolia*, and *Vitis californica*) and herbaceous plants (*Carex barbarae*, *Euthamia occidentalis*, *Juncus balticus*, *Juncus effusus*, *Leymus triticoides*,

Equisetum hyemale ssp. *Affine*, *Oenothera hookerii*, *Schoinoplectus californicus*, and *Schoenoplectus acutus* var. *occidentalis*) are anticipated to be planted in mixtures along different zones of the project for highest likelihood of survival of plant species. The impact from the time lag for new trees to grow in is significant. For the purposes of this analysis, short-term impacts are those that are offset within 8 years and long-term impacts are those occurring beyond 8 years. This timeframe was selected based on the framework provided in the 2021 NMFS BO wherein establishment of riparian tree and shrub species within riparian habitat was projected to take 5 to 8 years, because this is the typical timeframe required for habitat to reach a level of maturity and vigor to be self-sustaining in the long-term. The use of an 8 to 10-year short term impact period is more conservative than the approach taken by NMFS, in that the 2021 BO pertaining to federally listed fish species effects considered short term effects as those only occurring during construction and long-term effects as those resulting from the presence of program features. When the onsite replanting and monitoring strategy is combined with offsite mitigation at the American River Mitigation Site and conservative estimates of growth rates for the canopy tree species proposed to be replanted (Table B below), it is anticipated that short-term impacts on riparian habitat would be offset. As a result, implementation of Lower American River Contract 3B would have significant impacts on riparian habitats in the short-term but would be less than significant in the long-term with implementation of the proposed replanting strategy, VEG-1, and VEG-2.

Table B. Projected Growth Rates of Trees Species at Mitigation Sites

Common Name	Scientific Name	Average Height at Maturity (feet)	Average Growth Rate (feet/year)	Projected Height Year 8 (feet)
Big leaf maple	Acer macrophyllum	80	3	24
Box elder	Acer negundo	50	3	24
White alder	Alnus rhombifolia	50	2.5	20
Oregon ash	Fraxinus latifolia	80	3	24
California black walnut	Juglans californica	45	2	16
California sycamore	Platanus racemosa	80	3	24
Fremont cottonwood	Populus fremontii	80	3	24
Valley oak	Quercus lobata	70	2.5	20
Interior live oak	Quercus wislizenii	70	1.5	12
Goodding's willow	Salix goodingii	25	2.5	20
Red willow	Salix laevigata	50	3	24

Per the ARCF 2016 Project's Endangered Species Act Biological Opinions, USACE is responsible for monitoring and reporting on the onsite mitigation for up to 10 years. The draft performance standards included here have been adapted

from the 2015 Habitat Mitigation, Monitoring, and Adaptive Management Plan, American River Common Features General Reevaluation Report⁸⁶ and may be refined through coordination with resource agencies, and/or as Project Partners monitor what is successful at already constructed 2016 American River Common Features project sites. Monitoring would focus on: (1) woody plant survival, (2) tree height, (3) woody plant vigor; (4) percent woody cover, and (5) woody invasive plant cover. Additionally, an inventory of wildlife species would be recorded during annual monitoring. Table C below summarizes the draft monitoring indicators, measurable objectives, and monitoring frequency to meet the replanting performance standards.

USACE, through its habitat restoration contractors, shall be responsible for implementing a maintenance program that will accomplish the intent of the onsite replanting actions, with the goal of achieving healthy, diverse, self-sustaining riparian communities. Maintenance activities will be conducted until the performance standards outlined in the table below are met. Signs would be installed and located on the perimeter of the replanting areas, at access points, and where they are visible to land users. Maintenance would include, but not be limited to:

- Vegetation management and invasive species control (mowing, string trimming, hand pulling, and herbicide application), periodic tree trimming (on an as needed basis for access)
- Irrigation applications and irrigation system maintenance
- Installation and maintenance of plant protection cages
- Debris removal
- As needed remedial activities such as replanting and reseeding

Replanting areas will be adaptively managed, and the timing and frequency of maintenance will be modified as necessary during this establishment period of up to eight years, or until the performance standards in Table C below have been satisfied. Coordination with U.S. Fish and Wildlife Service (USFWS), NMFS, National Parks Service, and Regional Parks will continue throughout the development and refinement of the onsite replanting approach to provide consistency and alignment with local, state, and federal regulations. USACE does not tell the contractor how to achieve the above listed requirements.

Table C. Draft Monitoring Indicators, Measurable Objectives, and Monitoring Frequency These Percentages and Frequencies may Change Before they are Finalized.

⁸⁶ https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/Documents/ARCF_GRR_Final-EIS-EIR_AppI_May2016.pdf

Monitoring Indicator	Measurable Objective	Monitoring Frequency
Woody plant survival	Year 1: 90% Year 2: 80% Year 3: 75% (irrigation removed at end of year and no more replacement planting) Year 4: 70% Year 5: 60%	Years 1–5
Tree height	Document height to nearest foot	Years 1-8
Woody plant vigor	Years 1 - 4: Average vigor of 2.0 or greater Year 5: Average vigor of 3.0 or greater	Years 1-5
Average combined canopy cover by native riparian tree and shrub species, by planting zone	Year 5: 25% Year 6: 30% Year 7: 35% Year 8: 40%	Years 5-8
Shaded Riverine Aquatic cover – instream Cover	Presence/absence of in-stream woody material (IWM) relative to post-construction baseline	Years 1-8
Shaded Riverine Aquatic cover – overhead cover	% of summer Water Surface Elevation bank line intercepted by canopy cover Year 5: 20% Year 6: 25% Year 7: 30% Year 8: 40%	Years 5–8
Woody Invasive Plant Species Cover	Years 1-8: less than 15%	Years 1-8

CBD-3-18 The SEIS/SEIR identifies significant short-term recreational impacts related to recreation, but long-term impacts that would be less than significant or have no impact. The comment indicates that the loss of mature forest would overwhelmingly interfere with public use and enjoyment of the parkway, and that the presence of the rock being introduced would have long term impacts.

As described in detail in MR 2, MR 4, MR 15, Appendix G, “Engineering,” and updates to Chapter 3, “Alternatives,” the project would include the selective removal of mature riparian forest to enable the construction of the Contract 3B improvements. The comment seems to assume that the project would remove all vegetation from the project site, thus resulting in recreation impacts that would extend beyond the short-term impacts identified in the SEIS/SEIR. The proposed improvements would remove some areas of riparian forest, including mature forest, but as described in MR 2, MR 4, MR 15, Appendix G, “Engineering,” and Chapter 3, the design was prepared to retain existing riparian forest to the extent possible, and particularly focused on retaining larger trees. After the immediate construction impacts on recreation have ceased, the Contract 3B project site

would retain substantial areas of riparian forest, both along the low-flow shoreline and farther up the bank toward the toe of the levee. Erosion protection features along the riverbank and levee embankment that include revetment are designed to be soil filled, topped with soil above the soil-filled revetment and planted to allow vegetation to establish. The only locations where revetment will be visible and not covered with soil include tie-back features within the planting benches, the waterward face of the planting benches and stormwater outfalls, a total of approximately 2,250 linear feet. The commenter states that riparian forests take decades to mature. Project Partners have seen vegetation establish much more quickly. MR 3-3 and MR 3-4 include aerial imagery of past erosion protection sites and the response to comment CBD-3-17 includes estimated maturity times for native species replanted onsite. The general characteristics and recreational possibilities of this reach of the river (scattered areas of riparian forest, interspersed with grassy areas and areas of low vegetation), with informal trails, maintenance roads, and the Jedediah Smith Trail, would be similar to existing conditions, although some wooded areas and some specific shoreline features would be removed or changed by the improvements (MR 4 provides a detailed discussion, including addressing the areas where rock would be added but not replanted). The recreational options and quality of this reach of the river would not be substantially changed. These impacts would be less-than-significant (or would have no impact) as described in the SEIS/SEIR.

CBD-3-19 The comment provides the new plantings in the River Park area as an example of future conditions at the Contract 3B project site. As described in MR 2 and updates to Chapter 3, “Alternatives,” this does not reflect the changes proposed as part of Contract 3B. As described in the response to CBD-3-18, the project would selectively remove areas of riparian vegetation, but the visual character of the area after construction is complete would be similar to existing conditions, with scattered areas of riparian forest interspersed with grassy areas and areas of low vegetation. Please refer to CBD-3-17 for details on expected growth rates Please refer to MR 3-3, and MR 3-4 for images of past erosion sites overtime and vegetation growth. Project Partners use lessons learned to improve on projects. Project Partners agree that older projects had trees planted like an orchard. In new projects, contractors are required to plant in wavy rows when feasible in order to make mitigation sites look more natural. This method has been coordinated with and approved by Sacramento County Department of Regional Parks

CBD-3-20 Though many trees have been around for many years and survived storms in the 1850s, the levee system, as it is configured today, and Folsom Dam have only been present since the 1950s. Since the installation of these features, the largest flood to pass through the system was 134,000 cfs, which is markedly lower than the project design flood of 160,000 cfs. The levee system confines floods waters and prevents them from spreading onto the floodplain (where there are currently homes). Even though there may have been higher floods prior to the 1950s, before that time there was space for the water to spread out which reduces flow velocities, and the erosive forces trees are subjected to. Please refer to response to CBD-3-6 for details on why vegetation cannot be relied upon for erosion

protection. For additional background please refer to Sections 1.4, “Flood Risk Management System History,” and 2.1, “Background,” in Appendix G, “Engineering.”

- CBD-3-21 The ARCF 2016 project has been designed consistent with ETL 1110-2-583, "Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures," (30 April 2014). Note that paragraph 1-1 Purpose states: "This ETL provides guidelines to assure that landscape planting and vegetation management provide aesthetic and environmental benefits without compromising the reliability of levees, floodwalls, and embankment dams, appurtenance structures. It is intended as a guide for safe design and not as a restriction to the initiative of designers. These guidelines should be used with reasonable judgement and practicality and should be tailored to the specific requirements and conditions of each individual project. A design that integrates landscape plantings and vegetation management into a system for flood damage reduction requires a coordinated, interdisciplinary effort that involves the local sponsor and the following disciplines: civil engineer, landscape architect, levee and/or dam safety engineer, environmental engineer, geologist, biologist, and additional related disciplines, as appropriate."

The SEIS supplements the 2016 FEIS, and that 2016 recommended plan/preferred alternative is the no action condition. The impacts of the refined project are analyzed in comparison with the 2016 recommended plan, not the without project condition. Overall, the length of levee that would experience erosion protection measures has been reduced from 11 miles (2016 GRR and EIS) to about 6 miles (see Figure 3.5.2-1). In addition, erosion protection measures are applied to specific locations on the levee where there is known risk of erosion rather than being applied broadly across the levee.

Bioengineering solutions were only considered viable in areas where a wide natural bank exists on the river, but it could not be used on levee slopes. Grade control structures were determined not to be a viable alternative because analyses of the erosion potential of the riverbeds determined this erosion potential was not a significant risk during the 50-year design life period of analysis. The GRR's final alternatives array for erosion protection measures included bank protection, launchable rock trenches, and bioengineering solutions. These three alternatives were the alternative measures carried forward into the design development phase following authorization of the ARCF16 Project in 2016. For LAR, during the conceptual erosion protection design development phase, bioengineering solutions were considered for use in appropriate locations where the overbank is wide enough to support and justify use of such measures. For example, in LAR Contract 2, which was constructed in 2022 and 2023, bioengineering solutions were considered at a site immediately downstream of Howe Avenue; however, during consultation with resources agencies on the use of these bioengineering solutions there were significant concerns about the longevity of the bioengineering solutions and the impacts repair and replacement of these solutions would have on the on-site mitigation plants and habitat. Please refer to

section 2.5.2, “Contract 3B” of Appendix G, “Engineering” for details on specific site by site discussions on erosion risk and why specific erosion protection measures were used.

Though bioengineering could not be completed on the Lower American River, Project Partners still tried to minimize the erosion protection footprint as much as possible and include onsite mitigation plantings. Please refer to responses to CBD-3-6 and CBD-3-17 for more details.

The designs developed for LAR Contracts 1 and 2 were unique and necessary to address the high erosion risk specific to that location along LAR. Site evaluations of LAR determined the left bank along this reach of the river between Paradise Beach and Guy West Bridge had the highest erosion risk along the entirety of the leveed portion of LAR. Conditions which contributed to this determination included highest flow velocities along the entire leveed portion of LAR, narrowest section along LAR between the two levees (approximately only 840-feet wide), proximity of the main river channel to the levee (i.e., little to no overbank on the left side of the channel), and soil composition of the levee and overbank. The same conditions which led to this reach of the river having the highest erosion risk in the LAR levee system also constrained design options available to adequately address the erosion risk. These constraints also limited the ability for the designs to avoid impacts to the existing vegetation within this reach and required removal of almost all of the vegetation within the footprints of Contract 1 and the downstream portion of Contract 2. The expansiveness of the impacts within these two sites, however, is unique to these two sites. These expansive vegetation impacts should not be viewed as what can be expected to occur in other planned erosion protection sites.

- CBD-3-22 The commenter quotes language from several locations in the American River Parkway Plan and states conflict with the proposed project, but the Parkway Plan includes discussions and a policy (Policy 4-16) that specifically address erosion protection work in the American River Parkway and the standards which erosion protection improvements must meet. Please refer to the response to CBD-3-4, which provides additional detail related to how the Parkway Plan addresses erosion protection work and the Wild and Scenic Rivers Act.

As described in MR 3, MR 5, and MR 15, and Appendix G, “Engineering,” the Project Partners have been in coordination with resource agencies to help balance fish, wildlife, recreational, and visual impacts of the project. The Project Partners have been optimizing and refining the project based on the outcome of a design charrette, and coordination with local, federal, and state agencies, and have worked to minimize the project footprint and minimize tree removal as much as feasible.

As described in the response to CBD 3-18, the project would selectively remove areas of riparian vegetation, but after construction is completed and initial replanting efforts have been completed, the visual character of the area would be similar to existing conditions, with scattered areas of riparian forest interspersed

with grassy areas and areas of low vegetation. As described in MR 3, ground cover consistent with existing open areas would be present after 1-2 years, and substantial new growth is expected after approximately 8-10 years. Therefore, as described in MR 4, in the long-term, the recreational options and quality of this reach of the river would not substantially change.

Mitigation measures, described in REC-1, would be implemented to help minimize the short-term recreational impacts to the extent feasible.

CBD-3-23 Please refer to MR 4, which addresses recreation, MR 15, which addresses riparian habitat, and MR 8, which addresses consistency with the Federal Wild and Scenic Rivers Act and contains information that is also relevant to consistency with the State Wild and Scenic Rivers Act. The response to comment CBD-3-4 provides additional detail on the American River Parkway Plan, which serves as the management plan for the American River under the Wild and Scenic Rivers Act. Please also refer to the revised description of the Contract 3B improvements in Chapter 3, “Alternatives,” of the FEIS/FEIR; the comment identifies “modification of miles of river shoreline to angular rock bank ‘armoring,’” which is not an accurate description of the proposed improvements. Other responses below, including CBD-3-25 -26, -31, -33, -34, and -38, address the specific concerns (shade, beaches and swimming areas, habitat damage, and enjoyment of wildlife and aesthetics) identified in the comment.

CBD-3-24 This comment introduces additional comments related to the adequacy of the CEQA analysis. The comment identifies recreation as an area where additional detailed impact analysis is required beyond effects on the Jedediah Smith Recreation Trail. The commenter identifies other recreational uses including fishing access, swimming, hiking and walking trails, wildlife watching, shade, and riparian trees, and states that these activities will be lost permanently or for many decades or centuries. Please refer to revisions and augmented discussion in Appendix B, Section 2.2, “Recreation.” Please refer also to MR 4, which addresses recreational impacts on the Parkway. The commenter states that the SEIS/SEIR lacks information and analysis necessary to avoid and mitigate impacts, and the meaningful alternatives were not considered; these assertions are described in later comments and addressed where specific concerns are identified.

CBD-3-25 The discussion in Appendix B, Section 2.2, “Recreation,” has been substantially expanded in the Final SEIS/SEIR, including a more detailed discussion of impacts on a variety of different recreational activities. MR 4 also offers a detailed narrative.

Due to closures and disruptions in service during construction, portions of American River Parkway used for walking, cycling, running, hiking, bird watching, wildlife viewing, horse riding rafting, kayaking, paddleboarding, and fishing would be inaccessible to the public during- the 3-year construction period. As discussed in the response to CBD-3-18, after the 8-10 years establishment period for new vegetation, the setting in the Contract 3B area would be similar to conditions prior to construction. Although some informal trails and pedestrian

river access locations used for swimming or fishing would be altered by the launchable toe improvements, other similar river accesses in the immediate vicinity would remain.

- CBD-3-26 The commenter seems to assume that there would be substantial permanent impacts to the shoreline, such as loss of recreational access points, thus resulting in recreation impacts that would extend beyond the short-term impacts identified in the SEIS/SEIR. As discussed in the response to CBD-3-18, the general characteristics and recreational possibilities of this reach of the river (scattered areas of riparian forest, interspersed with grassy areas and areas of low vegetation, with informal trails, maintenance roads, and the Jedediah Smith Trail), would be similar to existing conditions, although some wooded areas and some specific shoreline features would be removed or changed by the improvements. The recreational options and quality of this reach of the river would not be substantially changed. Please also refer to revisions in Appendix B, Section 2.2, "Recreation," especially pages 2.2-1 and 2.2-2 for additional setting information, and pages 2.2-21 through 2.2-25 for a more detailed analysis of impacts on recreational facilities. Please refer also to MR 4 for a narrative discussion of recreation impacts.
- CBD-3-27 As described in MR 2 and updates to Chapter 3, "Alternatives," the Contract 3B improvements includes several methods of erosion protection including bank protection, launchable trench, launchable toe, and tiebacks. The commenter seems to assume that the project would armor miles of shoreline, while in fact, the vast majority of areas being constructed would be reseeded with grasses, forbs, low vegetation and trees when feasible. Vegetation would grow back in these areas, with grasses and low vegetation first, and larger vegetation within 8-10 years (please refer MR 15-2 and MR 15-5 for more information). Please see photo below for an example of launchable rock toe installed in 1998 between the I-80 Business bridge and Paradise Beach (the launchable toes at this site were not covered in choke stone fill). The project would not create the armoring aesthetic that the commenter mentions. Launchable toe areas would be scattered through the Contract 3B improvement area, as shown on Figures 3.5.2-5 through 3.5.2-10, on pages 3-30 to 3-37. The launchable toe would be covered with a layer of choke stone fill to reduce the artificial appearance of the launchable toe. Additionally, planting benches would be construction upslope of the launchable toes and once vegetation has regrown, the visibility of the launchable toe would be greatly diminished. Please refer to MR 4-2 for a more detailed discussion of the launchable toe areas. Therefore, the visual quality of this reach of the river would not be substantially changed, and this section of the Parkway would not be eliminated as a recreational resource.



- CBD-3-28 As described in the response to CBD-3-18, the project would selectively remove areas of riparian vegetation, but the visual character of the area would be similar to existing conditions, with scattered areas of riparian forest interspersed with grassy areas and areas of low vegetation. The discussion of closure and disruptions to local parks from construction and staging activities in Appendix B Section 2.2, “Recreation,” has been augmented in the Final SEIS/SEIR. Although the project would result in the temporary closure of local parks in the project area, many nearby parks would remain open and could be used as alternative recreation locations. Additionally, as stated in Mitigation Measure REC-1, upon completion of levee improvements, access will be restored, and repairs would be made to any construction-related damage to recreational facilities to bring them back to pre-project conditions. Please refer also to MR 4 for a comprehensive discussion of recreation impacts.
- CBD-3-29 The effect of the short-term loss of recreational function on public health in the American River Parkway resulting from construction of American River Erosion Contract 3B, has been added to Appendix Section 2.2, “Recreation,” as an impact that falls within 2.2-c: reduce the quality of an existing recreational resource. The newly described secondary impact to physical and mental health of American River Parkway users does not result in a change in neither the NEPA or CEQA Conclusion of Short-term Significant and Unavoidable.

Changes to text in Appendix B 2.2, “Recreation,” Impact 2.2-c include:

Temporarily reduced or limited access and short-term impacts to the quality of surrounding recreational areas would result in secondary, unquantifiable impacts on the physical and mental health of visitors to the American River Parkway under NEPA. In addition, until vegetation is reestablished, wildlife and bird watching would be reduced as habitat would be temporarily impacted.

All feasible mitigation measures (listed below as REC-1) will be implemented to minimize the impacts on recreation to the greatest extent feasible. Mitigation measures included in Appendix B, Section 4.1, “Vegetation and Wildlife,” including Mitigation Measure VEG-2, “Retain, Protect, and Plant Trees On-Site,” would be implemented to restore riparian vegetation on-site immediately following construction. While vegetation communities would be altered compared to pre-project conditions, the plantings would provide aesthetically positive recreational areas as the native plant communities establish, providing wildlife habitat, and restoring activities such as wildlife viewing, hiking, and engagement with nature. Please refer also to Appendix B, Section 3.1, “Aesthetics and Visual Resources,” for a more detailed discussion of visual changes to the Contract 3B project site that might affect recreational values in the short- and long-term.

- CBD-3-30 As described in the response to CBD-3-18, the project would selectively remove areas of riparian vegetation, but the visual character of the area would be similar to existing conditions, with scattered areas of riparian forest interspersed with grassy areas and areas of low vegetation. The general characteristics and recreational possibilities of this reach of the river (scattered areas of riparian forest, interspersed with grassy areas and areas of low vegetation, with informal trails, maintenance roads, and the Jedediah Smith Trail, would be similar to existing conditions, although some wooded areas and some specific shoreline features would be removed or changed by the improvements. The recreational options and quality of this reach of the river would not be substantially changed. As described in the SEIS/SEIR in the first sentence of Section 5.1.2, the Proposed Action would contribute to a significant and unavoidable cumulative impact to recreation. As described in MR 4, CBD-3-18, and other responses, the long-term changes to recreational opportunities at the Contract 3B project site would be substantially less severe than those asserted in the comments, and these changes would not contribute to a significant long-term cumulative impact to recreation on the Parkway because over time vegetation would regrow and return to the natural visual state, and following construction activities, the publicly accessible sites would be reopened to the public. Please refer to MR 4 for additional discussion of recreation impacts, including cumulative impacts.
- CBD-3-31 Please see Section 4.4.3, “Special-status Species,” where special status animals and plants with potential to occur in the study area for the proposed project refinements were identified based field surveys and a review of current USFWS species lists (USFWS 2023), resource databases and other information available from NMFS (NMFS 2021), California Natural Diversity Database (CNDDB)

occurrences (CDFW 2023), and the California Native Plant Society (CNPS) online inventory (CNPS 2023). Impacts to riparian habitat will be mitigated through on-site plantings and larger mitigation sites with mitigation equaling twice the acreage of impacts. Riparian habitat is indeed critical to wildlife connectivity. The project will mitigate impacts to riparian habitat at a 2:1 ratio in addition to planting on-site after construction has finished. Two large mitigation sites on the American and Sacramento River will provide important habitat to sensitive species that require large habitat patch size and further distance from habitat edges. The erosion protection measures are critical for life safety, economic stability, and to protect water quality from contamination that would occur during a levee breach event. The removal of trees near the water edge will indeed remove important shaded river habitat. This is being mitigated through the installation of downed logs and trees in the river to provide shade for fish and on-site planting of trees and other plants that will grow in and provide shade in the future. It is true that the project will have some negative impacts to fish species, as described in Section 4.4.2 'Aquatic Resources and Fisheries.' These impacts are being mitigated through USACE's Endangered Species Act consultation.

A wildlife corridor is often defined as a habitat linkage that joins two or more patches of suitable habitat, allowing species to move from one patch to another (California Assembly Bill 2320⁸⁷). Habitat connectivity is described as the connectedness of habitat for a particular species, while landscape connectivity can be defined as the human perception of native vegetation cover connectedness in a landscape (Fischer and Lindenmayer 2006⁸⁸). Permeability of wildlife corridors is a measure of structure – hardness of barriers, connectedness of natural cover, and arrangement of land uses (The Nature Conservancy 2012⁸⁹). Roads, development, dams, and other structures create resistance that interrupts or redirects movement and, therefore, lowers the permeability. These definitions in combination with The Nature Conservancy's Resilient Land Mapping Tool⁹⁰ Local Connectedness dataset, and the California Department of Fish and Wildlife's (CDFW) Terrestrial Connectivity, Areas of Conservation Emphasis (ACE) dataset⁹¹ were used to inform this analysis.

The Nature Conservancy local connectedness dataset “measures how impaired the structural connections are between natural ecosystems within a local landscape. Roads, development, noise, exposed areas, dams, and other structures all directly alter processes and create resistance to species movement by increasing the risk (or perceived risk) of harm (The Nature Conservancy 2012).” Figure 11 in MR 15 depicts these local connectedness data at the Lower American River Parkway regional scale, while Figure 12 in MR 15 shows these data at the Contract 3B

⁸⁷ <https://legiscan.com/CA/text/AB2320/id/2925389>

⁸⁸ <https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/j.1466-8238.2007.00287.x>

⁸⁹

<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/ModelingLandscapePermeability.pdf>

⁹⁰ <https://maps.tnc.org/resilientland/>

⁹¹ <https://wildlife.ca.gov/Data/Analysis/ACE#523731772-connectivity>

local scale. As can be seen from these figures, the Lower American River Parkway is largely characterized as less connected to slightly less connected.

The CDFW Terrestrial Connectivity ACE dataset, version 3.2.1, updated March 13, 2024, “summarizes information on terrestrial connectivity by ACE hexagon including the presence of mapped corridors or linkages and the juxtaposition to large, contiguous, natural areas. This dataset was developed to support conservation planning efforts by allowing the user to spatially evaluate the relative contribution of an area to terrestrial connectivity based on the results of statewide, regional, and other connectivity analyses (CDFW 2024⁹²). Figure 13 in MR 15 depicts ACE Terrestrial Connectivity data at the Lower American River Parkway regional scale, while Figure 14 in MR 15 shows these data at the Contract 3B local scale. As can be seen from these figures, the Lower American River Parkway vegetation communities are largely characterized as having limited connectivity, particularly around the Lower American River Contract 3B project footprint. CDFW limited connectivity areas occur where land use may limit options for providing connectivity (e.g., agriculture, urban) or no connectivity importance has been identified in models (CDFW 2024).

Based on these data, the riparian habitats in the Lower American River Contract 3B footprint have a baseline condition that provides limited wildlife movement value due to urban development and human encroachment. To evaluate the post-construction condition for wildlife movement, a similar approach to The Nature Conservancy (2012) was used to evaluate the permeability of the proposed condition for common wildlife.

The LAR riparian corridor supports more than 220 bird species, including 45 species of nesting birds, and 20 mammal species. Additionally, resident and migratory fish and wildlife use the Lower American River as travel and migration corridors. Figure 14 in MR 15 provides a summary of common wildlife associations for vegetation communities present in the Lower American River Contract 3B project footprint (see SEIS/SEIR Figure 4.1-1), based on descriptions provided in the Lower American River Parkway Natural Resources Management Plan (Sacramento County 2021⁹³)

- CBD-3-32 The SEIS/SEIR identifies a short-term significant and unavoidable impact to vegetation, wildlife, and special status species. USACE is also consulting with USFWS and NMFS under the ESA. Please refer to response to CBD-3-31 for a discussion on wildlife corridors. Please also refer to Figures 3.5.2-10 and 3.5.2-11 in Chapter 3, “Alternatives” in the SEIS/SEIR, which show maps of areas with anticipated tree removal. These figures illustrate that, except for an approximate 1,200-foot strip of area downstream of the Waterton Way River Access, some trees will remain in the area between the riverbank and the levee in the American River Contract 3B area, generally either along the levee toe (near the bike trails or equestrian trails) or along the riverbank (closer to the water). Please also refer to

⁹² <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=150835&inline>

⁹³ <https://regionalparks.sacounty.gov/Parks/Pages/NaturalResourcesManagement.aspx>

response to CBD-3-17 for a discussion that vegetation is expected to establish and be functional habitat within 8-10 years of replanting.

- CBD-3-33 As described in the response to CBD-3-18, the proposed improvements would remove some areas of riparian forest, including mature forest, but as described in MR 2, MR 3, and MR 15, the design was prepared to retain existing riparian forest to the extent possible. Specific information, including tables and maps illustrating the locations where trees would be removed are presented in MR 3, MR 15, the revised Chapter 3, "Alternatives," of the Final SEIS/SEIR, and in Appendix B, Section 4.1, "Vegetation and Wildlife."
- CBD-3-34 Please refer to Sections 4.5.1.2.2, 4.5.2.2.2, and 4.5.3.2.2, all entitled "Proposed Action," of the SEIS/SEIR for a summary of impacts to habitat. Please refer to Sections 4.1.3, 4.2.3, and 4.3.3, all entitled "Analysis of Environmental Effects," of Appendix B, "Detailed Analyses," for a detailed description of habitat impacts. Unfortunately, the short-term loss of habitat is unavoidable. Thus, the SEIS/SEIR states that the impact would be "Short-term Significant and Unavoidable; Long-term Less than Significant with Mitigation Incorporated." In consultation with the US Fish and Wildlife Service under the Endangered Species Act and the Fish and Wildlife Coordination Act it was agreed that planting new riparian habitat at a 2:1 ratio would be the best option to address the unavoidable delay resulting from the time it will take for onsite vegetation to establish. It is anticipated that some of the faster growing woody species will reach appropriate heights to provide habitat in 8-10 years. All of which will be monitored to ensure site success. Please refer to response to CBD-3-17 for more details on the anticipated growth rates of trees planted as well as success criteria for the mitigation sites. Please also refer to CBD 3-31 and CBD 3-32 for details on what habitat will remain.
- CBD-3-35 Mitigation measure text has been updated to provide additional detail in Appendix B, Section 4.1, "Vegetation and Wildlife." Please refer also to MR 3, MR 5 and MR 15, which provide additional information on mitigation.
- CBD-3-36 Project Partners agree that the project will contribute to significant cumulative impacts to riparian habitat. In Chapter 5. Cumulative and Growth-Inducing Effects states: "Project implementation has the potential to contribute to the loss or degradation of sensitive habitats, riparian habitats, waters of the United States, waters of the State, and forestland. Similar anticipated adverse effects on habitats are associated with the flood-risk reduction and development projects, including the Natomas Basin Project, the Sacramento River Bank Protection Project, the Lower Elkhorn Basin Levee Setback Project, the West Sacramento GRR Project, the I Street Bridge Replacement Project, the Folsom Dam Raise, and other ARCF 2016 Projects; and the removal of vegetation that could pose a risk to levee integrity by levee maintaining agencies in the Sacramento area and surrounding region. Such projects would generally continue to contribute to the loss or degradation of sensitive habitats and forestland. These affects, along with the historical decline of vegetation due to urbanization, would result in significant cumulative effects." Mitigating this impact is then discussed (including limitations): "The mitigation measures would be implemented in accordance with

the recommendations of the Coordination Act Report; however, potential adverse effects on biological resources would remain significant due to the amount of habitat being removed to construct the project and the time lapse before the new plantings would mature to the level of those removed. Once all the mitigation and compensation plantings have matured to the level of those removed, the affects to biological resources would be less than significant because the new habitat would be similar to those removed over the 50-year life of the project."

Additionally, the following text has been added to Section 4.1.3, "Analysis of Environmental Effects" of Appendix B, "Detailed Analyses:

Riparian woodland and riparian scrub will be removed from the erosion protection footprints on American River Erosion Contract 3B and may need to be removed from American River Erosion Contract 4B. Riparian habitat will also be damaged and removed within construction access areas and haul routes. Estimated acreages of impacts can be found in Table 4-1.3. To date, 27.53 acres of riparian habitat have been impacted by American River Erosion Contracts 1, 2, and 3A. The total riparian impact for completion of all American River erosion contracts is anticipated to be 62 acres, which will below the 65 acres of impact that was estimated in the ARCF GRR FEIS/EIR. The impact analysis presented in the ARCF GRR FEIS/EIR, which concluded there will be significant and unavoidable impacts on vegetation and wildlife from project construction. Please also refer to the response to CBD-3-31 for details on impacts from the project on the wildlife corridor.

CBD-3-37 Please refer to comment response CBD-3-27, which addresses shoreline armoring. The visual quality of this reach of the river, including for on-water recreational users would not be substantially changed (see also MR 4 and MR 15, as well as edited text in Appendix B, Section 4.1, "Vegetation and Wildlife"). As discussed in MR 2 and section 2.5.2 "Contract 3B of Appendix G "Engineering", the design was substantially refined over a period of years to reduce the quantity, visual impact, and habitat effects of the erosion protection measures; these measures are necessary and cannot be installed without removal of some vegetation.

Construction of erosion improvements on the Lower American River as part of American River Erosion Contracts 1, 2, and 3A has changed the visual character of two widely-used stretches of the American River Parkway approximately 1 to 2 miles downstream of the American River Erosion Contract 3B improvements proposed in the Draft SEIS/SEIR. Although some initial replanting of the Contract 1 and 2 sites has occurred, substantial new growth of woody vegetation will not occur for several more years and will potentially overlap with construction and replanting of the proposed American River Erosion Contract 3B improvements. Unlike the American River Erosion Contract 3B project area, the Contract 1, 2, and 3A project sites had tighter riverbanks and little to no bench, so recreation along the riverbank was less common than what occurs at the American River Erosion Contract 3B site. Once construction is completed and vegetation is established, the Contract 1, 2, and 3A sites will all have benches and/or softened

slopes. Construction of the Two Rivers Trail Phase 2 improvements by the City of Sacramento will expand recreational access downstream on the south bank of the river, with enhanced access to the Paradise Beach area, and better connectivity to recreational opportunities at Sutter's Landing and for residents in midtown and downtown Sacramento. American River Erosion Contract 4A improvements near the SR-160 bridge would potentially include a reroute of the Jedediah Smith Memorial Trail that would provide similar recreational quality to the current alignment along the levee toe. Similarly, the ARMS mitigation site would be constructed on a parcel that has not historically been available for recreational access because it was in private ownership; construction at this site would therefore not negatively impact cumulative recreational opportunities on the Lower American River. These related projects would each temporarily affect the availability and quality of recreational experiences in the American River Parkway during construction, but in aggregate, there would be a less-than-significant long-term cumulative impact on recreation on the American River Parkway.

- CBD-3-38 Visual impacts to the American and Sacramento Rivers are discussed in Impact 3.1-a. As described and referenced in the response to CBD-3-37, long term visual impacts after construction activities are complete for all project improvements except for Sacramento River Erosion Contract 3, would be less-than-significant. The Sacramento River Erosion Contract 3 improvements would result in both short- and long-term significant and unavoidable visual impacts. A long-term significant and unavoidable impact determination was made for Sacramento River Erosion Contract 3, because only areas with planting benches will be replanted.

American River Erosion Contract 3B was determined to have a long-term less than significant impact because most of the area will be replanted. American River Erosion Contract 3B Erosion protection features along the riverbank and levee embankment that include revetment are designed to be soil filled, topped with soil above the soil-filled revetment and planted to allow vegetation to establish. The only locations at the Contract 3B site where revetment will be visible and not covered with soil include tie-back features within the planting benches, the waterward face of the planting benches and stormwater outfalls. Renderings and maps of areas to be replanted at American River Erosion Contract 3B have been added to Section 3.5.2 "American River Erosion Contracts 3B North, 3B South and 4B" of the SEIS/SEIR.

- CBD-3-39 As described and illustrated in MR 2-2, MR 3-1, MR 15-1, and updates to Chapter 3, "Alternatives," and Appendix B, Section 4.1, "Vegetation and Wildlife, the project would include the selective removal of mature riparian forest to enable the construction of the Contract 3B and 4B improvements. The proposed improvements would remove some areas of riparian forest, including mature forest, but as described in MR 2-2, MR 3-1, MR 15-1 and Chapter 3, the design was prepared to retain existing riparian forest to the extent possible. After the immediate construction impacts on recreation have ceased, the Contract 3B project site would retain substantial areas of riparian forest, both along the low-

flow shoreline and farther up the bank toward the toe of the levee. Also as described in MR 3-3, MR 3-4 and MR 15-2, vegetation is expected to be established after 8 to 10 years.

- CBD-3-40 Mitigation Measures VEG-1 and VEG-2 are not intended to mitigation for visual effects. The Mitigation Measures have been updated based on comments received during the public comment period. All mitigation Measures with strike through and underline edits are included in MR 5. Through public comments it has been made apparent that Heritage Oaks were a topic of great public interest and the Final SEIS/SEIR contains additional details related to conservation or removal of trees. Early designs for American River Erosion Contract 3B impacted a significant amount of heritage oaks and after feedback from NPS and Sacramento County Regional Parks, the project was redesigned to minimize impacts to large trees as much as feasible while still meeting flood risk reduction objectives (see MR 3-1 for more details). The refined designs that were carried forward into this SEIS/SEIR were deliberately developed to avoid as many Heritage Oak trees as possible. Section 2.5.2 “Contract 3B” of Appendix G, “Engineering”, provides greater detail on the design process; also, MR 15-1 further discusses the classification and identification of large Oaks within the project footprint. The project boundary of Lower American River Erosion Contract 3B includes onsite mitigation, see CBD 3-38 for a more detailed description of areas that will be replanted at American River Erosion Contract 3B. The construction footprints along the Sacramento River are much smaller, the areas that include onsite mitigation are limited to what the engineers and the risk cadre determined to be safe. Most of the bank protection areas are covered in soil and will be hydroseeded with a native seed mixture, where trees and shrubs cannot be planted. The entire area within the construction footprint will be permanently altered to reduce flood risk in the Sacramento area. Also, the entire area within the constriction footprint will return to preexisting habitat conditions in the long term. MR 5 discussed mitigation at a programmatic level, MR 3-1 and 15-1 provide more site-specific discussions on tree removal and mitigation for American River Erosion Contract 3B. MRs 2 and 3 take a deeper look at the design development and evaluation, along with the erosion risk and bioengineering. Unfortunately, with the compensatory mitigation ratios ranging from 1:1 to 3:1 Project Partners are unable to fully complete the mitigation requirements onsite. However, the off-site mitigation locations were coordinated with resource agencies to benefit the same species and individuals that may have been impacted by construction. MR 9 dives into additional details on the American River Mitigation Site, which is located downstream from all the American River Erosion Contracts, near the confluence with the Sacramento River.
- CBD-3-41 Refer to the response for CBD-3-40. Please refer to CBD-3-21 for a discussion on how Lower American River Contract 1 and Contract 2 design relates to American River Contract 3B work. Contract 1 and Contract 2 contains the highest risk for erosion on the Lower American River.

For Contract 1, although preserving trees in place by placing rock around some existing trees rather than fully removing all trees was considered earlier in the design development phase, evaluations of older erosion repairs along American River where existing trees were preserved in that manner showed those trees did not fare well or eventually died post construction. Based on those observations, and in coordination with the resource agencies, it was determined best to remove all the trees within the footprint and include design features which would allow for better establishment of planned revegetation following completion of the erosion protection features. To offset as much of the habitat impacts as possible within Contract 1 itself, this design included construction of planting benches at summer mean/low water level elevations to increase habitat for vegetation, recreation, and wildlife. To accommodate these mitigation features, the planting bench had extended into the river channel which, along with the vertical extents of rock installed, significantly constricted what was already the narrowest section of the river. This constriction, if not offset or mitigated, would have caused unacceptable hydraulic impacts. To address this design-induced impact, Contract 2 was developed to excavate the right-side (north) bank opposite Contract 1 and offset, or unconstrict, the river channel.

The Contract 2 project site is mostly composed of hydraulic mining debris, which is highly erodible, and prior to construction of Contract 2, the riverbank was very steep, if not vertical, preventing easy recreation access to the shoreline. Also, due to the steepness of the riverbank and erodibility of the overbank material, the river was gradually undermining the riverbank, leading to collapse of sections of the bank and bank line retreat over time. The existing vegetation on the riverbank was gradually being lost to this bank retreat. Design of American River Erosion Contract 2, starting across the river from the Fairbairn water intake structure at the upstream end and continuing downstream to Cadillac Drive, provided an opportunity to not only offset the hydraulic impacts caused by Contract 1, but also improve habitat values at the Contract 2 site. Additionally, the improved conveyance at Contract 2 provides far reaching benefits upstream, reducing river stages upstream beyond Watt Avenue. This improved conveyance has afforded more flexibility for the design of American River Erosion Contract 3B upstream of Howe Avenue, and been a significant factor in minimizing the overall Contract 3B design footprint and the impacts to parkway resources caused by Contract 3B. Contract 2 is made up of 2 sites: Site 2-3 and Site 2-2.

The design for Site 2-3 included excavation of the overbank approximately 100-feet landward and gently transitioning the grade from the river's edge upward to the landward extent of the excavation to provide more suitable area for habitat restoration and a more pedestrian friendly grade for access to the river's edge. Overall, the excavated grade added over 15 acres of new riparian habitat, increased fish habitat near the shoreline.

Contract 2's Site 2-2 is located on the right bank starting just upstream of Howe Avenue and continues approximately 1,200 feet downstream and was much less impactful to parkway resources compared to Contract 1 and the rest of Contract 2.

Similar to Site 2-3, prior to construction the riverbank within Site 2-2 had very steep slopes which were gradually being undermined and were retreating landward. Fortunately, because this site is located along a wider section of the river, there was opportunity to extend the bank line waterward, and similar to Site 2-3 expand habitat areas by providing a gentler slope from the top of overbank down to the river's edge. To construct this site, impacts to existing habitat were limited only to vegetation on the riverbank; some of the existing trees further up on the riverbank were able to be preserved in place.

Revegetation of Contracts 1 and 2 began with plantings installed along all of Contract 1 in 2023 and the portion of Contract 2 downstream of the H Street Bridge crossing. The remainder of Contract 2 was revegetated in 2024. Although the impacts to the parkway's resources were significant due to required vegetation removal to support construction of these two contracts, these impacts are temporary, and once the revegetation plantings have had a few years to establish the Parkway will benefit from overall improved habitat.

- CDBD-3-42 As described in MR 3 and the discussion and references in the responses to CBD-3-18 and CBD-3-27, the project would selectively remove areas of riparian vegetation, but the visual character of the area would be similar to existing conditions, with scattered areas of riparian forest interspersed with grassy areas and areas of low vegetation.
- CBD-3-43 Mitigation for impacts to riparian forest include habitat creation in accordance with the 2015 ARCF GRR Fish and Wildlife Coordination Act Report or the Endangered Species Act consultation with USFWS and NMFS. Additionally, please refer to CBD-3-17 for details on the replanting plans and CBD-3-31 for details on wildlife corridors left. Expect for a 1,200-foot strip downstream of the Waterton Way River Access, strips of vegetation will be left in place. Though the area replanted will generally be even aged, there will still be mature riparian forest in adjacent to areas where trees will be removed.
- CBD-3-44 Please refer to MR 6, which addresses health risks associated with air emissions. A Health Risk Assessment (HRA) was prepared for the Contract 3B project component, and the results are described in MR 6 and updated text in Appendix B, Section 3.5, "Air Quality," and the HRA is provided in Appendix J.
- CBD-3-45 Please refer to MR 6, which addresses health risks associated with air emissions.
- CBD-3-46 Please refer to CBD 3-44. Also, the California Environmental Protection Agencies, Air Resources board, Asbestos Airborne Toxic Control Measures for Surfacing Applications (ATCM) has exempted rip rap for the use of restricted asbestos containing materials (CalEPA Air Resources Board 2002⁹⁴). According to the most current regulations, the use of restricted material for riprap along waterways for erosion prevention and stabilization should not result in significant

⁹⁴ California Environmental Protection Agency (CalEPA) Air Resources Board. 2002. Implementation Guidance Document for the Asbestos Airborne Toxic Contract Measure for Surfacing Applications. Available: <https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/atcm/asbpl1gd.pdf>. Accessed: 5/20/2024.

asbestos exposures because according to ATCM there would be no vehicular traffic and very little pedestrian access to these surfaces (CalEPA Air Resources Board 2002). However, the current rock quality Specification requirements for American River Erosion Contract 3B prohibit use of undesirable rocks for revetment with low density and detrimental veins, which are common in with high concentration asbestos containing rocks. Consequently, there is a low risk of revetment being brought to the site with high concentrations of asbestos.

- CBD-3-47 Thank you for your concern with the safety of students at O.W. Erlewine elementary school and recommending Project Partners consider Title 1 schools. The following text has been added to Section 2.5.3, “Analysis of Environmental Effects,” in Appendix B, “Detailed Analyses:”

Additionally, O.W. Erlewine Elementary School and Isadora Cohen Elementary are listed receiving Title 1 funds in the 2023-2024 fiscal year (California Department of Education 2024). Additionally, a staging area for Contract 3B South is adjacent to O.W. Erlewine Elementary School. Project Partners have conducted a Health Risk Assessment for the Contract 3B component as the public was concerned about health impacts to students at O.W. Erlewine Elementary School. The Health Risk Assessment indicates that there is not a risk with construction and can be viewed in Appendix J. Additionally the staging area will be completely fenced off to prevent students from getting near construction equipment.

- CBD-3-48 "Appendix B, Section 3.5, “Air Quality” (p. 29), Impact 3.5-c, “Expose Sensitive Receptors to Substantial Pollutant Concentration,” provides a comparative analysis using data from the California Office of Environmental Health Hazard Assessment (2015) demonstrating short-term exposure periods (2-3 years) to diesel exhaust is not anticipated to result in increased health risk. Health risks, such as cancer, are associated with chronic exposure of 30–70-year exposure periods. Mitigation Measure AIR-1 implements Sacramento Metropolitan Air Quality Management District Construction Emission Control Practices to reduce exhaust emissions including diesel particulate matter to protect sensitive receptors including children. Please refer to MR 6 and Appendix J, “Health Risk Assessment.”

- CBD-3-49 Although the commenter states that it is feasible for an electric truck fleet to be used for material hauling, no evidence is provided to indicate that electric haul trucks are available in the scale and timeframe required for this project. The air board has a list of certified medium and Heavy-Duty Zero Emission Vehicles (ZEV) but does not provide any availability. However, the Air Board staff acknowledged that there are very few ZEV of the type need for this project currently registered with Sac Metro Air Quality Monitoring District. Mitigation Measure AIR-3 has been edited in response to this comment to require use of zero-emission equipment where commercially available, with more stringent requirements to use Tier 4 Final or cleaner engines where zero-emission equipment is not commercially available.

- CBD-3-50 An HRA has been prepared, as suggested by the commenter. Please refer to MR 6, updates to Appendix B, Section 3.5, “Air Quality,” and Appendix J, “Health Risk Assessment.”
- CBD-3-51 Appendix B, Section 2.6, “Socioeconomics” describes baseline conditions, Federal methodology for evaluating impacts and basis of significance, as well as the analysis of environmental effects on population, housing, employment, local economy, and at-risk communities, including low-income and minority populations. There are no requirements or procedures to evaluate environmental justice impacts under CEQA unless there are resulting effects to the physical environment; therefore, an Impact Focus Approach (EPA 2016) was used to develop project-specific criteria thresholds to adequately evaluate impacts to local communities. This methodology utilized the CEQ’s Federal mapping tool, which uses census tract data to identify communities that meet thresholds for at least one category of socioeconomic or environmental burdens. Additional analysis identifying real-world conditions was conducted through demographic analysis, site visits, and public outreach to corroborate impact conclusions.
- Appendix Section 2.6, “Socioeconomics,” using desktop tools and site visits, developed baseline information for the project area identifying at-risk communities that may be impacted disproportionately by the project due to socioeconomic and environmental burdens such as: Energy, Health, Housing, Legacy Pollution, Transportation, Water and Wastewater, and Workforce Development. USACE acknowledges that the available tools do not quantify access to recreation as socioeconomic burden. While the construction limits of American River Erosion Contracts will block access to portions of the American River Parkway, there are plentiful recreational areas upstream and downstream of the construction footprint. Gristmill Recreation Area, Watt Avenue River Access and Boat Ramp, River Bend Park and Hagan Community Park are open to the public by bike trail on American River Erosion Contract 3B South, and William B. Pond Recreational Area are open to the public and are easily accessible, near American River Erosion Contract 3B North. Temporary loss of recreational access would not disproportionately impact identified at-risk communities and therefore, no changes to the text have been made. Communities adjacent to the construction limits would experience greater loss of recreation, and as shown in Figure 2.6-1 Census Tracts with At-Risk Communities near American River Erosion Contract 3B and American River Erosion Contract 4B, river adjacent communities are not at-risk.
- In project implementation by providing the flood risk reduction benefits in terms of public health and safety in the greater Sacramento metropolitan area, the 2016 ARCF Project would provide social benefits to at-risk communities including those with low-income and minority populations that are historically encumbered by socioeconomic and environmental burdens.
- CBD-3-52 Please refer to MR 15-6, which addresses riparian forest and carbon sequestration over time, grassland and riparian habitat would provide similar or greater annual carbon sequestration and storage. Additionally, off-site mitigation would be

implemented as part of the Project Action and would result in increased carbon sequestration.

CBD-3-53 Please refer to MR 15, which addresses riparian forest and CBD 3-6.

CBD-3-54 The Lower American River Contracts 3B and 4B were originally analyzed in the ARCF GRR FEIS/EIR. As discussed on page 3-3, the ARCF SEIS/SEIR states that in 2019, the designs along the American River were refined to incorporate alternative erosion protection measures to minimize impacts to heritage oaks, riparian habitat, and to create higher-quality onsite mitigation. Additionally, as discussed in Section 3.3.2, “Alternatives Considered, but Rejected from Detailed Analysis,” on page 3-4 and 3-5, several alternatives were initially considered for the American River Contract 3B site, however, they were rejected from detailed consideration due to not meeting environmental or flood risk reduction needs or having additional environmental impacts. Please refer to MR 2-2 and MR 3-2, which includes a detailed explanation of why nature-based solutions were not feasible to address the project need at this location. Additionally, CEQA Guidelines 15126.6 states that:

“An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. . . There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

The EIR complies with the CEQA Guidelines regarding alternatives evaluation.

CBD-3-55 As discussed in the ARCF SEIS/SEIR in Chapter 3, “Description of Project Alternatives,” USACE considered a reasonable range of action alternatives that could feasibly attain most of the projects basic objectives and accomplish the specific project purpose and need, while avoiding and/or substantially lessening potentially significant and significant environmental impacts of the Proposed Action. The ARCF SEIS/SEIR includes a detailed discussion of the alternatives development and screening as well as alternatives considered but rejected from detailed analysis. Furthermore, as described in MR 3-1 and MR 5-3, the design progression for Contract 3B has increased the area of riparian habitat to be avoided and reduced the impacts on habitat compared to the 2016 GRR EIS/EIR.

CBD-3-56 Please refer to MR 2, which addresses the design process and scope of improvements for the Lower American River Contract 3B. Additionally, please refer to the response for CBD 3-54, which addresses the alternatives analysis for the Lower American River Contracts 3B and 4B.

CBD-3-57 Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the 65 percent design footprint to account for anticipated upcoming design changes in order to ensure that all possible impacts from anticipated upcoming

design refinements on the environment were communicated to the public. Project Partners are now more confident with the design footprints so updated maps with the most up to date information and maps showing tree removal areas have been added to Section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. Additional information on trees is discussed in MR 15-1.

CBD-3-58 Please refer to MR 3 and MR 15, which addresses tree removal and plantings.

CBD-3-59 The full text of 42 U.S. Code 4321 is as follows: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

The purpose of the American River Common Features 2016 Project is to reduce the overall flood risk within Sacramento metropolitan area by addressing levee failure risks due to seepage and erosion to prevent levee failure that threatens the public safety, property and infrastructure. The project purpose does "stimulate the health and welfare of man" by reducing the unacceptable high risk of flooding that threatens the public health and lives of river adjacent communities. The SEIS/SEIR contains site-specific analysis for each Project Component and the resulting impacts on the human environment, physical resources, ecological and biological resources, and cultural resources, with proposed mitigation measures. Section 3.3 Alternative Development and Screening contains a detailed description of alternative selection over the life of the project. In addition, every NEPA document is required to analyze the no action alternative. As evident in this Appendix I, Public Involvement, USACE and the non-federal Partners, continue to take a "hard look" at the environmental effects of the Proposed Action, ensuring all impacts are disclosed so that significant impacts can be avoided, minimized or mitigated to the fullest extent.

The document was written jointly to comply with both CEQA and NEPA; therefore, the responses above to the specific issues raised by the commenter are the same as those addressed above.

1. Recreational Impacts – MR 4 Section 4.5 and CBD-3-24 through -30
2. Biological Impacts – MRs 3, 5, and 15 and CBD-3-31 through -36
3. Visual Impacts CBD-3-37 through -43
4. AQ and Health Impacts – MR 6, 11, and CBD-3-44 through -50
5. Social Impacts – MR 14 and CBD-3-51
6. Riparian Forest – MR 15 and CBD-3-52 and -53
7. Level of Design Detail – MR 2, Appendix G "Engineering" and CBD-3-57

Reasonable Alternatives – The 2016 ARCF Final EIS/EIR addressed the alternatives that were responsible for analyzing the best way to reduce flooding in the Sacramento area. From there designs were developed and further refined, later identifying specific details that had no prior NEPA coverage, for example haul routes and mitigation sites. This led to the development of multiple Supplemental Environmental Assessments and this Supplemental EIS/EIR. The alternatives included are site specific design variants for contracts that were not at 95 or 100 percent design when the document needed to be written.

- CBD-3-60 USACE acknowledges that community groups have similar concerns with this Draft SEIS/SEIR that were raised during the public comment period during the 2016 ARCF GRR EIS/EIR. Figure 3.5.2-1 in Section 3.5.2 of the Draft SEIS/SEIS compares the construction footprint as described in the 2016 Proposed Action with the 2023 Project Components on the American River. Through considerable planning effort, USACE reduced the original 11 miles of American River erosion work which was originally proposed in 2016, to about 6 miles in the 2023 SEIS/SEIR. This substantial reduction of riverine impacts was achieved by minimizing project footprints to the greatest extent while still meeting the flood risk objectives and was resultant from the public outreach process conducted in 2016. The public concerns summarized in Appendix F of the 2016 FEIS/EIR resulted in the reduction of vegetation impacts including heritage oaks, wildlife habitat loss, and increased recreational access along upstream and downstream extents of the American River for swimming, fishing, walking, wildlife viewing, kayaking, and biking along the levee and river trails.

USACE is committed to continued engagement with the public after the close of the public comment period. Announcements of public outreach will be available on www.sacleveeupgrades.com.

- CBD-3-61 As described in MR 2, MR 3-1, MR 15-1 and updates to Chapter 3, “Alternatives,” the project would include the selective removal of mature riparian forest to enable the construction of the Contract 3B improvements. The proposed improvements would remove some areas of riparian forest, including mature forest, but as described in MR 2, MR 3-1, MR 15-1 and Chapter 3, the design was prepared to retain existing riparian forest to the extent possible. After the immediate construction impacts on recreation have ceased, the Contract 3B project site would retain substantial areas of riparian forest, both along the low-flow shoreline and farther up the bank toward the toe of the levee. The launchable trench improvements would be covered with grasses, forbs, and vegetation. The launchable toe would be covered with a layer of choke stone fill to reduce the artificial appearance of the launchable toe. Additionally, planting benches would be construction upslope of the launchable toes and once vegetation has regrown, the visibility of the launchable toe would be greatly diminished. The general characteristics of this reach of the river (scattered areas of riparian forest, interspersed with grassy areas and areas of low vegetation, with informal trails, maintenance roads, and the Jedediah Smith Trail), would be similar to existing

conditions, although some wooded areas and some specific shoreline features would be removed or changed by the improvements.

Central Valley Bird Club

- CVBC-1 Several current publicly available, industry standard data sources, including eBird were used during preparation of the SEIS/SEIR. The updated Appendix B, Section 4.3 of this Final SEIS/SEIR includes additional information from such sources and information provided in the Central Valley Bird Club comment letter. MR 9 and MR 15, which address biological resources impacts at ARMS sites and Lower American River Erosion Contract 3B, respectively, and the updated Appendix B, Section 4.1 of this Final SEIS/SEIR also include extensive information describing project impacts and how the project attempts to balance mitigation requirements with habitat needs of other species.
- CVBC-2 Please refer to MR 1, which describes the extended comment period and two online public meetings that were conducted during the comment period. MR 7 addresses the SEIS/SEIR format and public outreach, including public meetings during and following the public review period. The public review period was 60 days, a reasonable period for the public to review and comment on the document; therefore, the comment period has not been further extended. The online meetings also provided adequate opportunity for public comment and an in-person meeting has not been added.
- CVBC-3 The updated Table of Contents in this Final SEIS/SEIR includes a list of the Appendix B components.
- CVBC-4 The commenter requests recirculation of the document because of unspecified deficiencies but does not identify specific issues with the analysis contained in the SEIS/SEIR. This Final SEIS/SEIR responds to specific comments on the Draft SEIS/SEIR and includes related text changes.
- CVBC-5 Please refer to MR 9 and updated Appendix B, Section 4.1 of this Final SEIS/SEIR, which provide a comprehensive evaluation of the permanent and temporary effects on biological resources habitat values anticipated to occur at ARMS. As described, ARMS would provide a mosaic of wildlife habitat, including extensive aquatic habitat that would vary seasonally. Based on these detailed analyses, the project would not result in a significant adverse impact on waterbirds. For example, Table 10 of MR 9 provides existing and proposed habitat suitability indices for diving ducks. Indices for three of five habitat components (water depth, percent submergent vegetation cover, and percent emergent vegetation cover) would increase substantially. For one habitat component (size of waterbody), the index value would remain the same because the wetted extent of the area would be unchanged during migratory period. For the final habitat component (disturbance), index value would decrease slightly, though this is due to implementation of American River Parkway Plan policies that would allow access to onsite habitats for boating/fishing, which is not directly related to project implementation.

- CVBC-6 Please refer to MR 2 and Appendix G, “Engineering,” which has been added to this Final SEIS/SEIR and describes the project design criteria and standards, including public safety objectives, Biological Opinion conservation measures, and general design approach that specifically includes “balancing multiple project objectives (e.g. achieving public safety requirements and minimizing environmental impacts).”
- CVBC-7 Please refer to MR 7 regarding public outreach and Appendix G, “Engineering,” which describes coordination during project design with the inter-agency working group that included NMFS, USFWS, Sacramento County Regional Parks, and NPS.
- CVBC-8 Please refer to MR 7, which describes the document structure and public meetings conducted during and following the review period to assist public understanding of the project. Project Partners included an Acronym and Abbreviation section at the start of the SEIS/SEIR and Table 3.5.2-1 in an attempt to define jargon within the document.
- CVBC-9 The public review period was 60 days, a reasonable period of time for the public to review and comment on the document.
- CVBC-10 Page 4-184 specifically refers the reader to Section 4.1, “Vegetation and Wildlife” of Appendix B for the detailed analysis of biological resources. In addition, the document has electronic bookmarks that include titles of all Appendix B sections and subsections and each page of Appendix B specifies the section and content in the footer (e.g., Vegetation and Wildlife, Special-status Species).
- CVBC-11 The document clearly states (see pages ES-2 and 1-1 and relevant portions of the Section 3.5 description of the Proposed Action) that ARMS, SRMS, American River Erosion Contract 4B, and Piezometer Network are described and analyzed at a programmatic level of detail as the selected sites for these actions are still early in the planning phase and substantial information is not currently available to accurately describe impacts at a project level of analysis. Therefore, these components will require future supplemental CEQA and NEPA review. As indicated in the notes to Tables 4.3-2 and 4.3-3 cited by the commenter, additional information on impacts at ARMS and SRMS is provided in this Final SEIS/SEIR (see MR 9 and updated Appendix B, Section 4). However, that does not preclude supplemental CEQA/NEPA documentation for these and the other project components that were analyzed at a programmatic level in the Draft SEIS/SEIR.
- CVBC-12 The Draft SEIS/SEIR discusses alternatives to ARMS that were considered but rejected from detailed analysis and evaluates Alternatives 4a and 4b, which would each retain a portion of the ARMS pond, under CEQA. MR 9 provides a detailed discussion of Alternative 4a, Alternative 4b, and their consideration during ARMS design. This represents evaluation of a reasonable range of alternatives for this project component. Both Alternatives 4a and 4b have been rejected under NEPA.

- CVBC-13 Please refer to MR 9 for a detailed description of habitat changes that would occur at ARMS, including to waterbird habitat, and updated Appendix B, Sections 4.1, “Vegetation and Wildlife,” and 4.3, “Special-status Species,” for analysis of impacts on waterbird and bald eagle habitat. These analyses support the conclusion that habitat changes are unlikely to result in a significant adverse impact on common birds (including waterbirds) or bald eagle.
- CVBC-14 See responses CVBC-12 and MR 9.
- CVBC-15 As indicated in the Draft SEIS/SEIR in Appendix B, Section 4.1, “Vegetation and Wildlife,” on page 4.1-54 and discussed in MR 9, the American River Parkway Plan and Natural Resource Management Plan both recommend naturalizing the area around the ARMS, which the project would achieve. Alignment with these plans was a key consideration in development of the ARMS design.
- CVBC-16 Refer to the response to CBD-3-41 for a comparison of work near H Street (Contracts 1 and 2). Please refer to the response to CBD-3-27, which uses the erosion work upstream of Paradise Beach as an example of what Project Partners expect launchable toe erosion protection work to look like at the Contract 3B location. Please refer also to MR 2, MR 3-1, and Appendix G, “Engineering,” of this Final SEIS/SEIR, which addresses the design process, including design criteria, site evaluation and selection, and design development. The American River Erosion C3B project between Watt and Howe Avenues would not be augmenting the existing erosion protection feature within this area and would limit disturbance to this existing feature. The proposed American River Erosion C3B erosion protection feature would connect to and extend in both the downstream and upstream direction a similar type of erosion protection treatment from the existing feature installed in 1999. Bank protection like the existing feature will extend a portion of the riverbank height and be replanted. The proposed feature will include a planting bench and launchable toe erosion feature at the toe of the riverbank. The design of these features is based on assessment of past American River bank protection projects, design advancements to improve habitat mitigation/lift and included design review and design input from Sister Federal Agencies, DWR, SAFCA, County Parks and the Technical Resources Advisory Committee.
- CVBC-17 The compensatory mitigation need for impacts on riparian habitats, including Valley Foothill Riparian, which encompasses valley oak habitats, has already been defined and approved during consultation with USFWS, NMFS, and NPS – the regulating agencies for impacts on these habitats in association with the proposed action – under the ESA, FWCA, and WSRA. MR 15-2 outlines the onsite replanting strategy, which includes a diverse assemblage of native riparian species. Species are grouped into distinct planting zones that were based on existing native plant species growing at similar elevations, survival at past projects, erosion protection feature being replanted, elevation and inundation patterns expected post construction. Regreening areas are being categorized with corresponding planting zones based on location, elevation, and erosion protection

feature. Please refer to Appendix G, "Engineering" for additional information on flooding frequencies and elevations.

- CVBC-18 Please refer to MR 15, which addresses impacts on riparian vegetation and wildlife movement and Appendix G, "Engineering," of this Final SEIS/SEIR, which addresses site evaluation and selection. The cormorant and egret roost trees mentioned in the comment are within an essential bank stabilization area; therefore, this impact cannot be avoided. However, removal of these trees would not interfere substantially with cormorant movement along the American River. Although individuals that use this roost location would be displaced, there are numerous mature trees that overhang this section of the American River and provide potential roost sites to which the birds can relocate. Cormorants would continue to move through and potentially roost in other trees in the affected area.
- CVBC-19 Belted kingfisher and northern rough-winged swallow are not considered special-status species by relevant resource agencies, and the extent of impact on nesting habitat would not constitute a substantial reduction in the overall amount of potential nesting habitat available along the Lower American and Sacramento rivers. It is also not reasonable to expect these impacts would cause the population of either species to drop below self-sustaining levels or threaten to eliminate an animal community. Therefore, the extent of loss of nesting habitat for common bank-nesting species would not result in a significant impact and does not require mitigation.
- CVBC-20 Please refer to MR 9 and MR 15, which provide detailed information on the numbers of large trees within the project area that would be removed and protected. Very few large trees would be removed from ARMS relative to those outside the site that would not be affected. In addition, extensive numbers of large trees would be protected at the Lower American River Erosion Contract 3B sites and many more would remain in adjacent areas. As described under response CVBC-19, the extent of impact on common birds that nest in tree cavities would not constitute a substantial reduction in the overall amount of potential nesting habitat available along the Lower American and Sacramento rivers and is extremely unlikely to cause the population of cavity-nesting species to drop below self-sustaining levels or threaten to eliminate an animal community. Therefore, the extent of loss of nesting habitat for cavity-nesting species would not result in a significant impact. However, opportunities to incorporate nest boxes into the mitigation site plans will be evaluated and implemented, if feasible.
- CVBC-21 See responses CVBC-12 and MR 9.
- CVBC-22 The comment incorrectly states the proposed modifications at ARMS would address mitigation needs for impacts occurring outside the American River Parkway. The ARMS site is intended for use to mitigate ARCF 2016 project impacts along the Lower American River only. Please refer to MR 9, which addresses proposed improvements at ARMS, including permanent habitat conversion.

- CVBC-23 The Draft SEIS/SEIR evaluates all impacts of implementing proposed mitigation at ARMS, including air quality impacts.
- CVBC-24 See response CVBC-11.
- CVBC-25 The comment states that a 600-foot construction buffer for the bald eagle nest at ARMS is inappropriate due to variations in eagle behavior. The proposed buffer is 660 feet and is consistent with recommended buffer zones published by USFWS (USFWS 2017⁹⁵) and discussed with local USFWS staff.
- CVBC-26 Section 3.5.5, “American River Mitigation Site (Program Level)” of the Draft SEIS/SEIR states “The man-made pond provides a feature that reduces excavation for creating inundated riparian habitat, reducing transportation, air quality, and GHG emissions impacts.” The focus is on reducing impacts related to excavation, not fill, as indicated by the commenter. Because there is an existing pond, extensive material excavation would not be required to create open water and inundated riparian habitat of appropriate depth. The Draft SEIS/SEIR acknowledges that construction of ARMS would require import of fill material and result in associated impacts. However, the amount of fill import that would be required to contour the site is less than the amount of excavation that would be required to create inundated habitat at an upland site elsewhere.
- CVBC-27 The commenter implies Alternative 4a was completely rejected from consideration in the Draft SEIS/SEIR and that rejection was based solely on the need for elderberry mitigation. This is incorrect. Alternative 4a was not rejected from consideration under CEQA and was analyzed in the Draft SEIS/SEIR. Please refer to Section 3.3.2.2.4, “American River Mitigation Site,” for a discussion of the multiple reasons USACE determined to exclude Alternatives 4a and 4b from analysis under NEPA. See also response CVBC-12.
- CVBC-28 and -29 Findings and statements of overriding considerations will be considered by the Central Valley Flood Protection Board at the time that the agency considers certification of the Final Environmental Impact Report, adoption of the findings and statement of overriding considerations, and approval of the Project. The findings and statements of overriding considerations would include determinations related to the feasibility of the alternatives being considered and their ability to meet the project objectives.
- CVBC-30 Please refer to MR 9, which addresses proposed improvements at ARMS and discusses the multiple considerations that informed the restoration design, one of which was minimizing conversion of upland habitat to aquatic habitat surrounding the bald eagle nest tree. Also see augmented analysis addressing impacts on bald eagle foraging in the updated Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR.

⁹⁵ U.S. Fish and Wildlife Service 2017. Recommended Buffer Zones for Human Activities around Nesting Sites of Bald Eagles in California and Nevada. Available: https://www.fws.gov/sites/default/files/documents/USFWS-California-Great-Basin-bald-eagle-nest-buffer-recommendations-Dec2017_0.pdf. Accessed 2/18/2025.

- CVBC-31 Please refer to Section 3.3.2.4, “American River Mitigation Site,” of the Draft SEIS/SEIR for a discussion of reasons USACE determined to exclude Alternatives 4a and 4b from analysis under NEPA. See also responses CVBC-12 and CVBC-28 and -29.
- CVBC-32 Please refer to Parks 2-27 for additional details regarding alternatives considered for the ARMS location on the LAR, and MR 9-11 for existing and proposed habitat values.
- CVBC-33 See response CVBC-13.
- CVBC-34 Please refer to MR 9, which addresses proposed improvements at ARMS and discusses the multiple considerations that informed the restoration design.
- CVBC-35 Please refer to MR 9, which provides a detailed analysis of impacts on waterbirds that would result from constructing ARMS and support for the Draft SEIS/SEIR conclusion that the project would not result in a significant impact on movement of native wildlife. Also see responses CVBC-28 and -29 for discussion of alternative selection.
- CVBC-36 Please refer to MR 4, which addresses recreation impacts, and revisions to Impact 2.2-c in Appendix B, Section 2.2, “Recreation,” in the Final EIS/EIR. Please refer also to the response to CBD-3-18, which provides an overview of the changes in the physical environment at the Contract 3B project site, and MR 15, which provides additional detail on tree preservation and removal at the Contract 3B project site. Please refer also to MR 2 and MR 3, which address the design process and explain why nature-based solutions were not selected to address the erosion risks in this reach of the American River.
- CVBC-37 Short- and medium- term impacts refer to impacts during construction and in the 8-10-year establishment period for revegetation plantings. Please refer to MR 15. Please refer also to MR 4 and revisions to Impact 2.2-c in Appendix B, Section 2.2, “Recreation,” in the Final EIS/EIR, which explain and justify the significance conclusion questioned by the commenter.
- CVBC-38 Please refer to the response to CVBC-36.
- CVBC-39 Please refer to the response to CVBC 36. Please refer particularly to revisions to Impact 2.2-c in Appendix B, Section 2.2, “Recreation,” in the Final EIS/EIR, which clarify the discussion for long-term recreational impacts. As documented in this revised text, and elsewhere in the response to comments, the changes to the Final EIS/EIR document do not constitute “significant new information” which would require recirculation under Section 15088.5 of the State CEQA guidelines.
- CVBC-40 CEQA requires consideration of “conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect (Appendix G XI [b]). Policies in the American River Parkway Plan related to the potential recreational uses of the pond at the ARMS (Goal 10.6 and its policies) were not adopted for these purposes, and so conflict with these policies

would not constitute an environmental impact. These policies in fact limit the potential recreational uses of the pond (boating for interpretive purposes only, and fishing only by permit).

- CVBC-41 and -42 Please refer to MR 9, which acknowledges use of ARMS by waterbirds and provides a detailed analysis of impacts on waterbirds that would result from ARMS construction. Also see response CVBC-5. It is not reasonable to expect these impacts would cause the waterbird populations to drop below self-sustaining levels or threaten to eliminate this animal community, thereby resulting in a significant impact.
- CVBC-43 The Urrutia pond is a Water of the U.S. and, therefore, considered a sensitive natural community in the SEIS/SEIR Appendix B Section 4.1, “Vegetation and Wildlife,” Section 4.1.1, “Sensitive Natural Habitats.”
- CVBC-44 Please refer to MR 9, which provides a detailed analysis of impacts on waterbirds that would result from ARMS construction and support for the Draft SEIS/SEIR conclusion that the project would not result in a significant impact on movement of native wildlife. Also see response CVBC-5. Based on the analysis in MR 9, it is not reasonable to expect habitat conversion at ARMS would cause the waterbird populations to drop below self-sustaining levels or threaten to eliminate this animal community, thereby resulting in a significant impact.
- CVBC-45 The Urrutia pond is considered a Water of the U.S. as well as a historical traditional navigable water under Section 10 of the Rivers and Harbors Act because the LAR main channel was previously aligned through the Urrutia property (see MR 9-1). The proposed project would restore the site to its historical condition and result in a net gain of approximately 9 acres of waters of the U.S. and traditional navigable waters.
- CVBC-46 See response CVBC-15.
- CVBC-47 Please refer to MR 9 and updated Appendix B, Section 4.1, “Vegetation and Wildlife,” of this Final SEIS/SEIR for detailed description of habitat changes that would occur at ARMS, including pond conversion. As supported by these updated discussions, the habitat changes would not result in a significant adverse impact on biological resources.
- CVBC-48 Please refer to updated Table 4.3-1 in Appendix B, Section 4.3, “Special-status Species,” of this Final SEIS/SEIR where edits have been made to indicate purple martin in the Sacramento region do not nest in trees.
- CVBC-49 Please refer to MR 9, which provides a detailed analysis of impacts on waterbirds that would result from ARMS construction and support for the Draft SEIS/SEIR conclusion. The commenter is referring to the discussion of regulations that prohibit take of birds, not habitat alteration, because the species referenced are not special-status species. Based on the analysis provided in MR 9, it is not reasonable to expect habitat conversion at ARMS would cause the waterbird

populations to drop below self-sustaining levels or threaten to eliminate this animal community, thereby resulting in a significant impact.

- CVBC-50 Project impacts on habitat and special-status species were quantified in the Draft SEIS/SEIR for components evaluated at a project level. Impact quantifications have been expanded and updated in MR 9 and MR 15 and the revised Appendix B sections of this Final SEIS/SEIR.
- CVBC-51 Please refer to MR 4, which addresses recreation impacts.
- CVBC-52 As described in Appendix G, “Engineering,” and MR 15, project design considered tree locations and was developed to minimize tree loss to the maximum extent feasible and protect numerous large trees at the Lower American River Erosion Contract 3B sites. The commenter states that additional mitigation is required but does identify specific measures.
- CVBC-53 Please refer to Section 5.1.12, “Greenhouse Gas Emissions and Energy Consumption” of the SEIS/ SEIR for an analysis of cumulative effects on climate. This analysis resulted in the determination that the Proposed Action would not result in a cumulatively considerable incremental contribution to a significant cumulative effect related to climate.
- CVBC-54 The comment refers to the “General Plan” and states that the project would violate various policies. It is unclear whether the commenter intends to refer to the City or County of Sacramento’s General Plan. Regardless, neither USACE nor CVFPB is subject to compliance with local land use plans. Appendix B, Section 2.4, “Land Use, Farmland, and Forestland” includes a discussion of General Plan policies adopted for the purposes of mitigating environmental impacts.
- CVBC-55 Please refer to updated Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR. Resources consulted for preparation of the special-status species analysis were appropriate to adequately evaluate impacts on special-status wildlife and identify significant impacts where applicable.
- CVBC-56 Please refer to updated Table 4.3-1 in Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR where edits have been made to species information.
- CVBC-57 Starthistle is very prevalent throughout the parkway, it is very difficult to keep out of a specific area with a local seed source. The management contracts primarily focus on keeping the planted vegetation alive and secondarily minimize the presence of non-native species. It is acknowledged in the management plans and vegetation management contracts that non-native species are difficult to eliminate entirely and should be managed at mitigation sites.
- CVBC-58 See response CVBC-43 and CVBC-45.
- CVBC-59 Please refer to MR 9, MR 15-8, and updated Appendix B, Section 4.1, “Vegetation and Wildlife,” which provide a comprehensive evaluation of the

permanent and temporary effects on biological resources habitat values anticipated to occur at ARMS. Based on these detailed analyses, the project would not result in a significant adverse impact on waterbirds or other wildlife populations. Also see response CVBC-15 regarding cormorant roost trees at Lower American River Erosion Contract 3B.

- CVBC-60 Documents pertaining to the upkeep and maintenance of mitigation sites are public records, but these documents are not yet prepared and cannot be provided for review concurrent with the Final EIS/EIR. The commenter offers no evidence to support its assertion that the proponents have failed to adequately maintain and protect existing mitigation areas.
- CVBC-61 See response CVBC-59. Although waterbirds would be affected by ARMS construction, it is not reasonable to expect project implementation would eliminate waterbird movement between foraging and roosting areas, cause populations drop below self-sustaining levels or threaten to eliminate an animal community, thereby resulting in a significant impact.
- CVBC-62 See response CVBC-43.
- CVBC-63 See response CVBC-45.
- CVBC-64 See response CVBC-15.
- CVBC-65 Impact 4.1-c referred to by the commenter does not assert the impact on vegetation and wildlife would be temporary, as implied by the comment. A significant and unavoidable impact is acknowledged, until the point at which mitigation plantings have matured and reduced the long-term impact to less than significant. As described in MR 15 and the Appendix G, "Engineering," tree removal has been minimized to the maximum extent possible while still meeting the project needs. Mitigation to protect the bald eagle nest tree at ARMS is not required because the design was specifically developed to avoid impact on this tree.
- CVBC-66 Comment noted regarding information on status of osprey in the project area and differentiation between riverine and off-channel habitat. Please refer to MR 9, which provides detailed evaluation of impacts on off-channel habitat at ARMS.
- CVBC-67 See response CVBC-57.
- CVBC-68 The comment states ARMS construction would not comply with the American River Parkway Natural Resources Management Plan but does not indicate in what way it would not comply. As indicated on Appendix B, Section 4.1, "Vegetation and Wildlife" at page 4.1-54 of the Draft SEIS/SEIR, and as discussed in MR 9, the American River Parkway Plan and Natural Resource Management Plan both recommend naturalizing the area around the ARMS, which the project would achieve. As described in MR 9, ARMS construction would not eliminate nearly all open water and would provide a mosaic of habitat, including open water habitat that would vary seasonally but would not be limited solely to small,

narrow areas as indicated in the comment and would continue to provide foraging and roosting habitat.

- CVBC-69 Mitigation needs, including those of yellow-billed cuckoo are based on requirements of the amended Biological Opinion for the ARCF 2016 Project. In addition, the proposed mitigation would benefit a suite of riparian species, not just yellow-billed cuckoo. As described in Appendix G, “Engineering,” and MR 15, project design minimizes removal of large trees to the maximum extent feasible and protects numerous large trees at the Lower American River Erosion Contract 3B sites.
- CVBC-70 Please refer to MR 9, which provides a detailed analysis of impacts on waterbirds, including movement, which would result from ARMS construction and support for the Draft SEIS/SEIR conclusion that the project would not result in a significant impact on movement of native wildlife. Also see responses CVBC-5 and CVBC-18. It is not reasonable to expect that ARMS construction and cormorant roost tree removal at Lower American River Erosion Contract 3B would cause the affected populations to drop below self-sustaining levels or threaten to eliminate an animal community. Therefore, the extent of habitat conversion would not result in a significant impact.
- CVBC-71 Please refer to MR 15-4 for a description of maintenance activities to be performed in association with the bank protection sites.
- CVBC-72 See response CVBC-25.
- CVBC-73 As supported by analysis in MR 9, ARMS construction would not eliminate migratory birds that use open water habitats and would not result in a significant impact on these species or wildlife movements. See also response CVBC-18.
- CVBC-74 Whether or not purple martins will occur at the project sites, Mitigation Measure BIRD-1 will be implemented in order to minimize the potential for impacts is necessary to minimize potential for impacts on nests of other species.
- CVBC-75 CDFW does not issue take permits for migratory birds and USFWS only issues such permits in specific situations that do not currently include incidental take from projects such as the proposed. Also see responses CVBC-25 and CVBC-48 regarding bald eagle and purple martin, respectively.
- CVBC-76 Please refer to MR 15, which details tree removal and protection in the primary area of project-related riparian impacts. As described and depicted in MR 15, the erosion protection footprints do not include the entire area waterside of the levees and extensive areas of riparian habitat would be preserved waterside of the levees at the project sites.
- CVBC-77 See responses CVBC-5, CVBC-18, and CVBC-20. Impacts on cavity-nesting birds.

and 78	roosting waterbirds would not be significant and additional mitigation, such as provision and maintenance of nest boxes is not required. However, opportunities to incorporate nest boxes into the mitigation site plans will be evaluated and implemented, if feasible.
CVBC-79	See response CVBC-52. The project has been designed to minimize riparian impacts to the maximum extent feasible.
CVBC-80	See response CVBC-69. Implementing project mitigation would benefit a variety of species that rely on riparian habitats.
CVBC-81	The referenced discussion is not intended to provide a complete representation of migratory birds that use the project sites. As detailed in MR 15, the project has been designed to minimize removal of large trees along the American River to the extent feasible.
CVBC-82	Please refer to updated Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR, which augments discussion of project-related impacts on bald eagle, based in part on the detailed analysis provided in MR 15. ARMS will continue to provide open water foraging habitat for bald eagle. In addition, ARMS design includes features intended to minimize potential for human disturbance of the nest site. Also, the nest buffer guidelines that would be implemented are based on standard USFWS protocol.
CVBC-83	Please refer to updated Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR, which augments discussion of project-related impacts on burrowing owl and augments Mitigation Measure BUOW-1. Burrowing owl surveys conducted before project activities begin will be conducted by a qualified biologist with relevant experience.
CVBC-84	Please refer to updated Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR for refinement of information related to least Bell’s vireo.
CVBC-85	Please refer to updated Appendix B, Section 4.3, “Special-status Species” of this Final SEIS/SEIR for refinement of information related to yellow-billed cuckoo. Also see response CVBC-69 regarding mitigation requirements.
CVBC-86	The implementing agencies are legally required to conduct surveys and avoid impacts on nesting white-tailed kites. In addition, the project would not substantially reduce herbaceous habitat along the American River and mitigation for planting of elderberry shrubs in herbaceous areas is not required.
CVBC-87	Comment noted regarding use of the ARMS pond at times of year other than winter. This does not change the analysis of impacts in the SEIS/SEIR.
CVBC-88	The discussion of impacts on birds in the Draft SEIS/SEIR focuses on construction-related disturbance because loss of active nests is the most likely mechanism to result in a significant impact. Although habitat changes would have

an adverse effect on some bird populations, ARMS construction and other habitat mitigation would provide habitat for a diverse assemblage of bird species.

- CVBC-89 As described in MR 15 and Appendix G, “Engineering,” of this Final SEIS/SEIR, project design minimizes riparian vegetation removal to the maximum extent possible and would protect numerous trees at the Lower American River Erosion Contract 3B sites. MR 15 also details why ARMS construction would not result in a significant adverse impact requiring additional mitigation. See also response CVBC-20 regarding cavity nesting birds.
- CVBC-90 Please refer to MR 1, which describes the extended comment period to provide commenters additional time to submit comments. Requiring written comments does not violate state or federal regulations regarding environmental compliance or agency responsibilities to involve the public. Having written comments helps ensure accurate records of comments being received and agency response to those comments, as documented in this Final SEIS/SEIR.
- CVBC-91 Surveys that will be conducted before ARMS construction begins will include those required by this Final SEIS/SEIR and all applicable project permits and approvals. As described in MR 9, ARMS would provide a mosaic of wildlife habitat, including extensive waterbird habitat that would vary seasonally.

Environmental Council of Sacramento (ECOS)-1

- ECOS-1 Please refer to MR 1, which addresses the public comment period.
- ECOS-2 Please refer to MR 2 and Appendix G “Engineering,” which discusses the background data and design development. Please refer to MR 3, which addresses tree removal and plantings in Contract 3B and 4.
- ECOS-3 Please refer to MR 1 and MR 7, which address the public comment and scoping period. Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G “Engineering.”
- ECOS-4 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G “Engineering.”
- ECOS-5 Please refer to MR 1 and MR 7, which addresses the public comment period and requests for in-person meetings.

Save the American River Association (SARA) 1

- SARA-1-1 As the commenter points out, the Site Selection processes involved a geomorphic assessment study, erosion assessment report, and multiple forms of expert elicitation panels to identify that river segments within Lower American River Contract 3B are actionable or identified as Tier 1 segments (i.e. "Segments that have the highest risk of erosion and are subject to an immediate threat to the levees during high flows"). Risk drivers and specific attributes per river segment were identified from review of past performance data, geologic conditions of the river bed and riverbank, assessment of the site geometry (e.g. height of riverbank,

slope of riverbank, width of overbank between the river toe and levee toe), vegetation cover, hydraulic conditions and geotechnical conditions (e.g. slope stability) were identified in the Site Selection period and used as a basis for design development. Please refer to Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 2.5.2, “Contract 3B” for an explanation of why the specific type of erosion protection was selected.

- SARA-1-2 Please refer to Section 2.3.3, “Hydraulic Model Analysis,” in Appendix G, “Engineering.” This discussion addresses the reason for selecting a 2-dimensional model, including the availability of data inputs and ability to accurately estimate the effects of vegetation (including trees) on flow. Use of a 3-dimensional model is for the reasons explained in the discussion of model selection in Section 2.3.3.1 “Model Selection” of Appendix G, “Engineering.” The design was carefully developed and refined to minimize impacts to riparian vegetation; Please refer to Section 2.5.2, “Contract 3B” in Appendix G, which provides additional details on the design development for specific reaches of the Contract 3B project site. Please refer to MR 3-2 for a description of why bioengineering is not an option for the American River Erosion Contract 3B project.
- SARA-1-3 Please refer to MR 3, which addresses tree removal and replanting in Contract 3B, MR 15, which addresses impacts to the riparian forest and provides results from tree surveys completed at the project sites, and Appendix G Section 2.5, “Design Development,” which discusses tree removal as a project partner concern and resulting design collaboration.
- SARA-1-4 The document clearly states (see pages ES-2 and 1-1 and relevant portions of the Section 3.5 description of the Proposed Action) that ARMS, SRMS, American River Erosion Contract 4B, and Piezometer Network are described and analyzed at a programmatic level of detail as the selected sites for these actions are still early in the planning phase and substantial information is not currently available to accurately describe impacts at a project level of analysis. Therefore, these components will require future supplemental CEQA and NEPA review.
- SARA-1-5 Please refer to MR 9 which comprehensively addresses the design process for the ARMS site and identifies existing wildlife and habitat values in contrast to the proposed project modifications. The Draft SEIS/SEIR discusses (see pages 3-6 and 3-7) alternatives to ARMS that were considered but rejected from detailed analysis and evaluates Alternative 4b, which would each retain a portion of the ARMS pond. MR 9 provides a detailed discussion of Alternative 4b, and their consideration during ARMS design. This represents an evaluation of a reasonable range of alternatives for this project component.
- SARA-1-6 Thank you for catching those mistakes. The CEQA significance determination summary with Contract 4B and 3.1-c has been corrected to reflect the long-term significant impact identified in the text of the analysis, because trees would not be replaced if removal is required as part of Contract 4B. Additionally the NEPA significance determination with Contract 3B and 3.1-a, should have been Short-term Significant and Unavoidable; Long-term and Moderate effects that are Less

Than Significant with Mitigation. This has been fixed. Please refer to MR 15, which provides detailed discussion of tree impacts and identifies the efforts to refine the erosion protection designs to preserve trees, preferentially including larger trees.

- SARA-1-7 The table referred to by the commenter comprehensively presents the impacts of the various project components identified as part of the Proposed Action and the Alternatives analyzed in the SEIS/SEIR. The title of this table has been changed in the Final SEIS/SEIR to reflect this.
- SARA-1-8 Please refer to MR 3-5, which describes what would happen when protection features launch, and describes mitigation requirements associated with these features.
- SARA-1-9 Please refer to MR 7-2. Formatting revisions will be made to the Final SEIS/SEIR to alleviate confusion, as feasible.

Sierra Club 1

- SIERRA-1-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G, “Engineering,” Section 2.5.2.1 Design Coordination and Collaboration for more information. In addition, USACE followed all NEPA and CEQA requirements for public outreach for this SEIS/SEIR, see Chapter 7 “Public Involvement Coordination and Review of the Draft Supplemental EIS/EIR”, Appendix A “NEPA Scoping Materials”, and MR 7.
- SIERRA-1-2 The commenter states that the SEIS/SEIR does not adequately characterize impacts or include all feasible mitigation measures but does not offer any specific examples of inadequate analyses or mitigation measures.
- SIERRA-1-3 Please refer to MR 15, which addresses riparian forest and carbon sequestration and Appendix G, “Engineering” Section 2.6.4 for a discussion of site revegetation.
- SIERRA-1-4 The commenter states that USACE must modify designs to reduce significant and unavoidable impacts but does not offer any specific modifications that would reduce these impacts. Please refer to Appendix G, “Engineering,” Section 2.5, “Design Development” for a discussion of the design process and alternatives considered.
- SIERRA-1-5 Please refer to MR 15, which addresses impacts to the riparian forest and provides results from tree surveys completed at the project sites, MR 3-1 which discusses steps taken to minimize native tree removal, and Appendix G “Engineering”

Section 2.5, “Design Development” which discusses tree removal as a project partner concern and resulting design collaboration.

Individual 1 (William Avery)

Indiv-1-1 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 2 (Kate Rosenlieb)

Indiv-2-1 A list of species that will be replanted onsite has been added to the American River Contract 3B Project description in Section 3.5.2.1.1, “Erosion Protection Features” as well as renderings of matured vegetation is expected to look like (Figures 3.5.2-16 and 3.5.2-21 through 3.5.2-28 in the SEIS/SEIR). MR 3-4 and 15-2 lists anticipated timeline of regrowth.

Individual 3 (Lisa Merritt)

Indiv-3-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-3-2 Please refer to MR 15, which addresses riparian forest, as well as Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-3-3 Please refer to MR 15, which addresses riparian forest, as well as Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 4 (Bill Brattain)

Indiv-4-1 Trees and vegetation were incorporated and accounted for in the 2-dimensional hydraulic models developed and utilized in the engineering analyses for assessing the erosion risk along the Lower American River. This 2-dimensional hydraulic modeling demonstrates that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. However, the erosion risk analyses performed along the Lower American River (LAR) evaluated the risk of erosion both the levee embankment itself (Probable Failure Mode [PFM] 2) and erosion of the foundation of the levee (PFM 3), please refer to Appendix G, Section 1.6, “Levee Erosion Failure Processes,” for more information on these PFMs. While velocities near the levee may be low, there is still the concern specific to PFM 3, which poses a risk to the levee’s integrity. Please refer to MR 2-1 and 2-2 for more information on the purpose of Contract 3B, PFM 3 erosion risks, and the efficacy of vegetation alone as a form of erosion protection. Please also refer to MR 3-1 and MR 15-1, which addresses the need for tree removal in Contract 3B, and MR 3-6, which addresses site-specific tree assessments.

Indiv-4-2 Please refer to MR 4, which addresses impacts to recreation in Contract 3B.

Indiv-4-3 Please refer to MR 3, which addresses tree removal in Contract 3B, as well as MR 4, which addresses impacts to recreation in Contract 3B.

Individual 5 (Cyndi Spencer)

Indiv-5-1 All environmental documents pertaining to the Proposed Action can be found here: <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/>. Please refer also to MR 7, which addresses public outreach and requests for documentation.

Individual 6 (Maryanne Frantz)

Indiv-6-1 Please refer to MR 2, which addresses the scope and approach for Contract 3B and flooding and erosion risks; MR 3, which addresses tree removal and plantings in Contract 3B and 4; MR 7, which addresses requests for documentation, data, and evidence for the Proposed Action; MR 10, which addresses the purpose and goals of Lower American River Erosion Contract 4B; and MR 15, which addresses Lower American River Contract 3B riparian forest.

Individual 7 (Maryanne Frantz)

Indiv-7-1 Please review response to SIERRA-1-1 regarding Engineering with Nature. In addition, please see MR 10 for more details on Contract 4B, which sole purpose is to save the Heritage Oak trees. Please refer to MR 4, which addresses recreation and commuting, MR 5, which address impacts to habitat and wildlife from construction of Contract 3B and MR 15, which addresses riparian forest.

Individual 8 (Angie Marin)

Please refer to the responses to Form Letter 1.

Individual 9 (Jaime Becker) Please refer to the responses to Form Letter 1.

Individual 10 (Kate Rosenlieb)

Please refer to the responses to Form Letter 1.

Individual 11 (Annette Faurote)

Please refer to the responses to Form Letter 1 and MR 13, which addresses green space and physical and mental health.

Individual 12 (Maury Wiseman)

Please refer to the responses to Form Letter 1.

Individual 13 (Jessica Epperson)

Please refer to the responses to Form Letter 1.

Individual 14 (Jo Dorais)

- Indiv-14-1 Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses Lower American River Contract 3B riparian forest.
- Indiv-14-2 Please refer to MR 2, which addresses the scope and approach including flood and erosion risks; MR 4, which addresses impacts to recreation; MR 5, which addresses impacts to habitat and wildlife; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.

Individual 15 (Jaime Becker)

Please refer to the responses to Form Letter 1 and MR 13, which addresses green space and physical and mental health.

Individual 16 (Tai Moses)

- Indiv-16-1 Please refer to MR 2, which addresses the scope and approach including flood and erosion risks; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest, as well as Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-16-2 Please refer to MR 5, which addresses impacts to habitat and wildlife; MR 15, which addresses riparian habitat; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 17 (Robert Horowitz)

- Indiv-17-1 Please refer to MR 9, which addresses proposed improvements on the ARMS site, including access considerations during and after mitigation site development.
- Indiv-17-2 USACE’s authorization does not permit construction of recreational facilities; however, the design makes an effort to consider potential future recreational uses and not foreclose opportunities. Please refer to MR 9. Project Partners recognize the importance of the American River Parkway to recreation users. Careful attention has been given to designing the project to meet both flood risk management objectives and numerous environmental requirements, including consistency with the Wild and Scenic Rivers Act. Once construction is complete, the Parkway will be available for recreational use consistent with the Parkway Plan. Visitor use is not anticipated to decline as a result of the project. Please refer to MR 4, which addresses Contract 3B Impacts to Recreation on the Lower American River, and MR 8, which addresses the Wild and Scenic Rivers Act.
- Indiv-17-3 Please refer to MR 9, which addresses proposed improvements on the ARMS site. The comment is not directed to the adequacy of the SEIS/SEIR, and no further response is required.

Individual 18 (Elizabeth Smith)

Indiv-18-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 19 (Bryan Mahoney)

Please refer to the responses to Form Letter 2.

Individual 20 (William Avery)

Please refer to the responses to Form Letter 1.

Individual 21 (Bonnie Domeny)

Please refer to the responses to Form Letter 2.

Individual 22 (Joshua Thomas)

Please refer to the responses to Form Letter 2.

Individual 23 (Kelly O. Cohen)

Indiv-23-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-23-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 24 (Laurie Langham)

Indiv-24-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 25 (Rebecca Jagers)

Please refer to the responses to Form Letter 2.

Individual 26 (Sara E Denzler)

Please refer to the responses to Form Letter 2.

Individual 27 (John Atkinson and Terry Atkinson)

Indiv-27-1 Please refer to MR 1, which addresses the comment period and public participation opportunities; MR 2, which addresses scope and approach of improvements in Contract 3B; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 28 (William Brattain)

- Indiv-28-1 Project Partners agree that saving heritage oaks is a high priority. Appendix G, “Engineering,” Section 2.5.2.4.2, “Design Alternatives,” MR 2-2 and MR 3-1 clarifies the steps taken to minimize the project footprint and impacts to heritage oaks, and MR 3-6 addresses site-specific tree assessments. Now that designs have progressed, Project Partners are able to provide the most up to date information to clarify the tree removal footprint. Please refer to MR 15-1, and Figures 3.5.2-10 and 3.5.2-11 of the SEIS/SEIR to identify if the trees discussed in this comment are within the clearing limits.

Individual 29 (Virginia Volk-Anderson)

- Indiv-29-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 30 (Lisa Phenix)

- Indiv-30-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; and MR 4, which addresses impacts to recreation.
- Indiv-30-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 31 (Erik Finnerty)

- Indiv-31-1 Please refer to MR 1, which addresses the comment period and public participation opportunities, and MR 7, which addresses public outreach.
- Indiv-31-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 32 (Silvie Pritchett)

- Indiv-32-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 33 (Leo Winternitz)

- Indiv-33-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 34 (Betty Cooper)

- Indiv-34-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.
- Indiv-34-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree

removal and plantings; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 35 (Larry Carr)

Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 36 (Chris Enright)

Please refer to MR 1, which addresses the comment period and public participation opportunities; MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 37 (William Avery)

Please refer to the responses to Form Letter 2.

Individual 38 (Clyde E Nunn)

Please refer to the responses to Form Letter 2.

Individual 39 (Pete Connelly)

Indiv-39-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and planting; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-39-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 40 (Joe O' Connor)

Indiv-40-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 41 (James Broderick)

Indiv-41-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-41-2 Please refer to MR 3-3, which includes aerial images of tree establishment in riprap over a period of 15 to 16 years, and MR 3-4, which includes aerial images of establishment of new plantings over a period of 6 to 20 years. Please also refer to MR 15-2 which provides an estimate of the size of trees planted at the project site after 8 years.

Individual 42

This comment number was a duplicate and no response is required.

Individual 43 (Adele Krueger)

- Indiv-43-1 Please refer to MR 15, which addresses riparian forest, as well as the Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-43-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 44 (Phyllis Ehlert)

- Indiv-44-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 45 (William Brattain)

- Indiv-45-1 Please refer to Indiv-4-1 and MR 3, which addresses tree removal and plantings.
- Indiv-45-2 Please refer to Indiv-4-1 and MR 2-2, which addresses the scope and approach of improvements at the Contract 3B site.

Individual 46 (Alan Dowling)

- Indiv-46-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-46-2 Please refer to MR 6, which addresses public health and safety impacts from construction; MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-46-3 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 5, which addresses habitat and wildlife impacts from construction of Contract 3B; MR 8, which addresses consistency with the Wild and Scenic Rivers Act; and MR 15, which addresses riparian forest.

Individual 47 (Duane Campbell)

- Indiv-47-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; MR 5, which addresses impacts to habitat and wildlife; MR 8, which addresses consistency with the Wild

and Scenic Rivers Act; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-47-2 Please refer to response to Indiv-47-1.

Individual 48 (Sara E Denzler)

Please refer to the responses to Form Letter 2.

Individual 49 (Alan Dowling)

Indiv-49-1 Construction durations for the Proposed Action are provided in Section 3.5, “Alternative 2: Proposed Action.”

Indiv-49-2 Construction-related carbon dioxide emissions were quantified using the California Emissions Estimator Model (CalEEMod) Version 2022.1 and SMAQMD’s Harborcraft, Dredge and Barge Emission Factor Calculator and are provided in Appendix C, “Air Quality Data.”

Indiv-49-3 Please refer to MR 6, which addresses public health and safety.

Indiv-49-4 Access to the C3B-South project site is limited to the Watt Avenue Boat Launch entrance near Watt Avenue and top of levee along Mayhew Drain. Please refer to Section 3.5.2.1.3, “Construction Schedule, Materials, and Equipment” in the Final SEIS/SEIR for a discussion of locations of staging areas and what would occur in the staging areas. Contractors that can bid on the project must meet certain qualifications stipulated in contractual documents. The Contractors will determine specifics on things like where storage will occur, where trailers will be placed, where equipment will be parked, how employees will be vetted, and where they will park. The contractor must follow Specifications written by USACE, which will incorporate the requirements in the SEIS/SEIR. Construction hours of operation must meet City and or County of Sacramento requirements where applicable, which are included in Section 3.5.2.1.3, “Construction Schedule, Materials, and Equipment” in the Final SEIS/SEIR.

Individual 50 (Mary Lou Wright)

Please refer to the responses to Form Letter 2.

Individual 51 (Eric Anderton and Neyla Anderton)

Please refer to the responses to Form Letter 2.

Individual 52 (Jay Domeny)

Please refer to the responses to Form Letter 2.

Individual 53 (Dan Meier)

Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 54 (Gerald Djuth)

Indiv-54-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-54-2 Please refer to response to Indiv-54-1.

Individual 55 (Emily Hodge Sunahara)

Please refer to the responses to Form Letter 2.

Individual 56 (Jeanne Pletcher)

Indiv-56-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3 and MR 15, which addresses tree removal and plantings; MR 8, which addresses consistency with the Wild and Scenic River Act, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Responses to the Butterfield-Riviera East Community Association can be found at Indiv-862-1 through 862-31. In response to public comments, USACE developed Appendix G “Engineering,” which the objective on the Lower American River is to reduce the probability of a levee breach prior to overtopping for flows up to the discharge of 160,000 cfs. USACE will fulfill the flood risk management objectives whilst minimizing environmental effects to the greatest extent practicable to avoid disruption to all sensitive community resources.

Indiv-56-2 All written and verbal comments will be reviewed and responded to in compliance with CEQA Guidelines 15088. The verbal and written comments in the chat submitted during both public presentations in January 2024 have been transcribed as a part of this public comment response process. All substantive comments timely received during the public comment period must be addressed in accordance with UASCE Engineer Regulation 200-2-2 “Procedures for Implementing NEPA”.

Individual 57 (Andrea Wiley)

Please refer to the responses to Form Letter 2.

Individual 58 (William Avery)

Indiv-58-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest. Velocities are

not the only factor considered when determining erosion risk. Additional detail on erosion process and concerns can be found in the Appendix G, “Engineering,” Section 1.6, “Levee Erosion Failure Processes.” Also in Appendix G, Section 1.8, “Site Evaluations and Selection,” discusses the site selection process, Section 2.3.3, “Hydraulic Model Analysis,” discusses hydraulic model development and application on the Lower American River (including how vegetation was incorporated), and Section 2.5.2, “Contract 3B,” discusses the American River Erosion C3B Design Development Process where alternatives were evaluated. Please refer to MR 2-1 and 2-2 for more information on why trees and vegetation alone are inadequate forms of bank protection.

The proposed design was developed by determining the minimum layout and type of feature needed to address levee integrity and protection concerns at the specific locations studied, considering the flood risk and public safety and economic consequences. The design is tailored for site-specific attributes from hydraulic conditions, geologic conditions, site geometry and presence of type and density of vegetation. Considering that high flood risk and consequences overlap with high environmental quality within the Contract 3B footprint, USACE used a rigorous process to 1) develop numerous analytical tools to inform design, 2) collect data to validate input and outputs of those analytical tools and document field conditions, 3) collaborate with local, regional and national experts in multiple fields in engineering and biological sciences, 4) include a robust review charge including utilizing the Risk Informed Design process, 5) verifying and adjusting the site layout based on field observations. As demonstrated in Appendix G, “Engineering,” in the discussions referenced in the prior paragraph, relying on the performance of vegetation alone in this system with high flood risk and consequences would not meet flood risk reduction needs. The design also includes on-site habitat mitigation features (e.g. planting benches, soil-filled revetment, topsoil lift above the revetment, planting plan) to restore temporal habitat impacts. The erosion protection and on-site habitat features build from past bank protection efforts on the Lower American River. Vegetation conditions were included in hydraulic model development. Revetment material was also sized to be stable under a 160,000 cfs flow event in the state where vegetation was not established during the early establishment period or if mature vegetation fails during a high flow event.

- Indiv-58-2 USACE has been able to grow cottonwoods, Oregon ash, white alder, valley oaks, interior live oaks, California sycamore and box elder on rip rap revetments, including older revetments that were not soil filled and did not have soil layers covering them. The soil filled revetments covered with soil layers provide, which are included in the American River Erosion Contract 3B designs, better conditions to support tree growth than revetments that are not filled with soil and do not have soil layers covering them. Examples of USACE sites that have successfully revegetated revetted embankments can be found at the south bank of the American River on either side of the Highway 160 overcrossing, on the south bank of the American River upstream of the Union Pacific Railroad bridge and downstream of the Business I-80 Bridge. Other examples of successful

revegetation of rip rap revetments can be found on the west bank of the Sacramento River near Clarksburg. Aerial imagery of these locations is shown in MR 3-3 and 3-4. It should be noted that the examples on the American River cited above featured plain rip rap that was not soil filled, nor covered with soil. USACE experience has been that using soil filled and soil covered rip rap provides better growing conditions than non-soil filled rip rap. Therefore, it is reasonable to expect areas that formerly supported robust vegetation to once again support vegetation to the extent that much of the habitat and recreational value of the areas where vegetation would be removed is replaced.

- Indiv-58-3 Please refer to MR 5, which addresses habitat mitigation; MR 9, which provides additional details on the ARMS; and MR 15, which addresses riparian forest.
- Indiv-58-4 Please refer to MR 2, which addresses the scope and approach of improvements at the Contract 3B site. Contrary to the statements by the commenter that the erosion repairs are not needed, a rigorous process of analysis and consultation with experts has identified the need for erosion protection at the Contract 3B project site (please see a detailed description of the design process in Appendix G, “Engineering”).

Individual 59 (Christy Epperson)

Please refer to the responses to Form Letter 2.

Individual 60 (Dana Conway)

- Indiv-60-1 Please refer to MR 2, which addresses the scope and approach of improvements at Contract 3B including flood and erosion risks, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to Appendix G “Engineering,” Section 2.1.2, “Folsom Dam Historical Performance” and 2.1.3, “Folsom Dam Operation Improvements” for more information on Folsom Dam and how it relates to the project.
- Indiv-60-2 Please refer to MR 3, which addresses tree removal and planting. Alternative development for Contract 3B is discussed in Appendix G, “Engineering,” Section 1.7.4, “Erosion Protection Design Alternatives,” which describes that in the 2016 GRR the following alternatives were evaluated and considered: waterside armoring of the levees, launchable rock trenches, bioengineering solutions, and grade control structures (i.e., a structure which reduce flow velocities).
- Indiv-60-3 Please also refer to Indiv-336-1 for a discussion on types of erosion at sites and how revetment will protect the levee. Please also note that the sites will be replanted with vegetation after work is completed.
- Indiv-60-4 Please refer to MR 5, which address impacts to habitat and wildlife. Additionally, a detailed analysis of wildlife and vegetation is provided Appendix B Section 4.1, “Vegetation and Wildlife.”

Indiv-60-5 Please note that the sites will be replanted with vegetation after work is completed. Please also refer to 289-6 for a discussion on shade and water temperature. Please also refer to Indiv-653-9 for a discussion on how the future weather was considered in design.

Individual 61 (Sara Forestierei)

Please refer to the responses to Form Letter 1.

Individual 62 (Patricia LarsenGaumer)

Please refer to the responses to Form Letter 1.

Individual 63 (Andrea Wiley)

Please refer to the responses to Form Letter 1.

Individual 64 (Lisa Phenix)

Indiv-64-1 Please refer to MR 2, which addresses the scope and approach of improvements at Contract 3B as well as flood and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; and MR 15, which addresses riparian forest.

Indiv-64-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 65 (William Avery)

Please refer to the responses to Form Letter 1.

Individual 66 (Alan Dowling)

Please refer to the responses to Form Letter 1.

Individual 67 (Janice Cowden)

Please refer to the responses to Form Letter 1.

Individual 68 (Kadie Vourakis)

Please refer to the responses to Form Letter 1.

Individual 69 (Jessica Epperson)

Please refer to the responses to Form Letter 1.

Individual 70 (Lisa Phenix)

This letter is a duplicate of Indiv-64, please refer to Indiv-64 for response.

Individual 71 (Phyllis Ehlert)

Please refer to the responses to Form Letter 1.

Individual 72 (Sandra Sanders)

Please refer to the responses to Form Letter 1.

Individual 73 (Heather Crowley)

Please refer to the responses to Form Letter 1.

Individual 74 (Sonia Lopez)

Please refer to the responses to Form Letter 1.

Individual 75 (William Avery)

Indiv-75-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-75-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 76 (Kimberly Brown)

Please refer to the responses to Form Letter 2.

Individual 77 (Colleen Karbowski)

Please refer to the responses to Form Letter 2.

Individual 78 (Casey Gilletti)

Please refer to the responses to Form Letter 2.

Individual 79 (KC Schuft)

Please refer to the responses to Form Letter 2.

Individual 80 (Nicholas Piotrowski)

Please refer to the responses to Form Letter 2.

Individual 81 (John A Mathias)

Please refer to the responses to Form Letter 2.

Individual 82 (Nicholas Piotrowski)

Please refer to the responses to Form Letter 1.

Individual 83 (Anne Fenkner)

Please refer to the responses to Form Letter 2.

Individual 84 (Adam Doris)

Please refer to the responses to Form Letter 2.

Individual 85 (B.C.)

Please refer to the responses to Form Letter 2.

Individual 86 (Jodie Ross-Doris)

Please refer to the responses to Form Letter 2.

Individual 87 (Candace Furlong)

Please refer to the responses to Form Letter 1. This letter contains minor modifications to the form letter, and the modified text is adequately addressed by the responses to Form Letter 1.

Individual 88 (Jay D)

Please refer to the responses to Form Letter 2.

Individual 89 (Shawn Harrison)

Please refer to the responses to Form Letter 2.

Individual 90 (Sara Forestierei)

Please refer to the responses to Form Letter 2.

Individual 91 (Neyla Anderton)

Please refer to the responses to Form Letter 2.

Individual 92 (Kim Safdy)

- | | |
|------------|---|
| Indiv-92-1 | This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR. |
| Indiv-92-2 | Please refer to MR 1, which addresses the comment period and public participation opportunities. |
| Indiv-92-3 | Please refer to MR 2, which addresses the design process and scope of improvements for Lower American River Contract 3B. |
| Indiv-92-4 | Section 4.2, "Human Environment" of the SEIS/SEIR summarizes the environmental consequences of the project on the human environment. Please refer to response to Indiv-92-3 for details on need and risk of flooding and erosion if nothing is done. Please refer to MR 2-2, MR 3-1, MR 3-2, MR 15-1, MR 15-2 |

and Appendix G, “Engineering,” Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. In addition, Appendix G Section 2.4, "Site Evaluation,” and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered. Project Partners have added additional language and figures (including maps of tree removal areas) to Section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. Impacts expected to wildlife are summarized in Section 4.5.1.2.2, "Proposed Action" of the SEIS/SEIR and discussed in more detail in Section 4.1.3, "Analysis of Environmental Effects" of Appendix B, “Detailed Analyses.” Please refer to MR 4, which addresses recreation and commuting, MR 5, which address impacts to habitat and wildlife from construction of Contract 3B; and MR 15, which addresses riparian forest.

Indiv-92-5 Please refer to MR 1, which addresses the comment period and public participation opportunities, and MR 7, which addresses public outreach.

Individual 93 (JoEllen Arnold)

Please refer to the responses to Form Letter 2.

Individual 94 (Mary Starkey)

Please refer to the responses to Form Letter 2.

Individual 95 (Dana Miller-Blair)

Please refer to the responses to Form Letter 2.

Individual 96 (Lewis Kemper)

Please refer to the responses to Form Letter 2.

Individual 97 (Francesca Reitano)

Please refer to the responses to Form Letter 2.

Individual 98 (Kathy Downey)

Please refer to the responses to Form Letter 2.

Individual 99 (Sadie Sanchez)

Please refer to the responses to Form Letter 2.

Individual 100 (Michael Yanuck)

Please refer to the responses to Form Letter 2.

Individual 101 (Barbara Camancho-Turner)

- Indiv-101-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-101-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.
- Indiv-101-3 Please refer to MR 7, which addresses public outreach.

Individual 102 (Laura Davidson)

Please refer to the responses to Form Letter 2.

Individual 103 (Chris Enright)

- Indiv-103-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B. Appendix G, "Engineering" has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 2-2, MR 3-1, MR 3-2, MR 15-1, MR 15-2, and Appendix G, "Engineering." Appendix G Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for a detailed description on the need for tree removal, why the Proposed Action cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible. In addition, Appendix G Sections 2.4, "Site Evaluation and Selection," and Sections 2.5.2.3.2, "Design Alternatives," 2.5.2.4.2, "Design Alternatives," and 2.5.2.5.2, "Design Alternatives" outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.
- Indiv-103-2 Please refer to MR 1 and MR 7, which addresses the comment period and public participation opportunities.

Individual 104 (Rachel Hazelwood)

Please refer to the responses to Form Letter 2.

Individual 105 (Kate Rosenlieb)

Please refer to the responses to Form Letter 2.

Individual 106 (Elaine Keane)

- Indiv-106-1 This comment does not identify any issue related to the specific analysis contained in the SEIS/SEIR. Please refer to Appendix B section 3.1 "Aesthetics and Visual Resources" for details on visual impacts.
- Indiv-106-2 Please refer to MR 7, which addresses public outreach.
- Indiv-106-3 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-106-4 Please refer to MR 7, which addresses public outreach.

Individual 107 (Sandra Sanders)

Indiv-107-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B and Appendix G, “Engineering.”

Indiv-107-2 Please refer to MR 3, which addresses tree removal and replanting in Contract 3B, and MR 15, which addresses riparian forest.

Indiv-107-3 Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act.

Indiv-107-4 Please refer to MR 1, which addresses extended comment period and public participation opportunities.

Individual 108 (Sharon Wilson)

Indiv-108-1 Please refer to MR 3, which addresses tree removal and replanting, MR 15, which addresses riparian forest and impacts to habitat and wildlife.

Indiv-108-2 Please refer to MR 11, which addresses levee safety and public access.

Individual 109 (Ellen Ganz)

Indiv-109-1 Please refer to MR 6, which addresses public health and safety from construction.

Indiv-109-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-190-3 Please refer to MR 7, which addresses public outreach.

Individual 110 (Dale Bierce)

Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 111 (George Bertsch)

Please refer to the responses to Form Letter 2.

Individual 112 (Adele Krueger)

Indiv-112-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-112-2 Please refer to MR 2, which scope and approach of improvements in Contract 3B.

Indiv-112-3 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 113 (Benny)

- Indiv-113-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, MR 7, which addresses public outreach and requests for documentation, MR 15, which addresses impacts to riparian forest, and Appendix G “Engineering.”
- Indiv-113-2 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.
- Indiv-113-3 This comment appears to pertain to previous work. For projects described in this SEIS/SEIR, Section 3.4.3, “Analysis of Environmental Effect” in Appendix B “Detailed Analyses,” 3.4-a details impacts from sediment going into the water during construction activities.

Individual 114 (Jensen Richert)

Please refer to the responses to Form Letter 2.

Individual 115 (William Brattain)

- Indiv-115-1 Please refer to MR 4 which discusses impacts on recreation access of the American River Parkway. The SEIS/SEIR identifies significant short-term recreational impacts, but long-term impacts would be less than significant or have no impact.
- Indiv-115-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-115-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and MR 4 which discusses impacts on recreation access of the American River Parkway.
- Indiv-115-4 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G, “Engineering,” has been added to clarify the need for erosion protection. Section 2.4, “Site Evaluations and Selection” discusses how the selected segments need erosion protection. Additionally, MR 2-4, “Streambank Monitoring Report and Contract 3B” explains why the 2017 Lower American River Streambank Monitoring Report's purpose is different from the Proposed Action's purpose.

Individual 116 (Jenna Adrienne)

Please refer to the responses to Form Letter 2.

Individual 117 (Mikkel Herholdt Jensen)

- Indiv-117-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-117-2 The discrepancy between the hydraulic profiles was due to an outdated strategy used to measure hydraulic effect of a combination of project along the Lower American River (LAR) and outdated graphics provided in the Plates of the Hydraulic Appendix of the GRR. Once the outdated strategy and graphics were updated, the IEPR Panel concurred the issue was resolved. Please refer to the GRR Appendix B - Review Comments ⁹⁶to verify

For convenience, the USACE response to this IEPR comment and the IEPR Panel's backcheck response and ultimate closure of the comment are provided below.

Per the adopted final response to IEPR Comment (FPC#1): "Concur. The water surface profiles for Alternative 1 and the future without-project condition are identical. The differences observed in the plates were from a superseded and now out of date strategy to measure hydraulic effects of a combination of projects along the American River including the Joint Federal Project Auxiliary Spillway."

Per the response Recommendation #1: "Plates 31 to 56 in the Hydraulic Appendix Executive Report have been verified for baseline conditions and Alternative 1 profiles."

Per the IEPR Panel Final Backcheck Response (FCP#1): "Concur. By replacing the plates in the Hydraulic Appendix Executive Report with up-to-date plates, the USACE response adequately addresses the FPC."

Indiv-117-3 Per the response to the IEPR comment, which was addressed by the Feasibility study team to the satisfaction of the reviewer and subsequently closed:

"The Non-Federal sponsor, in addition to partnering with USACE on ongoing and completed flood risk management projects in the study area, has undertaken several large levee improvement projects on their own, including the Natomas Levee Improvement Program (NLIP). The sponsor has also indicated that they will be seeking both permission to alter the Federal Flood Management Project (Section 408) and Credit Consideration (Section 221) for levee improvement work they intend on constructing prior to implementation of the ARCF GRR recommended project. Section 221 of the Flood Control Act of 1970 as amended by Section 2003 of the Water Resources Development Act (WRDA) of 2007 (42 U.S.C. 1962d-5b) allows the sponsor to seek credit for the study, design and construction of Federally authorized water resources development projects that are carried out after the execution of an agreement with the ASA(CW). Where there is a cost sharing agreement, the sponsor may provide in-kind contributions in accordance with the terms of the applicable agreement. The sponsor has indicated that they intend to construct portions of the levee improvements recommended by the GRR that are considered the highest risk areas and seek credit for those improvements. These actions will not be considered part of the

⁹⁶U.S. Army Corps of Engineers (USACE). 2016. American River Watershed Common Features General Reevaluation Report. Sacramento, CA Appendix B. Available: https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/Final_ARCF_GRR_Appendices.pdf

without project condition however, in order that the sponsor may receive credit consideration in the future.

With the construction of these multiple projects, SAFCA, the local cost sharing sponsor, had indicated that they are reaching the limit of their funding capabilities with the existing parcel assessments they use to fund flood risk management projects. The State of California, which is the direct cost sharing partner with USACE, has a larger funding capability, but they would like to distribute funding to other underserved areas beyond the Sacramento Region.”

Please refer to Appendix B of the GRR to review the review documentation record and verify this comment was indeed closed based on the above response.

- Indiv-117-4 The purpose of the 2017 Lower American River Streambank Monitoring Report was to assess existing bank erosion conditions on an annual basis, with visual inspection and reporting occurring after the reported peak flow conditions of 82,400-cfs on February 10, 2017. The report includes photographs indicating areas within LAR C3B-South where sparse vegetation and presence of erodible soil. The report does include hydraulic model analysis up to a flow of 145,000-cfs. The design objective flow for this project and program is 160,000-cfs. Please refer to MR 2-4 for more details on the 2017 Lower American River Streambank Monitoring Report. The Site Selection process that referenced and included data from past annual inspection reports is also highlighted in Section 1.8, “Site Evaluation and Selection” and 2.4, “Site Evaluation and Selection” in Appendix G, “Engineering.” Section 2.3, “Background Data and Ancillary Studies” discusses data collection and analysis that went into the Site Selection process. Velocities are not the only factor considered when determining erosion risk. Section 2.5.2.4, “Contract 3B Site 4-1” in Appendix G “Engineering” discusses erosion risk drivers for C3B-South and that of RM 10.5/Segment 4-3. Segment 4-3 concerns include a combination of erodible soils, hydraulic conditions able to erode those soils laterally and vertically, a narrow overbank between the river toe and levee toe, steep and tall riverbank with pockets of sparse and pockets of dense vegetation. The combination of these factors in a high risk, high consequence setting with analysis accounting for vertical scour, lateral scour and slope stability factors led to design advancement. As discussed in Section 2.5.2, “Contract 3B” of Appendix G, the design process includes determining the minimum footprint to meet flood risk objectives, inclusion on on-site habitat mitigation features (e.g. planting benches, soil filled revetment, top-soil placed above the revetment, planting plan) and provisions to protect existing vegetation above the erosion protection feature.
- Indiv-117-5 Please refer to MR 2, which addresses the design process (particularly MR 2.2, which addresses natural bank protection), MR 3-2, and Appendix G, “Engineering,” which addresses the need for the proposed improvements.
- Indiv-117-6 Please refer to Indiv-117-4.

- Indiv-117-7 This report and analysis was based on the erosion assessment stemming from the February 10, 2017, high flow event of 82,400-cfs. The LAR C3B design is based on a design objective flow of 160,000-cfs. The Site Selection analysis and supportive products that went into that work incorporated reviewing past performance and assessment data like the 2017 report sourced here. The levee integrity issues and need for design accounts for a variety of local site factors from past performance, vegetation cover, hydraulics, geology, site geometry, suite of analysis tools, data collection efforts, and reliability needs reflective of the flood risk level and associated consequences.
- Indiv-117-8 Please refer to Indiv-117-4.
- Indiv-117-9 Please refer to Indiv-117-4.
- Indiv-117-10 Please refer to the response to Indiv-117-4. Please refer to the response to CBD 3-5 for information on alternatives considered but rejected. The commenter provides comparisons to work previously completed as part of Contract 1, on an area of the river which has very different characteristics from the Contract 3B project area. Please refer to MR 4, which addresses recreation and includes a discussion of the American River Parkway Plan designation for the Contract 3B project area and informal trails and river access points. MR 4 also addresses commuting and related mitigation measures.
- Indiv-117-11 Please refer to MR 6, which addresses public health and air quality. Please refer also to MR 2, MR 15, and Appendix G, “Engineering,” which provide additional details about the scope of the improvements and impacts on riparian forest.
- Indiv-117-12 Please refer to MR 15, which addresses vegetation, habitat, and wildlife impacts of the Contract 3B project.
- Indiv-117-13 Please refer to MR 1 and MR 2, which addresses in person meetings. Please refer to the response to CBD 3-5 for information on alternatives considered but rejected.

Individual 118 (Patricia Selsky)

- Indiv-118-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G “Engineering.”

Individual 119 (Jennifer Porter)

Please refer to the responses to Form Letter 2.

Individual 120 (Ken Firl)

Please refer to the responses to Form Letter 2.

Individual 121 (Naomi Ennis)

Please refer to the responses to Form Letter 2.

Individual 122 (Lisa Phenix)

- Indiv-122-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G “Engineering.”
- Indiv-122-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 123 (Christine Norman)

Please refer to the responses to Form Letter 2.

Individual 124 (David Zeanah)

Please refer to the responses to Form Letter 2.

Individual 125 (Teri Hottman)

Please refer to the responses to Form Letter 2.

Individual 126 (Andrea Wiley)

- Indiv-126-1 Please refer to MR 1 and MR 7, which addresses the comment period and public participation opportunities. The 45-day period for public comment was extended, as requested by the public. Additionally, the presentations were made available at sacleveeupgrades.com to allow further examination. Clarification questions were responded to during the public meeting, after the recorded portion of the presentation. Any substantial questions or comments need to be submitted in writing during the comment period.
- Indiv-126-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G “Engineering.”
- Indiv-126-3 Please refer to MR 15, which addresses impacts to the riparian corridor, and MR 3, which addresses the tree removal and erosion risk analysis. Please refer to MR 8, which discusses the Wild and Scenic Rivers Act.
- Indiv-126-4 Please refer to INDVI-126-2 and 3 above.
- Indiv-126-5 Refer to the MR 5 for general biological resources mitigation information, MR 9 for additional information on ARMS, and MR 15, which addresses impacts to riparian habitat.
- Indiv-126-6 Please refer to MR 15, which addresses riparian forest, and the Appendix G, “Engineering.”
- Indiv-126-7 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B. Appendix G, “Engineering” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering.” Appendix G Section 2.4.3, “Summary of Site Selection” and

Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why the Proposed Action cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. In addition, Appendix G Sections 2.4, “Site Evaluation and Selection,” Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled “Design Alternatives,” outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.

Indiv-126-8 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 127 (Polly Murphy-Jones)

Please refer to the responses to Form Letter 2.

Individual 128 (MP Barber)

Please refer to the responses to Form Letter 2.

Individual 129 (Richard Hartzell)

Indiv-129-1 If the selected Sacramento River Mitigation Site is unable to be completed, Project Partners may need to reevaluate previously identified alternatives. Watermark Farms does have potential to be ecologically beneficial and is close to the project impacts. However, at this time the recommendation does not require additional analysis, nor does it change an effects determination outlined in this document.

Indiv-129-2 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Indiv-129-3 Please refer to Appendix G, “Engineering,” for an in-depth explanation of the design process, data used, and alternatives considered. If the ARCF project moves away from the current Sacramento River mitigation site, any other location will require additional environmental compliance documents and analysis to be completed. At that time, the additional sites you mention may become part of the conversation.

Indiv-129-4 Please refer to Indiv-129-3.

Indiv-129-5 The ARCF 2016 project improvements to the Sacramento River East Levee do not in themselves increase pedestrian use of formerly closed areas of the levee. Increases in pedestrian activity on the levee would be unlikely to substantially affect common wildlife that are already habituated to human activity associated with nearby residences.

Indiv-126-6 USACE will implement habitat mitigation for impacts on the Sacramento River in accordance with Biological Opinions and CEQA and NEPA requirements. These habitat mitigation needs are planned to be addressed at the SRMS, with

Watermark Farms identified as an alternative location. The Biological Opinions include requirements to address temporal loss of habitat.

Individual 130 (Steve Schweigerdt)

- Indiv-130-1 The Magpie Creek Project (MPC) is intended to reduce the overtopping and flanking of the flood reduction measures that are currently in place in the Magpie Creek Diversionary Canal. The project's authorized footprint and features can be found in the 2016 ARCF GRR EIS/EIR. During the early design phase of the current preferred action found in the SEIS/SEIR, the design team, made up of both Federal and non-Federal partners agreed that expanding the project into these undeveloped parcels to follow the original creek bed, was outside the current authorization of the MPC and outside the means of the non-Federal partners to procure on their own. While "naturalizing" Magpie Creek was considered briefly, the authorized footprint of the project area and features that are within that authorization would not allow for this direction in design.
- Indiv-130-2 Please refer to MR 3, which addresses tree removal and replanting, MR 15, which addresses riparian forest and habitat impacts, and Appendix G, "Engineering," for a more in-depth explanation of the design process, data used, and alternatives considered.
- Indiv-130-3 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.
- Indiv-130-4 Sacramento County Regional Parks has been part of the project delivery team for mitigation since before the property was purchased. The property does fall within the Lower American River Parkway boundary and is being designed with the 2008 Parkway Plan and the 2023 Natural Resource Management Plan as guiding documents. The Jedidiah Smith Bike Trail will remain in place and additional public access will continue to be discussed as the design progresses towards 100 percent. At this time, the USACE is not looking for additional mitigation sites along the Lower American River. If, at a later, date additional mitigation land is needed, a new alternatives analysis and environmental coverage document will need to be completed. The majority of the ARMS site will function as backwater habitat. As the river water elevations rise, so will the backwater channel elevation, providing inundated areas with slower flows and connected floodplain habitat.

Individual 131 (Vanessa)

Please refer to the responses to Form Letter 2.

Individual 132 (Jennifer Porter)

Please refer to the responses to Form Letter 1.

Individual 133 (Laurie Langham)

Please refer to the responses to Form Letter 1.

Individual 134 (Joshua Thomas)

Please refer to the responses to Form Letter 1.

Individual 135 (Helen Gallagher)

Please refer to the responses to Form Letter 1.

Individual 136 (Geneva)

Please refer to the responses to Form Letter 1.

Individual 137 (Tony Whetstone)

Please refer to the responses to Form Letter 1.

Individual 138 (Gustavo Alegria)

Please refer to the responses to Form Letter 1.

Individual 139 (M. Wright)

Please refer to the responses to Form Letter 1.

Individual 140 (B.C.)

Please refer to the responses to Form Letter 1.

Individual 141 (Jay D)

Please refer to the responses to Form Letter 1.

Individual 142 (Francesca Reitano)

Please refer to the responses to Form Letter 1.

Individual 143 (Steven Whitehead)

Please refer to the responses to Form Letter 1.

Individual 144 (Nicholas Piotrowski)

Please refer to the responses to Form Letter 1.

Individual 145 (Michael Yanuck)

Please refer to the responses to Form Letter 1.

Individual 146 (Kathy Downey)

Please refer to the responses to Form Letter 1.

Individual 147 (Lewis Kemper)

Please refer to the responses to Form Letter 1.

Individual 148 (Gabriel Morales)

Please refer to the responses to Form Letter 1.

Individual 149 (Russell Berridge)

Please refer to the responses to Form Letter 1.

Individual 150 (Mary Starkey)

Please refer to the responses to Form Letter 1.

Individual 151 (David Zeanah)

Please refer to the responses to Form Letter 1.

Individual 152 (Dana Miller-Blair)

- Indiv-152-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G “Engineering.” Potential impacts to Western yellow-billed cuckoo are addressed in Appendix B Section 4.3, “Special-status Species.”
- Indiv-152-2 Please refer to MR 15, which addresses impacts to riparian vegetation and habitats.
- Indiv-152-3 Please refer to MR 15, which addresses carbon sequestration, Section 3.6, “Greenhouse Gases and Energy” in Appendix B, “Detailed Analyses,” for the analysis and impacts of GHG, energy consumption, and changes to long-term weather conditions. Please refer to MR 3, which addresses tree removal, and Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.
- Indiv-152-4 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, “Engineering.” Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.
- Indiv-152-5 Please refer to MR 15, which addresses fisheries-related effects.
- Indiv-152-6 Please refer to MR 6, which addresses public health and safety during construction, MR 4, which addresses impacts to recreationists and commuters, and MR 14, which addresses impacts to mental and psychological health.
- Indiv-152-7 Please refer to MR 4, which addresses impacts to recreationists and commuters of the Parkway.

- Indiv-152-8 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-152-9 Please refer to MR 2, which addresses the scope and approach of Contract 3B and MR 3, which addresses tree removal, plantings and reestablishment in rip rap banks.
- Indiv-152-10 Please refer to MR 12, which addresses real estate values.
- Indiv-152-11 Please refer to Appendix G “Engineering.” Use of barges on the American River was rejected as an option very early on for the ARCF 2016 Project and is discussed in the 2016 ARCF GRR Final EIS/EIR on page 226, "Because the American River has many shallow areas, barges cannot be used to transport material to the site; therefore, rock would be transported to the construction site using haul trucks." If barges were to be used on the American River, the entire American River downstream of American River Erosion Contract 3B would need to be dredged. Dredging the American River would create significant fish and recreational impacts.

Individual 153 (Amy Pine)

Please refer to the responses to Form Letter 1.

Individual 154 (William Brattain)

- Indiv-154-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act.
- Indiv-154-2 The Lower American River project elements have been, and will continue to be, developed consistent with the requirements of the Wild and Scenic Rivers Acts and the American River Parkway Plan. Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act.

Individual 155 (Cathy)

Please refer to the responses to Form Letter 2.

Individual 156 (Sheila Adrian)

- Indiv-156-1 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 157 (Tom Custer)

- Indiv-157-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 158 (Austen Consulo)

Please refer to responses to Form Letter 2.

Individual 159 (Mary E Tappel)

Indiv-159-1 Please refer to MR 1, which addresses the comment period and public participation opportunities. USACE extended the public comment period to February 23, 2024, to allow for more time to review the document and provide comments.

Individual 160 (Starlight Murray)

Please refer to responses to Form Letter 2.

Individual 161 (Tanya Pruitt)

Please refer to responses to Form Letter 2.

Individual 162 (Cary Hart)

Please refer to responses to Form Letter 2.

Individual 163 (Ellen Ganz)

Indiv-163-1 Please refer to Appendix G “Engineering,” which has been added to clarify the need for erosion protection. Additionally, MR 2-2, and MR 3-1 explain why vegetation cannot protect the levee. Please refer to MR 2-4 to understand the purpose of the 2017 Lower American River Streambank Monitoring Report and how its purpose differs from the purpose of the Proposed Action.

Indiv-163-2 Please refer to MR 6, which addresses air quality and public safety impacts. Mitigation measures are included in the SEIS/SEIR to reduce air emissions and noise.

Indiv-163-3 Please refer to MR 8, which addresses consistent with the Wild and Scenic River Act. The National Park Service administers the federal WSRA on the Lower American River and makes consistency determinations. Sacramento County Regional Parks makes determinations for consistency with the American River Parkway Plan.

Indiv-163-4 Please refer to Appendix G “Engineering,” Section 1.7.4, “Erosion Protection Design Alternatives,” and MR 2-2 and MR 3-1, which address why bioengineering cannot protect the levee.

Individual 164 (Eliza Morris)

Indiv-164-1 Please refer to Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-164-2 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B.

- Indiv-164-3 Please refer to MR 4, which addresses impacts to recreation on the Lower American River from Contract 3B, and MR 6, which addresses public health and safety.
- Indiv-164-4 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 165 (Norm Niver Jr)

Please refer to responses to Form Letter 2.

Individual 166 (Andrea Higginbotham)

- Indiv-166-1 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 167 (Patrick Kenney)

Please refer to responses to Form Letter 2.

Individual 168 (Greg Schmidt)

- Indiv-168-1 Please refer to MR 3, which addresses tree removal and replanting and MR 15, which addresses impacts to riparian forest.

Individual 169 (Greg Sanchez)

- Indiv-169-1 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, MR 4, which address impacts to recreation on the Lower American River, and MR 8, which addresses consistency with the Wild and Scenic River Act.

Individual 170 (Troy Golden)

- Indiv-170-1 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, MR 4, which address impacts to recreation on the Lower American River, and MR 8, which addresses consistency with the Wild and Scenic River Act.

Individual 171 (Kelly Moss)

- Indiv-171-1 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 172 (Kate Rosenlieb)

- Indiv-172-1 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

- Indiv-172-2 Section 3.5.2, American River Erosion Contracts 3B North, 3B South, and 4B, of the Final SEIS/SEIR has been updated with additional details on staging areas, including Larchmont Community Park.
- Indiv-172-3 Haul routes would be restricted from public access for safety. Contract Specifications have been added requiring Contractor to provide pedestrian access through the project site when feasible and when safe.
- Indiv-172-4 The Draft SEIS/SEIR disclosed temporary, significant and unavoidable impacts related to construction, and proposed mitigation measures to lessen these impacts to the greatest extent. USACE and the non-federal Partners are acting to meet the minimum flood risk criteria to meet public safety objectives, while minimizing the environmental (human and natural) effects to the greatest extent. Please note that designs have been refined since the release of the Draft SEIS/SEIR. Now, access to the Larchmont Park staging area is limited to access from the levee, so Rogue River Drive will no longer be an access point (see figure 3.5.2-7 and 3.5.2-14 of the SEIS/SEIR).
- Indiv-172-5 During this response period, USACE and the non-federal Partners have strived to gain public acceptance of the Proposed Action, including developing Appendix G “Engineering” which includes technical information demonstrating the purpose and need for erosion protection, as well fifteen master responses that summarize concerns submitted by the public and how USACE has addressed those concerns. Please also refer to MR 1 and MR 7 which discusses public outreach.
- Indiv-172-6 Please refer to MR 1, which addresses the public comment period. As a result of public request, USACE extended the public comment period beyond the required 45-day review period, from an original closure of February 5, 2024, to February 23, 2024, to allow for more time to review the document and provide comments.
- Indiv-172-7 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B.
- Indiv-172-8 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-172-9 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-172-10 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.
- Indiv-172-11 Only temporary ramps for construction access to the staging area will be built at Larchmont Park and will be removed after construction is completed. Please refer to MR 15 and Appendix G, “Engineering” for additional details regarding riparian forest impacts. Younger trees are proposed to be planted at the site for several reasons. The site conditions can be challenging, and smaller trees are able to adapt

more quickly. Soil constraints in some areas would limit the size of pots that could be planted in those areas. Large equipment is needed to implement older trees, which would require more impacts because USACE would need to install and maintain larger ramps during the planting phase (which occurs after erosion protection feature installation). It is anticipated that larger sized container plants are more likely to topple over from flows during the two years following planting. MR 3-3 provides examples of regrowth at previous projects, MR 3-4 lists anticipated timeline of regrowth, and MR 15-2 discusses anticipated canopy growth.

Indiv-172-12 Please note that designs have been refined since the release of the Draft SEIS/SEIR. Now, access to the Larchmont Park staging area is limited to access from the levee, so Rouge River Drive will no longer be an access point (see figure 3.5.2-7 and 3.5.2-14 of the SEIS/SEIR). Contractors will be required to return staging areas to the existing condition so any impacts to the cement stairs would be fixed before construction is wrapped up. USACE has reviewed your letter to Cordova Recreation and Park District.

Indiv-172-13 Please refer to MR 5 for general biological resources mitigation information, and MR 15, which addresses riparian habitat and wildlife movement.

Indiv-172-14 The wind tunnel effect happens when wind encounters a tall building and changes direction, as explained by a 2015 Whyy.org, PBS article. This occurs in cities primarily, when the wind speed increases with the air pressure drop between nearby buildings (Brookins, A. The Science of wind tunnels - where and why those harsh winds strike, <https://why.org/segments/the-science-of-wind-tunnels-where-and-why-those-harsh-winds-strike/>). There is no literature to suggest a wind tunnel effect occurring on rivers or streams.

However, the riparian corridor along the American River can act as a wind buffer. The U.S. Department of Agriculture, Forest Service Southern Research Station, Conservation Buffers: design guidelines for buffers, corridors, and greenways (Bentrup, G. 2008) estimates that a tree and shrub buffer should be at a minimum 35–100-foot buffer width with a dense mixed canopy of greater than 60 percent canopy closure for stream temperature. However, buffers may need to be 150–1,000 feet in width to maintain microclimatic factors in streams, such as wind, soil temperature, and humidity (p. 59). Studies from the Forest Ecosystem Management Assessment Team, USDA, Department of the Interior, have shown that streamside buffers of approximately 125 meters (410 feet) were needed to protect ecological processes such as wind speed and humidity near streams (FEMAT, 1993, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd591855.pdf). Riparian Management Zones states that 300 feet is the minimum width needed to protect stream functions. The EPA in a 2018 Fact Sheet EnviroAtlas stated that narrow riparian buffer widths of 5-15 meters (up to 50 feet) provide some temperature moderation, but are also subject to flood and wind damage (<https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/Supplemental/Watersc>

apeRiparianzone.pdf).

Generally, impacts to the riparian corridor for the Contract 3B Site are as follows: Site 3-1 has existing riparian width of a 50–200-foot buffer which will be reduced by approximately 30 feet to construct the project; Site 4-1 has an 80-240 foot width existing riparian buffer which will be reduced by approximately 80-100 feet throughout. One segment of Site 4-1 (approximately 1,100 linear feet) will require the complete removal of the riparian buffer including the removal of four large diameter trees (greater than 24-inch DBH). Site 4-2 has the widest existing riparian buffer between 360-420 feet and will be reduced by 20-30 feet width.

The current literature on width of riparian corridor and wind related effects, suggests that the few areas of the American River Parkway riparian buffer may be wide enough, with dense mixed canopy vegetation to reduce strong winds. However, the majority of the Contract 3B site has a relatively small riparian corridor (less than 200 feet) and the existing vegetation is minimally protective. There may be minor short-term impacts to wind speed as on-site plantings grow to maturity. However, due to existing conditions where riparian corridors do not meet conditions protective of ecological function, it is not expected wind speed changes would be detectable or cause damage as the commenter is suggesting. Therefore, no changes to the Final SEIS/SEIR have been made.

- Indiv-172-15 All on and off-site mitigation lands will be managed, maintained, and monitored for 8-10 years per the biological opinions. The sites are then expected to provide habitat with minimal management. Some high-level information on what and how this will be done is available in Appendix I of the 2015 Environmental Impact Statement and Environmental Impact Report, titled Habitat Mitigation Monitoring and Adaptive Management Plan. This information is being incorporated and further refined into site-specific long-term management documents and further into the Operations and Maintenance Manuals. The fencing and irrigation are required to be removed at the end of the contract period unless otherwise approved by USACE.
- Indiv-172-16 A Ground Vibration Monitoring and Control Program will be included in the contract. This program requires periodic installation of vibration monitoring equipment along haul routes in the vicinity of structures. Please refer to Mitigation Measure NOI-1, which is discussed in Section 3.7.3 “Analysis of Environmental Effects” of Appendix B.
- Indiv-172-17 Please refer to Appendix G “Engineering” for additional technical resources as to why flood risk reduction and erosion protection are needed, as well as the long coordination history demonstrating engagement with resources agencies through the BPWG and the TRAC to provide targeted flood risk reduction while minimizing impacts to the human and natural environment, including the American River Parkway.

Individual 173 (anonymous)

- Indiv-173-1 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 174 (Greg Schmidt)

- Indiv-174-1 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-174-2 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-174-3 The commenter has requested to be added to the notification list regarding this project.

Individual 175 (Maggie Coulter)

- Indiv-175-1 through 9 Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 176 (Mary Wing)

- Indiv-176-1 Please refer to MR 2-1 and Appendix G “Engineering” for clarification on the additional studies completed since 2016, all the information considered determining the need for designs, and a clarification for the need of the project. Given that there are neighborhoods on both sides of the American River, there is not a good location to divert the river without major impacts to residents in the neighborhoods. Also diverting the river would limit use of the American River for recreation during construction.
- Indiv-176-2 Please refer to MR 2 and 3 for more details on the approach to analysis included in the Appendix G “Engineering,” and vegetation removal, and MR 10 for more information regarding levee safety and public access. Please refer to MR 3 and MR 15 for information on replanting the site, previous successful replanting and anticipated growth. Erosion within the river isn't the issue, but rather potential erosion of the levee. During high flow events, trees can fail creating "pull-out" pits, which can further erode and can lead to complete levee failure in areas without significant rock armoring. Additionally, as stated previously, the levees are the concerned area for erosion, not the river.

Individual 177 (Bonnie Wagner)

- Indiv-177-1 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 178 (Thomas Russel)

- Indiv-178-1 The comment does not identify any issue related to the analysis contained in the SEIS/SEIR.
- Indiv-178-2 The comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 179 (Melinda Lauten)

- Indiv-179-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B, MR 15, which addresses riparian forest, and the Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 180 (Steve Turtletaub)

- Indiv-180-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B, MR 15, which addresses riparian forest, and the Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Additionally, refer to MR 3-7 for a description of the work near Sacramento State University.

Individual 181 (Andrei Fintescu)

Please refer to the responses to Form Letter 4.

- Indiv-181-A Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 4, which addresses impacts to recreation on the Lower American River.

Individual 182 (Emily Hodge Sunahara)

- Indiv-182-1 Please refer to MR 1, which addresses the public comment period, and MR 7, which addresses public outreach.
- Indiv-182-2 The Alternatives selection process is described in Section 3.3, “Alternatives Development and Screening.” All impacts related to the Proposed Action and Alternatives are presented in Appendix B, “Detailed Analysis.”

Individual 183 (Joseph Sheffo)

- Indiv-183-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-183-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Indiv-183-3 The comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 184 (Stacie Sherman)

Indiv-184-1 Please refer to MR 4, which addresses impacts to recreation, MR 15, which addresses riparian forest, and the Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 185 (Nancy Dagle)

Indiv-185-1 Please refer to Appendix G “Engineering” which addresses the planning context for the proposed improvements.

Indiv-185-2 Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act. In addition, please refer to MR 15, which addresses riparian forest, and Appendix G “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 186 (Jennifer Wyatt)

Indiv-186-1 Please refer to MR 4, which addresses impacts to recreation, MR 5, which addresses impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 187 (Jennifer Pickering)

Indiv-187-1 through 9. Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 188 (Dan Sundberg)

Please refer to the response to Form Letter 4.

Indiv-188-A Please refer to MR 15, which addresses impacts to riparian forest.

Indiv-188-B Please refer to MR 12, which addresses loss of real estate value.

Indiv-188-C Please refer to MR 4, which addresses recreational access of the Parkway, MR 8, which addresses consistency with the Wild and Scenic Rivers Act, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 189 (Tara B Page)

Indiv-189-1 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 190 (Carolynn Kohn)

Indiv-190-1 Please refer to MR 2, which addresses scope and approach to improvements in Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 191 (Cindy Freeman)

Please refer to the responses to Form Letter 4.

Indiv-191-A Please refer to MR 4, which addresses recreational impacts along the Lower American River.

Indiv-191-B Please refer to MR 15, which addresses impacts to riparian forest and wildlife corridors.

Individual 192 (James Pappas)

Please refer to the responses to Form Letter 4.

Individual 193 (Sara Pena)

Please refer to the responses to Form Letter 4.

Indiv-193-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-193-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 194 (Jessica Barniol)

Indiv-194-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B, and MR 3, which addresses tree removal and planting in Contract 3B and 4.

Indiv-194-2 Please refer to MR 3-1.

USACE has no intention of denuding/clearcutting the American River parkway. In alignment with Engineering with Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information.

Trees and vegetation were incorporated and accounted for in the 2-dimensional hydraulic models developed and utilized in the engineering analyses for assessing

the erosion risk along the Lower American River. This 2-dimensional hydraulic model is in agreement that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. However, the erosion risk analyses performed along the Lower American River (LAR) evaluated the risk of erosion both the levee embankment itself (Probable Failure Mode [PFM] 2) and erosion of the foundation of the levee (PFM 3), please refer to Appendix G, “Engineering,” Section 1.6, “Levee Erosion Failure Processes,” for more information on these PFMs. Project Partners agree that trees and vegetation provide the benefits listed in your comment. The benefits provided by vegetation were considered when evaluating the erosion risks along the Lower American River (LAR) in addition to other factors such as hydraulic forces, soil characteristics, erosion resistivity of soils, etc. The benefits provided by vegetation are also why revegetation of the proposed erosion protection improvements is a critical component of the ARCF 2016 project; the planted vegetation will better protect the erosion protection sites from surface erosion into the future. However, the erosion protection benefits provided by vegetation do not adequately mitigate the erosion risk posed by a 115,000 cfs and 160,000 cfs flood along Lower American River. Please refer to MR 2-2 for more information on why vegetation alone is not an adequate form of erosion protection.

- Indiv-194-3 Please refer to MR 3, which addresses tree removal and planting in Contract 3B and 4, and MR 15, which addresses impacts to riparian forest.
- Indiv-194-4 Please refer to MR 15-7, which addresses urban heat islands.
- Indiv-194-5 Please refer to MR 4, which addresses recreational impacts along the Lower American River.
- Indiv-194-6 Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act.
- Indiv-194-7 Please refer to MR 2-1 and Appendix G, “Engineering” Section 2.4, “Site Evaluation and Selection” and Section 2.5, “Design Development” which clarifies the need for the designs and all the steps that USACE went through to reach the designs. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.
- Indiv-194-8 Please refer to MR 2, which address the scope and approach of improvements in Contract 3B, and Appendix G “Engineering”, which has been added to clarify the need for work.

Individual 195 (Jennifer Wyatt)

- Indiv-195-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest and wildlife corridors, and Appendix G, “Engineering.”

Individual 196 (Kimberly Nalder)

- Indiv-196-1 This comment does not identify any issues related to the analysis contained in the SEIS/SEIR.
- Indiv-196-2 Please refer to Appendix G “Engineering” which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Individual 197 (Daniel Rinne)

- Indiv-197-1 Please refer to MR 15, which addresses riparian forest and wildlife corridors.

Individual 198 (Timothy McCrystle)

Please refer to the responses to Form Letter 4.

- Indiv-198-A Please refer to MR 15 which address impacts to riparian forest and wildlife corridors.

Individual 199 (Thomas Vallance)

Please refer to the responses to Form Letter 4.

- Indiv-199-A This comment does not identify any issues related to the analysis contained in the SEIS/SEIR.
- Indiv-199-B Please refer to MR 15, which addresses the riparian forest and wildlife corridors.
- Indiv-199-C Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-199-D Please refer to MR 4, which addresses impacts to recreation and commuting.
- Indiv-199-E Please refer to MR 1, which addresses public comment periods, and MR 7, which addresses messaging and public outreach. Several public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, as well as the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources

Indiv-199-F Please refer to Appendix G “Engineering” which addresses the design requirements and approach of Contract 3B.

Individual 200 (Christie Vallance)

Indiv-200-1 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-200-2 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 201 (Ron Beals)

Indiv-201-1 The comment incorrectly suggests that two years of construction for the Proposed Action is being extended and expresses concern over closed public access of recreational uses during construction. Please refer to MR 4, which addresses impacts to recreation, including impacts to the American River Parkway. Commenter also requests to pave the top of levee to improve the recreational experience. Project Partners are assuming this is referring to the maintenance road on top of the levee at the American River Erosion Contract 3B South Site. This project does not have authority to pave the top of the levee.

Individual 202 (Shirley Rombold)

Please refer to the responses to Form Letter 4.

Individual 203 (Ellen Robinson)

Please refer to the responses to Form Letter 1.

Individual 204 (Jodie Ross-Doris)

Please refer to the responses to Form Letter 1.

Individual 205 (Cary Hart)

Please refer to the responses to Form Letter 1.

Individual 206 (Billy Langford)

Please refer to the responses to Form Letter 1.

Individual 207 (Same Reese)

Please refer to the responses to Form Letter 1.

Individual 208 (Jane Heimbichner)

Please refer to the response to Form Letter 1.

Indiv-208-1 Please refer to Appendix G, “Engineering,” which provides additional details related to the proposed improvements.

Individual 209 (Kathleen Cochran)

Please refer to the responses to Form Letter 1.

Individual 210 (Ryan Jack)

Please refer to the responses to Form Letter 1.

Individual 211 (Jerry Jagers)

Please refer to the responses to Form Letter 1.

Individual 212 (Kathryn Tedford)

Please refer to the responses to Form Letter 1.

Individual 213 (Catherine Vigran)

Please refer to the responses to Form Letter 1.

Individual 214 (Shawna Anderson)

Please refer to the responses to Form Letter 1.

Individual 215 (Greg Schmidt)

Indiv-215-1 Please refer to MR 15, which addresses riparian forest, and the Appendix G, “Engineering.”

Indiv-215-2 Appendix B Section 3.1, “Aesthetics and Visual Resources,” of the Draft SEIS/SEIR addresses impacts from the Proposed Action on the visual character and quality of the project areas.

Indiv-215-3 The commenter has requested to be added to the notification list regarding this project. Commentor can be added to the list by going to sacleveeupgrades.com and going to “Subscribe for Construction and Traffic email updates”.

Individual 216 (Joshua Thomas)

Please refer to the responses to Form Letter 1.

Individual 217 (Molly Sheahan)

Indiv-217-1 Please refer to MR 4, which addresses impacts to recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”

Indiv-217-2 Please refer to Appendix G “Engineering” which addresses design development and replanting implementation, MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4,

“Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Individual 218 (Jenna Adrienne)

Please refer to the responses to Form Letter 1.

Individual 219 (Jessica Wilson)

Please refer to the responses to Form Letter 1.

Individual 220 (Michael Wilson)

Please refer to the responses to Form Letter 1.

Individual 221 (Thomas Bowron)

Please refer to the responses to Form Letter 1.

Individual 222 (Eliza Morris)

Indiv-222-1 Please refer to Appendix G, “Engineering,” which identifies the risks, conditions, and proposed improvements by segment.

Indiv-222-2 Please refer to MR 4, which addresses impacts to recreation and commuting.

Indiv-222-3 Please refer to MR 6, which addressed public health and safety concerns from construction.

Individual 223 (Joe Rombold)

Indiv-223-1 Please refer to Appendix G, “Engineering,” for additional information on the proposed improvements and future flood risk related to erosion.

Indiv-223-2 The SEIS/SEIR incorporates all feasible mitigation measures to reduce potential impacts from all Alternatives to the extent possible. As the comment notes, some impacts do remain significant and unavoidable, however, all feasible mitigation has been identified.

Indiv-223-3 Please refer to MR 4, which addresses impacts to recreation from the construction of American River Erosion Contract 3B, including impacts to the American River Parkway.

Indiv-223-4 Please refer to MR 15, which addresses impacts to wildlife corridor. Additionally, please refer to SEIS/SEIR Chapter 4.4.3, “Special-status Species,” Impact 4.3-a “Result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW, USFWS,

or NMFS,” for a detailed discussion regarding impacts to special-status species and their habitat.

- Indiv-223-5 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-223-6 Please refer to MR 4, which addressed impacts to recreational areas from construction of American River Erosion Contract 3B and MR 13, which addresses green spaces and mental health.
- Indiv-223-7 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Individual 224 (Timothy McCrystle)

- Indiv-224-1 Please refer to Form 4-2
- Indiv-224-2 Please refer to Form 4-3 and 4-5.
- Indiv-224-3 Please refer to MR 4, which addresses impacts to recreation, including impacts to the American River Parkway.

Individual 225 (Carl Allin)

- Indiv-225-1 Impacts to the unhoused population are described in detail in Appendix B “Detailed Analyses,” Impact 2.5-a “Result in substantial impacts to unhoused populations residing in the project area, through displacement or other means.” Although project construction could temporarily displace the unhoused community, this displacement would occur under local ordinances that prevent critical infrastructural damage to levees by preventing camping on or within 25 feet of the levee (Sacramento City Code Chapter 8.140). Please also refer to MR 11, which discusses levee safety.

Individual 226 (Charisse Hamm)

- Indiv-226-1 Form 4-1 and 4-2
- Indiv-226-2 Form 4-3
- Indiv-226-3 Impacts related to social impacts to at risk communities are discussed in detail in Appendix B “Detailed Analyses,” Section 2.6, “Socioeconomics.” The commenter does not identify a specific concern related to the social impact analysis.
- Indiv-226-4 Please refer to MR 15-7, which addresses urban heat islands.
- Indiv-226-5 Please refer to MR 4, which addresses impacts to recreation. The project would have a short-term significant and unavoidable impact on nearby recreational facilities during construction, however, following construction activities any closed sites would be reopened, and access would go back to pre-project

conditions. Additionally, please refer to MR 14, which addresses social impacts to at-risk communities.

Indiv-226-6 The purpose of the Proposed Action is to address erosion risk drivers leading to levee integrity and levee breach concerns, see Section 1.6, "Levee Erosion Failure Processes," of Appendix G, "Engineering," for more details. Past efforts have already mitigated seepage issues. Please see Appendix G, where specifically Sections 1.8 and 2.4, both entitled "Site Evaluations and Selection," discuss the Phase 1 and Phase 2 Site Selection processes. The Site Selection process involved a geomorphic assessment study, erosion assessment report, and multiple forms of expert elicitation panels to identify that river segments within Lower American River Contract 3B are actionable or identified as Tier 1 segments (i.e. "Segments that have the highest risk of erosion and are subject to an immediate threat to the levees during high flows"). Risk drivers and specific attributes per river segment were identified from review of past performance data, geologic conditions of the river bed and riverbank, assessment of the site geometry (e.g. height of riverbank, slope of riverbank, width of overbank between the river toe and levee toe), vegetation cover, hydraulic conditions and geotechnical conditions (e.g. slope stability) were identified in the Site Selection period and used as a basis for design development. Section 2.5.2, "Contract 3B," of Appendix G goes into more details on what specific Risk Drivers were associated with each project site. The presence and properties of the erosion resistant material (ERM) were accounted for in design at a local level. Multiple forums with national, regional and local experts were involved on assessing and accounting for ERM in design application throughout the course of design advancement (see more details in Section 2.3.4, "Geology," of Appendix G).

Indiv-226-7 Please refer to MR 15, which addresses impacts to wildlife corridor.

Individual 227 (Janice Nakashima)

Indiv-227-1 Fencing, including cross-levee fencing, will be removed where it impedes access required to construct proposed improvements. Replacement of any fencing removed to facilitate construction will be subject to permit requirements by the CVFPB.

Individual 228 (William Avery)

Please refer to the responses to Form Letter 3.

Individual 229 (Mary Auman)

Indiv-229-1 Please refer to MR 11, which addresses levee safety and public access.

Individual 230 (Irene Yang)

Indiv-230-1 Please refer to MR 11, which addresses levee safety and public access.

Indiv-230-2 Please refer to MR 11, which addresses levee safety and public access.

Individual 231 (Darlene Jeffery)

Indiv-231-1 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Indiv-231-2 Please refer to MR 11, which addresses levee safety and public access.

Indiv-231-3 Please refer to Appendix G “Engineering.”

Individual 232 (Francesca Reitano)

Please refer to the responses to Form Letter 4.

Individual 233 (Donald Murphy)

Indiv-233-1 This commenter appears to refer to Sacramento River Erosion Contract 2, which is not part of the Proposed Action. Therefore, except for the cumulative impact discussion, the activities associated with the Sacramento River Erosion are not discussed in this SEIS/SEIR.

Individual 234 (Eugson Wong)

Indiv-234-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 235 (Patrick O'Rourke)

Please refer to the responses to Form Letter 4.

Indiv-235-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-235-B Please refer to Section 4.4.4.2.2 of the SEIS/SEIR which summarizes impacts from sediment entering the water during construction and Appendix B “Detailed Analyses” Section 3.4.3, “Analysis of Environmental Effects” which details the anticipated impacts and mitigation measures for impacts from sediment entering the waterway during construction. Please also refer to Section 4.4.1 of the SEIS/SEIR and Appendix B “Detailed Analyses,” Section 3.4.3, “Analysis of Environmental Effects,” which addresses impacts to Visual and Aesthetic Resources. Lastly, please refer to MR 12, which addresses property value impacts.

Individual 236 (Mark Portuondo)

Indiv-236-1 Please refer to MR 11, which addresses levee safety and public access. Once planting benches are vegetated there will be signs posted stating that On-Site Revegetation is in Progress. For additional information on the monitoring and management of ESA and habitat mitigation please refer to MR 5 and MR 9.

Indiv-236-2 USACE is not the regulatory agency for encroachments on the SREL. Refer to MR 11, which addresses levee safety and access.

Individual 237 (Jon Grass)

Please refer to the responses to Form Letter 4.

- Indiv-237-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-237-B Please refer to MR 3, which addresses tree removal and plantings, and MR 15, which addresses riparian forest.

Individual 238 (Dee Kayl)

- Indiv-238-1 Please refer to MR 15, which addresses the riparian forest and wildlife corridor. Additionally, impacts related to geology and erosion are discussed in detail in Appendix B “Detailed Analyses,” Section 3.2, “Geological Resources.”
- Indiv-238-2 Please refer to MR 12, which addresses impacts to property value, and Appendix G, Engineering” which has been added to clarify the need for the project.

Individual 239 (Emma)

Please refer to the responses to Form Letter 4.

- Indiv-239-A Please refer to MR 3, which addresses tree removal and plantings.
- Indiv-239-B Please refer to MR 3, which addresses tree removal, MR 4, which addresses recreational impacts, MR 6, which addresses public health and safety from construction, and MR 15, which addresses wildlife corridors.

Individual 240 (Barbara Domek)

Please refer to the responses to Form Letter 4.

- Indiv-240-A This comment does not raise a specific issue relating to the analysis of this SEIS/SEIR.

Individual 241 (Rebecca Santos)

Please refer to the responses to Form Letter 4.

- Indiv-241-A This comment does not raise a specific issue relating to the analysis of the SEIS/SEIR.
- Indiv-241-B Project Partners assume commentor is referring to David O’Connor, who works for the BLM. Please refer to response to DOI 21b through DOI-58
- Indiv-241-C This comment does not raise a specific issue relating to the analysis in this SEIS/SEIR.
- Indiv-241-D Please refer to MR 2, which addresses scope and approach of Contract 3B and 4 and MR 3, which addresses tree removal and plantings.

- Indiv-241-E Please refer to MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-241-F Please refer to MR 13 and MR 14 which address mental health and social impacts to at-risk communities.

Individual 242 (Barbara Allman)

- Indiv-242-1 The Proposed Action would not construct features that impedes access to publicly available portions of the levee system. However, fencing and no trespassing signs would be constructed on privately-owned parcels.

Individual 243 (Larry Cox)

- Indiv-243-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.
- Indiv-243-2 This comment does not identify specific concerns related to the analysis in the SEIS/SEIR.

Individual 244 (Bryan Neff)

Please refer to the responses to Form Letter 4.

- Indiv-244-A Please refer to MR 2, which addresses the scope and approach of Contract 3B and 4.
- Indiv-244-B Please refer to MR 3, which addresses tree removal and MR 2, which addresses scope and approach of Contract 3B and 4.
- Indiv-244-C Please refer to MR 5, which addresses impacts to habitat and wildlife.
- Indiv-244-D Please refer to MR 4, which addresses recreational impacts.
- Indiv-244-E Please refer to MR 6, which addresses public health and safety.

Individual 245 (Barbara Domek)

Please refer to the responses to Form Letter 4.

- Indiv-245-A This comment does not raise a specific issue relating to the analysis in this SEIS/SEIR.
- Indiv-245-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 246 (Frank Pribus)

- Indiv-246-1 Please refer to Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a

detailed description on the need for tree removal. Please refer to Appendix B Section 4.1, “Vegetation and Wildlife,” Impact 4.1-c for a detailed discussion regarding impacts to the riparian habitat and other sensitive natural communities. Please refer to MR 15, which address impacts to the riparian forest and tree removal. Refer to MR 4, which addresses impacts to recreation, including impacts to the American River Parkway. Last, Appendix B Section 3.1, “Aesthetics and Visual Resources,” addresses impact from the Proposed Action on the visual character and quality of the project areas.

- Indiv-246-2 The Alternatives selection process is described in Section 3.3, “Alternatives Development and Screening,” of the Draft SEIS/SEIR. All impacts related to the Proposed Action and Alternatives are presented in Appendix B, “Detailed Analyses.” Please refer to Appendix G “Engineering” Section 2.5, “Design Development” for a discussion of the design development process.

Individual 247 (Jerilyn Harman)

- Indiv-247-1 Please refer to MR 11, which discusses the levee safety and public access.
- Indiv-247-2 Please refer to MR 11, which discusses the levee safety and public access.
- Indiv-247-3 Please refer to MR 11, which discusses the levee safety and public access.

Individual 248 (Robert Grow)

- Indiv-248-1 Please refer to MR 3, which addresses tree removal and replanting, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-248-2 Section 3.5.2.1.1 of the Final SEIS/SEIR has been updated to include the plant species being used to replant the project area. Also refer to MR 15-2. Plant species were specifically selected based on anticipated survival success. Black walnut was considered for replanting. USACE determined that black walnut would attract burrowing animals, which could put the levee at risk, so it was not included in the planting plan.
- Indiv-248-3 The existing equestrian trails and bike trails officially recognized by Sacramento County Regional Parks will be returned to existing conditions following construction. Creating new trails is out of scope for this project.
- Indiv-248-4 The tennis courts will not be within the staging area footprint. USACE will not have real estate access to control what happens with the tennis courts.
- Indiv-248-5 Comment refers to clay banks. Project Partners assume this is referring to the Pleistocene Fair Oaks Formation found at the project site. Project Partners acknowledge that the Pleistocene Fair Oaks Formation provides unique fish habitat. Consequently, designs did consider minimizing impacts to the Pleistocene Fair Oaks Formation. Specifically downstream of Larchmont Community Park, launchable trench and tie backs were chosen as the erosion protection methods at that location since it could be installed at this location while still protecting heritage oaks and the Pleistocene Fair Oaks Formation.

Individual 249 (Cary Hart)

- Indiv-249-1 Please refer to Appendix G, “Engineering,” for additional information on the proposed improvements and future flood risk related to erosion. Please refer to MR 7, which addresses requests for documentation, data, and evidence for the Proposed Action.

Individual 250 (Eva Begley)

- Indiv-250-1 Please refer to MR15, which addresses short-term and long-term riparian impacts. NEPA requires that Federal agencies consider the short-term and long-term impacts of proposed actions on the environment, but does not provide fixed definitions of short-term or long-term as this is specific to resources and circumstances of a particular action. Short- and long-term impacts depend on the resource considered, but in the SEIS/SEIR, short-term impacts are generally considered to be those during construction and during the establishment phase of the post-construction plantings, generally up to 8-10 years. Long-term impacts are those that extend over a longer period of time, 8+ years.
- Indiv-250-2 Please refer to Appendix B Section 4.1, “Vegetation and Wildlife,” for a detailed discussion regarding impacts to the riparian habitat and other sensitive natural communities, Section 4.3, “Special Status Species” for a detailed discussion regarding impacts to special status species. Please refer to MR 15 which address impacts on the riparian forest and wildlife corridors.
- Indiv-250-3 Please refer to MR 5, which addresses biological resources related mitigation and O&M requirements for habitat restoration. USACE has set performance and success criteria for the mitigation sites based on success and failures of past projects on the Lower American River. Some high-level information on what and how this will be done is available in Appendix I of the 2015 Environmental Impact Statement and Environmental Impact Report, titled Habitat Mitigation Monitoring and Adaptive Management Plan. This information is being incorporated and further refined into site-specific long-term management documents and further into the Operations and Maintenance Manuals. The mitigation measures are primarily defined in Appendix B, “Detailed Analyses.”
- USACE hands off the operations and maintenance of the federally constructed project to the local maintaining agency because this is a stipulation of the initial agreement that is entered into when the local agency requests funding assistance from Congress.
- Indiv-250-4 Please refer to MR 7, which addresses public outreach.
- Indiv-250-5 Please refer to Indiv-250-1.

Individual 251 (Romona Blount)

Please refer to the responses to Form Letter 4.

- Indiv-251-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-251-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 252 (Billyann Groza)

- Indiv-252-1 Please refer to MR 11, which addresses levee safety and public access.
- Indiv-252-2 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-252-3 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-252-4 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 253 (Robin Durston)

- Indiv-253-1 Please refer to MR 4, which addresses recreation and commuting, MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-253-2 The commenter refers to transportation improvements, including bridges and light rail, which are not part of the Proposed Action. No additional response is required.

Individual 254 (Kilee Grob)

Please refer to the responses to Form Letter 4.

Individual 255 (Marcia Berner)

Please refer to the responses to Form Letter 3.

Individual 256 (Gerald E Mills)

- Indiv-256-1 This SEIS/SEIR includes analysis on upcoming projects. NEPA and CEQA has already been completed on SREL C3. Project Partners have forwarded your email and information onto the correct USACE staff member to reach out to you. Please email spk-pao@usace.army.mil or call (916) 557-5100 if you still have not heard from someone.
- Indiv-256-2 Please refer to prior response Indiv-256-1. This comment is not relevant to the Proposed Action in this SEIS/SEIR. For additional information on how sites are selected and designs are developed please refer to Appendix G “Detailed Analyses.” In summary, doing erosion protection everywhere it is needed, except your property would build in a fatal flaw, undermining the project as a whole and putting your neighbors at a higher risk of flooding.

Individual 257 (Ryan Bogle)

- Indiv-257-1 Please refer to MR 11, which addresses levee safety and public access. Planting benches are essential for on-site mitigation as required by the resource agencies. Mitigation sites will be monitored and maintained to prevent wildlife and human destruction.

Individual 258 (Annette Faurote)

- Indiv-258-1 USACE has collaborated with the National Park Service (NPS) throughout the life of the ARCF 2016 Project to both solicit input and gain acceptance of proposed erosion protection methods. Please refer to MR 8, which addresses compliance with the Wild and Scenic Rivers Act and consultation with the NPS. Additionally, Appendix G “Engineering” has been developed to provide the long coordination history demonstrating engagement with resources agencies through the BPWG and the TRAC to provide targeted flood risk reduction while minimizing impacts to the human and natural environment.
- Indiv-258-2 Improvements to the figures and maps have been made for the Final SEIS/SEIR.
- Indiv-258-3 Please refer MR 8, which addresses compliance with the Wild and Scenic Rivers Act, MR 3, which addresses tree removal and replanting, and MR 15, which addresses riparian forest.
- Indiv-258-4 Please see MR 12 for addressed impacts property value impacts.
- Indiv-258-5 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.
- Indiv-258-6 Please refer to MR 13, which addresses physical and mental health.
- Indiv-258-7 Please refer to MR 15, which addresses biological resource specific mitigation measures, MR 13, which addresses mental health; MR 15, which addresses riparian forest; and Appendix G, “Engineering.”

Individual 259 (David Gunther)

- Indiv-259-1 Please refer to MR 11, which addresses levee safety and public access.
- Indiv-259-2 This work was completed as a part of the Sacramento River East Levee (SREL) Contract 3 in 2022 and is not a part of the Proposed Action in this SEIS/SEIR. The removal of the trees was necessary to complete this important pump upgrade. The habitat lost when the trees were removed was compensated at a 2:1 ratio at the Beach Stone Lakes Mitigation Site near Freeport, CA.
- Indiv-259-3 Please refer to MR 11, which addresses levee safety and public access.

Individual 260 (Pam Kennedy)

Indiv-260-1 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering” Section 2.5, “Design Development” which discusses design requirements and the design process.

Individual 261 (Christie Vallance)

Please refer to the responses to Form Letter 1.

Indiv-261-A Please refer to MR 15 which address impacts to riparian forest and wildlife corridors.

Individual 262 (Jon Grass)

Please refer to the responses to Form Letter 1.

Individual 263 (Charisse Hamm)

Please refer to the responses to Form Letter 1.

Individual 264 (Thomas Vallance)

Please refer to the responses to Form Letter 1.

Individual 265 (Josh Heiskell)

Please refer to the responses to Form Letter 1.

Individual 266 (Scarlet Hughes)

Please refer to the responses to Form Letter 1.

Individual 267 (Sara Pena)

Please refer to the responses to Form Letter 1.

Individual 268 (Michael Tscheu)

Please refer to the responses to Form Letter 1.

Individual 269 (Douglas Grass)

Please refer to the responses to Form Letter 4.

Indiv-269-A Please refer to MR 11, which addresses levee safety and public access.

Individual 270 (Betty Staley)

Please refer to the responses to Form Letter 3.

Individual 271 (Cary Hart)

- Indiv-271-1 Please refer to MR 4, which addresses recreation and commuting, MR 5 which address biological resource mitigation, MR 8, which addresses consistency with the Wild and Scenic River Act, MR 15, which addresses riparian forest, and Appendix G, "Engineering."
- Indiv-271-2 Please refer to MR 6, which addresses public health and safety impacts from construction.
- Indiv-271-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-271-4 The comment states that USACE should use a more targeted and less destructive alternative for implementation of the Contract 3B improvements, however, does not identify any use related to the analysis contained in the SEIS/SEIR. Please refer to MR 7, which addresses public outreach.

Individual 272 (Donna Theis)

Please refer to the responses to Form Letter 4.

- Indiv-272-A Appendix G, "Engineering," has been added to clarify the need for the project. Please refer to MR 2-3, MR 3-7, and Section 2.1.6 "LAR Contracts 1 and 2" for a discussion of the erosion protection work near Sacramento State University.
- Indiv-272-B Please refer to Appendix B Section 4.3, "Recreation," for a summary of recreational resource and anticipated impacts.

Individual 273 (Sharon Kersten)

- Indiv-273-1 At this time, the comment does not add to or change the analysis in this document and does not require additional analysis. The impact to local and migratory birds is accounted for in the BIRD-1 mitigation measure. Please see MR 5, which addresses biological resource mitigation measures.
- Indiv-273-2 This comment does not identify any issues related to the analysis contained in the SEIS/SEIR

Individual 274 (Jay Domeny)

Please refer to the responses to Form Letter 3.

Individual 275 (Barbara Domek)

Please refer to the responses to Form Letter 3.

- Indiv-275-A Please refer to MR 3, which addresses tree removal and replanting.
- Indiv-275-B The commenter provides unique comment regarding alternative methods of erosion control but does not offer evidence for this claim. Please refer to MR 2,

which addresses the scope and approach of Contract 3B and 4 and MR 3, which addresses tree removal and plantings.

Individual 276 (Klynton Kammerer)

Please refer to the responses to Form Letter 4.

Indiv-276-A This comment does not raise a specific issue with the analysis in this SEIS/SEIR.

Individual 277 (Klynton Kammerer)

Please refer to Indiv-276-A.

Individual 278 (Mary Durbrow)

Indiv-278-1 The comment states that a more targeted and less destructive alternative for implementation of the Contract 3B improvements should be used, however, does not identify any issues related to the analysis contained in the SEIS/SEIR.

Individual 279 (Alice Stamm)

Indiv-279-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B, and Appendix G “Engineering.”

Indiv-279-2 Please refer to MR 1, which addresses extended public comment period and hosting in-person meetings.

Individual 280 (Alice Stamm)

Indiv-280-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B, and Appendix G “Engineering.”

Individual 281 (Jennifer Crown)

Please refer to the responses to Form Letter 4.

Indiv-281-A Please refer to MR 6, which addresses public health and safety concerns.

Indiv-281-B Please refer to MR 5, which addresses biological resources specific mitigation, MR 15, which addresses riparian forest and wildlife corridors, and Appendix G “Engineering.”

Individual 282 (Paul Akins)

Please refer to the responses to Form Letter 3.

Individual 283 (Paul Akins)

Please refer to the responses to Form Letter 4.

Indiv-283-A Please refer to MR 3, which addresses tree removal and plantings.

Individual 284 (Joshua Wilson)

Please refer to the responses to Form Letter 3.

Individual 285 (Cheryl Slama)

Please refer to the responses to Form Letter 3.

Individual 286 (Christie Vallance)

Please refer to the responses to Form Letter 3.

Individual 287 (Christie Vallance)

Please refer to the responses to Form Letter 3.

- Indiv-287-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-287-B Please refer to MR 4, which addresses impacts to recreation on the Lower American River.
- Indiv-287-C Please refer to MR 3, which addresses tree removal and replanting. Please refer to MR 5, which addresses biological resources specific mitigation.
- Indiv-287-D Please refer to MR 2, which addresses the scope and approach of Contract 3B and 4.

Individual 288 (Dianne Schaub)

Please refer to the responses to Form Letter 1.

Individual 289 (William Avery)

- Indiv-289-1 Please refer to MR 2, which addresses scope and approach of Contract 3B. Additionally, see Appendix G “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.
- Indiv-289-2 Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act, and MR 3, which addresses tree removal, mitigation measures, and bioengineering techniques. Please refer to MR 2, which addresses the scope and approach of Contract 3B, particularly MR 2-2, which addresses natural bank protection and explains why existing vegetation is not sufficient to address the erosion hazards that have been identified for the Contract 3B project site. Please refer also to Appendix G, “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for a detailed explanation of the design approach for Contracts 3B and 4B.
- Indiv-289-3 Please refer to MR 4, which addresses impacts to recreation on the Lower American River from Contract 3B, especially MR 4-1, which addresses informal trails, and MR 4-2, which addresses beaches and river access. Please refer also to

MR 8, which addresses consistency with the Wild and Scenic River Act and the American River Parkway Plan.

Indiv-289-4 Please refer to Appendix B, Section 4.2, “Fisheries and Aquatic Resources” for a discussion of fish impacts, MR 15-9, “Fisheries,” and Appendix G, “Engineering” Section 2.5, “Design Development” which addresses the design requirements and process.

Indiv-289-5 Please refer to MR 4-2, which addresses beaches and river access. Please also refer to Indiv-289-6 below.

Indiv-289-6 Please refer to MR 15, which addresses riparian forest and fisheries. This comment cites several articles and documents, which are addressed below:

In response to the citation “Shading Out Climate Change: Planting Streamside Forests to Keep Salmon Cool,” Science Findings, June 2020.

- Any concerns regarding potential impacts to salmonids are addressed in the federal ESA consultation with NMFS. (NMFS 2021, currently being updated and will be final in 2025)
- Water temperatures can be affected by a number of factors, including air temperatures, elevation, flow and velocity, and presence of riparian vegetation. For the American River, the major factor that impacts water temperature are the operations of Folsom Dam. The releases from Folsom are heavily studied and modeled in several recent Central Valley Project/State Water Project Biological Assessments from the Bureau of Reclamation, as well as the responsive Biological Opinions from NMFS (2009, 2019, pending 2024/2025). While the removal of bank vegetation in several areas may seem extensive, the removal is a temporary occurrence that will be vegetated upon completion. Adjacent habitat upstream and downstream will provide interim cover for fish during the construction timeframe. Temporary removal of the amount of vegetation on the proposed sections of the Lower American River is not expected to cause a measurable increase to water temperatures in the Lower American River due to the small shaded area relative to the surface area of the river and the fact that the volume and temperature of water released from Folsom Dam drive the temperature of the water in the lower American River, overwhelming other influences. Water management data for the American River can be found here:

- <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/california-central-valley-water-operations-biological>
- This site contains peer review of the most recent BOR data, and the peer review done by scientists, Appendix M is centered around the American River temperatures and Folsom Operations <https://deltacouncil.ca.gov/delta-science-program/long-term-operations-for-the-central-valley-project-and-state-water-project-fish-and-aquatic-effects-analysis-review-panel>.

- The US Forest service document cited is referring to modeling done on the Middle Fork John Day River in Oregon. That river is substantially smaller than the American, with Peak flows in 2024 barely reaching above 1,500 cfs. Stream shading is a major component in smaller waterways. In the paper, it documents the temperature changes where the watershed has been heavily burned over by wildfire removing all stream cover. Temperature in small streams such as that can be heavily impacted temperature-wise when all shade is abruptly removed (like via wildfire as stated in the paper) and not restored. This effect is not observed on larger streams, such as the American River at the Contract 3B project site.

In response to the citation “NMFS- David Bergendorf 2002”

- As stated above, stream temperature can be heavily affected by removal of shade in smaller systems, but in a system as large as the American with heavily modified water flows, the dam operations are the leading factor in the control of the temperatures in the American. This has been heavily modeled by BOR and NMFS over the past 10-20 years to estimate impacts of the CVP/SWP operations.

In response to the citation “American River Parkway Plan, 2008.”

- The removal of the vegetation for a levee repair is within the bounds of the parkway plan. Mitigation for any effects to the American River are being done within the LAR to ensure no net loss of habitat. New riparian habitat is being created, and the work areas will be revegetated after construction is completed.

In response to the citation “J.T. Quigley and D.J. Harper, 2004”

- This paper references the effects of rip-rapped habitat on juvenile salmonids. The majority of the sites being proposed for repairs will include launchable trenches/toes which will only have exposed riprap in the event of a major destructive flood where the loss of life/community is a high risk. The concerns regarding effects of riprap on juvenile salmonids is addressed in the ESA consultation with NMFS. USACE modeled the likelihood of the launchable trenches/toes being exposed and it demonstrated less than 1 acre of potential rock launching in the next 50 years (launchable rock memo from USACE to NMFS). As such, the Corps is mitigating for the potential future loss in habitat through rehabilitation of the repair sites and purchase/construction of mitigation to offset the effects. NMFS has deemed that the mitigation is suitable for the effects of the project (NMFS 2021/2025)

Indiv-289-7 Please see Appendix G, “Engineering,” which discusses the Phase 1 and Phase 2 Site Selection processes that occurred after the 2016 ARCF GRR and involved a geomorphic assessment study, erosion assessment report, and multiple forms of expert elicitation panels to determine where erosion remediations were needed. Following this selection process, USACE determined that river segments included

in Lower American River Contract 3B are actionable or identified as Tier 1 segments (i.e. "Segments that have the highest risk of erosion and are subject to an immediate threat to the levees during high flows"). Risk drivers and specific attributes per river segment were identified from review of past performance data, geologic conditions of the river bed and riverbank, assessment of the site geometry (e.g. height of riverbank, slope of riverbank, width of overbank between the river toe and levee toe), vegetation cover, hydraulic conditions and geotechnical conditions (e.g. slope stability) were identified in the Site Selection period and used as a basis for design development. Data collection efforts from topographic, bathymetric, boring collected in the overbank, testing of erosive characteristics of bed and riverbank materials are highlighted in Section 2.3, "Background Data and Ancillary Studies" of Appendix G, "Engineering." The Erosion Assessment report that fed into Site Selection process is also attached to Appendix G, "Engineering" as Attachment C. Section 2.5.2, "Contract 3B" discusses the design development process which includes design alternatives that were considered and evaluated by the Technical Resource Advisory Committee (TRAC) at the onset of design development. The TRAC included members from USACE, NMFS, USFWS, Sacramento County Regional Parks, NPS, DWR, SAFCA, and their consultants. The TRAC is a multi-disciplinary group which includes water resource engineers, geotechnical engineers, geoscientists, biologists, and ecologists. Other erosion mitigation alternatives such as installation of log cribs (e.g. bioengineering approach) for Lower American River Contract 2 were evaluated by the TRAC concurrent to Contract 3B 10 percent alternative analysis and thus informed Contract 3B evaluation and selection of 10 percent design feature types for USACE to advance. Additionally, please refer to MR 3-2, and Section 1.7.4, "Erosion Protection Design Alternatives" of Appendix G, "Engineering", which describes why bioengineering is not an option. The iterative design process included a variety of data collection efforts, development of a suite of analytical tool, field visits and review cycles from many review teams, and the minimal acceptable design layout was determined. Please also note that during the design process additional erosion protection methods (i.e. tiebacks and launchable toe) besides "The proposed bank protection and launchable rock trench measures" were included to minimize environmental impacts or improve onsite mitigation. The design does include on-site habitat mitigation features such as inclusion of planting benches, soil filled revetment, topsoil placed above the revetment, planting plan and provisions to protect existing vegetation above the erosion protection feature.

- Indiv-289-8 Appendix G, "Engineering," has been added to clarify the data and reports used. Appendix G "Engineering," Section 2.3.4, "Geology" clarifies the number of borings collected. In addition, the scour resistant clay (referred to as either Erosion Resistant Material or Pleistocene Fair Oaks Formation) was considered in the designs, which is also discussed in the section mentioned above.
- Indiv-289-9 Designs are developed based upon site specific conditions. Careful consideration is given to minimizing the erosion protection footprint and avoiding and minimizing adverse environmental effects while meeting the flood risk

management objectives of the authorized project. Appendix G, "Engineering," Section 2.3, "Background Data and Ancillary Studies" has been added to clarify the data and reports uses, and Section 2.4, "Site Evaluations and Selection" clarifies how the locations needing erosion protection were selected. In addition, MR 3-1 explains the steps taken to protect as many trees as possible. Please also review MR 8 for information on consistency with the Wild and Scenic Rivers Act.

- Indiv-289-10 Please refer to MR 3-3, 3-4, 15-2 and 15-3, which address riparian forest.
- Indiv-289-11 Please refer to MR 3-5, which describes what would happen when protection features launch, and describes mitigation requirements associated with these features.
- Indiv-289-12 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal and why vegetation or bioengineering cannot be relied on to protect the levee.
- Indiv-289-13 It is agreed vegetation and the vegetation root mass resists erosion potential and can influence hydrodynamic conditions on a local level. Vegetation cover and density alone is not the only factor to characterize erosion potential. Please see MR 2-2, which addresses the scope and approach of improvements in Contract 3B. Vegetation conditions are subject to variability over time or during a high flow event as documented on the Lower American River. The elevation of the vegetation root mass in consideration of bank stability and vertical incision potential needs to also be accounted for. Considering the high flood risk and associated high economic and public safety consequences within Lower American River Contract 3B, the reliability of existing or proposed features to support levee integrity is a key factor. The effects of vegetation cover on hydrodynamic output conditions can be illustrated via a one dimension, two dimensional and three-dimensional hydraulic model. These effects are not witnessed or specific only to a three-dimensional hydraulic model. Section 2.3.3, "Hydraulic Model Analysis" of the Draft SEIS/SEIR discusses the consideration of the hydraulic model deemed appropriate to characterize the flood hazard. Flow velocities are an important factor when determining where erosion protection may be necessary, but it is only one of many factors considered when evaluating and determining which areas along the river are at an unacceptable risk for erosion induced levee failure. Identification of the flood hazard was also assessed by reviewing a suite of analytical tools supported by data collection efforts. Assessment included evaluating vertical scour potential, lateral bank retreat potential, slope stability conditions, rapid drawdown condition, review of performance data, geomorphic assessment, assessment of site geometry (e.g. height of riverbank, slope of riverbank, width of overbank between the river toe and levee toe), review of geologic conditions and properties, reliability of vegetation cover, and expert elicitation panels to summarize those inputs effectively to characterize risk factors on a local level. The Site Selection process is discussed in Appendix G, "Engineering" Section 1.8, "Site Evaluation and Selection" and 2.4, "Site Evaluation and Selection." The erosion protection design includes on-site habitat

mitigation features such as replanting of the disturbed area. Renderings of the expected vegetation condition and as attested on past Lower American River bank protection efforts are depicted in Appendix G, “Engineering,” Section 2.5.2, “Contract 3B,” and MR 3-3 and 3-4. The design objective flow for this program is 160,000-cfs where during that event the river stage would be approximately 3-ft below the top of the levee within Site 4-1. Please refer to MR 2-4 for more details on the 2017 Lower American River Streambank Monitoring Report. Also refer to CBD-3-7 for more details on papers written by Kevin Flora.

- Indiv-289-14 The Project Partners have no intention of denuding the American River Parkway (please refer to figure 3.5.2-10 and 3.5.2-11 in the SEIS/SEIR for locations of tree removal). In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the LAR Parkway. Please refer to Appendix G, “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration,” for more information.

Trees and vegetation were incorporated and accounted for in the 2-dimensional hydraulic models developed and utilized in the engineering analyses for assessing the erosion risk along the Lower American River. This 2-dimensional hydraulic model is in agreement that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. However, the erosion risk analyses performed along the Lower American River evaluated the risk of erosion both of the levee embankment itself (Probable Failure Mode [PFM] 2) and erosion of the foundation of the levee (PFM 3), please refer to Appendix G, “Engineering,” Section 1.6, “Levee Erosion Failure Processes,” for more information on these PFMs. While velocities near the levee may be low, there is still the concern specific to PFM 3, which poses a risk to the levee's integrity. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for more information on why trees and vegetation alone are inadequate forms of bank protection and what was done to minimize tree removal.

- Indiv-289-15 Please refer to MR 2, which addresses scope and approach of Contract 3B, and MR 7, which addresses requests for documentation. Additionally, see Appendix G “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.
- Indiv-289-16 Please refer to Appendix G, “Engineering,” which documents the supporting studies for the design.
- Indiv-289-17 The commenter states that USACE is misrepresenting data, but the commenter does not associate this assertion with any specific information in the SEIS/SEIR. Please refer to MR 2, which addresses scope and approach of Contract 3B, and MR 7, which addresses requests for documentation and details the design process

for the Proposed Action. Additionally, see Appendix G “Engineering” for more explanation of the data models used during the design process of Contract 3B and 4B.

- Indiv-289-18 Commentor states that USACE has ignored their own recommendations but does not give a specific example. Please refer to MR 2, which addresses scope and approach of Contract 3B, and MR 7, which addresses messaging, public outreach, and request for documentation.
- Indiv-289-19 Please refer to MR 2, which addresses the scope, approach, and data support for Contract 3B, and Appendix G, “Engineering.”
- Indiv-289-20 Please refer to MR 2-9, which discusses soil borings completed for American River Erosion Contract 3B.
- Indiv-289-21 Please refer to Appendix G, “Engineering,” which documents the supporting studies for the design. Specifically refer to Section 2.3.4 “Geology” and attachment B “Geomorphic Assessments”. Please also refer to MR 7 for a discussion on information requests. Indiv-289-22 Please refer to Appendix G, “Engineering,” which documents the supporting studies for the design. Specifically refer to Section 2.3.4 “Geology” and attachment B “Geomorphic Assessments”. Please also refer to MR 7 for a discussion on information requests.
- Indiv-289-23 Please refer to MR 2-9, which discusses soil borings completed for American River Erosion Contract 3B. Indiv-289-24 Please refer to Appendix G “Engineering” which has been added to clarify the need for the Proposed Action, including data and reports used to determine the erosion protection methods at the site, specifically Section 1.6, "Levee Erosion Failure Processes," which outlines levee failure modes. Slurry walls are built to address the potential for seepage and stability failures. American River Erosion Contract 3B is being built to address the potential for failure due to erosion.
- Indiv-289-25 Please refer to response to Comment Indiv-289-8.
- Indiv-289-26 Please refer to response to comment Indiv-289-24.
- Indiv-289-27 There are four different modes of failure which levees are susceptible to:
- Overtopping: where the river height exceeds the height of the levee and floods the protected areas.
 - Erosion: when the river erodes away the riverbank and levee embankment, also referred to fluvial erosion.
 - Slope Stability: where a slope failure reduces the effective levee width and increases.
 - Seepage: when river water flows through the levee embankment (through-seepage) or through the ground under the levee (underseepage).

The cutoff walls installed along the Lower American River levees address the seepage and landside slope stability failure modes. The cutoff walls do nothing to address the risk of erosion-induced levee failures. The Geotechnical appendix was focused on evaluating the risk of seepage and stability-induced levee failure along the Lower American River levees, not erosion-induced risks to the levee. For erosion risks, hydraulic engineering is the key engineering discipline for determining erosion risk, thus the GRR's Hydraulic appendix is a better GRR document to reference; it details the reasons why the river is at risk for erosion. Please also refer to Appendix G "Engineering" Section 2.3.8, "Erosion Assessment" which details why multiple segments along Lower American River are at high risk for erosion induced levee failure.

Indiv-289-28 Please refer to Indiv-289-27.

Indiv-289-29 Please refer to Indiv-289-24.

Indiv-289-30 Please see Appendix G "Engineering" which has been added to clarify the need for the Proposed Action and to describe additional studies included in the Site Selection Process (see Section 1.8, "Site Evaluation and Selection," Section 2.3, "Background Data and Ancillary Studies" and Section 2.4, "Site Evaluation and Selection"). These studies accounted for such items as updated sediment transport models, plan form and stream bed profile assessment over time, lateral erosion assessment with updated data and testing of the bed and riverbank substrate, review of past performance data including annual erosion assessment reports, reconnaissance efforts such as bed profile survey and LiDAR collection, stratigraphic geologic modeling of the erosive resistant material (ERM), hydraulic modeling, and expert elicitation panel evaluation. The Erosion Assessment Report from 2020 is also provided as Attachment C to Appendix G, "Engineering."

Indiv-289-31 Please refer to Appendix G "Engineering" Section 2.3.8, "Erosion Assessment" and the Erosion Assessments attachment (as Attachment C of Appendix G) referenced in said section for details on the evaluation of erosion risks along Lower American River. To quote the Erosion Assessment attachments:

"The evaluation of long-term river processes in [Subreaches 3 and 4] determined that it is unlikely that significant channel change (channel width and depth, bar migration, large scale planform changes, etc.) will occur at flows of 160,000 cfs or less. However, there is a significant imbalance of concentrated hydraulic force caused by confining levees and weak channel bank soils that are highly dependent on vegetation for erosion protection. Actual bank erosion into the bench may be deeper and more significant (i.e. threat to levee integrity) in localized areas, as demonstrated historically at RM 4.0 and RM 7.2 in 1986. This finding necessitated a more detailed analysis of nine local channel segments to estimate the potential for short- and long-term erosion risks. These were delineated based upon the extent of existing revetments, stratigraphic profiles, hydraulic controls and bench widths (distance from channel bank to levee toe). The potential for erosion was evaluated by looking at the

erosive force of 3-day duration flood flows and potential erosion of bank and/or levee toe materials and the erosional resistance of existing vegetation cover and revetments. The analysis considered fluvial erosion and scour processes at both the riverbank and on the waterside levee toe and face. Finally, the analysis estimated the potential extent of lateral bank erosion towards the levee foundation template to assess possible levee failure in a single 3-day flood event.”

Indiv-289-32 Please refer to Indiv-289-8.

Indiv-289-33 Appendix G “Engineering” has been added to clarify the need for erosion protection at the Contract 3B project site, including data and reports used to determine the erosion protection methods at the site.

Indiv-289-34 Please refer to Appendix G, “Engineering,” Section 2.1, “Background” and Section 2.3.2, “Hydrology,” for background as to why the project is being designed. Flows during the 1986 and 1997 floods are lower than the design flows for the Contract 3B project, which is discussed in Section 1.4.1, “Past Flood Events” in Appendix G. Please also refer to Indiv-289-14.

Indiv-289-35 Appendix G, “Engineering,” has been added to clarify the need for the project.

Indiv-289-36 through -38 The project components referred to by the commenter cannot be removed from the project if the project is to meet the design criteria to protect against erosion during a 160,000 cfs flow condition. In addition to Appendix G, “Engineering,” please refer to Indiv-289-2 and Indiv-289-35.

Indiv-289-39 Please refer to Indiv-289-2 and MR 2, as well as Appendix G, “Engineering,” particularly Section 1.7.4, “Erosion Protection Design Alternatives,” and Section 2.5.2, “Contract 3B.”

Indiv-289-40 The design development process and considerations for Lower American River C3B are discussed in Appendix G “Engineering” Section 2.5.2, “Contract 3B” where design alternatives, considerations, concerns and program goals are discussed. Through an iterative process involving review from partners and national, regional and local experts in engineering and biological sciences the minimum erosion protection footprint and design feature was determined. The design features also include on-site habitat mitigation features and preserve/protect vegetation outside of the design footprint.

Indiv-289-41 Please refer to MR 1, which addresses the extended comment period and MR 7, which addresses access to data. USACE extended the public comment period out to February 23, 2024, to allow for more time to review the document and provide comments.

Individual 290 (Paula Sullivan)

Please refer to the responses to Form Letter 4.

Individual 291 (Louise E Jackson)

Please refer to the responses to Form Letter 4.

- Indiv-291-A The commenter states the proposed project justifications are adequately presented but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-291-B Please refer to revised maps and illustrations in Chapter 3, “Alternatives,” of the Final SEIS/SEIR.
- Indiv-291-C Please refer to MR 15, which addresses riparian forest.
- Indiv-291-D Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-291-E Please refer to MR 15, which addresses riparian forest.
- Indiv-291-F Please refer to MR 15, which addresses the riparian forest. Additionally, the alternatives selection process is described in Section 3.3, “Alternatives Development and Screening,” of the Draft SEIS/SEIR.

Individual 292 (Jay Domeny)

Please refer to the responses to Form Letter 3.

Individual 293 (Jay Domeny)

- Indiv-293-1 Please refer to MR 12, which addresses property value impacts.

Individual 294 (Jay Domeny)

- Indiv-294-1 The comment does not identify any issues related to the analysis contained in the SEIS/SEIR.

Individual 295 (Kelly Moss)

- Indiv-295-1 Please refer to MR 1 and MR 7, which addresses the extended public comment period and hosting in-person meetings.

Individual 296 (Amanda Meeker)

Please refer to the responses to Form Letter 3.

Individual 297 (Mark Rakich)

- Indiv-297-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B.

Individual 298 (Barbara Domek)

- Indiv-298-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-298-2 Please refer to MR 15, which addresses riparian forest, Appendix G, “Engineering” which thoroughly discusses the design process and alternatives considered, MR 13, which addresses green space and mental health, and MR 6, which addresses air quality and other public health impacts.
- Indiv-298-3 The comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 299 (Angel Ball)

Please refer to the responses to Form Letter 3.

Individual 300 (Eve Abrahams)

Please refer to the responses to Form Letter 4.

- Indiv-300-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-300-B Please refer to MR 2, which addresses the scope and approach to Contract 3B and 4 and MR 3, which addresses tree removal and replanting, and MR 15, which addresses riparian forest.
- Indiv-300-C Please refer to MR 5, which addresses biological resource specific mitigation, and MR 15, which addresses wildlife corridors.

Individual 301 (Kathleen Cochran)

- Indiv-301-1 Please refer to MR 3, which addresses tree removal along the American River.

Individual 302 (William Avery)

- Indiv-302-1 Please refer to MR 8 which discusses consistency with the Wild and Scenic River Act. If additional recreation features in the Parkway are desired, Project Partners recommend you coordinate directly with the Sacramento County Regional Parks.
- Indiv-302-2 Please refer to MR 8, which discusses consistency with the Wild and Scenic River Act.

Individual 303 (Hillary Parker)

Please refer to the responses to Form Letter 4.

- Indiv-303-A Please refer to MR 4, which addresses impacts to recreation access of the Parkway.

Individual 304 (Leslie Watts)

Please refer to the responses in Form Letter 3.

Individual 305 (Kitty Wilson)

Please refer to the responses to Form Letter 3.

Individual 306 (Charlie Stein)

Please refer to the responses to Form Letter 3.

Individual 307 (Warren Truitt)

Please refer to the responses to Form Letter 4.

Indiv-307-A This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-307-B Please refer to Appendix B Section 4.1, “Vegetation and Wildlife” for a discussion of impacts related to bald eagle.

Indiv-307-C Please refer to MR 3, which addresses tree removal and plantings.

Individual 308 (Tanya Khemet Taiwo)

Indiv-308-1 Project Partners appreciates your concern about the adequacy of analysis performed in this SEIS/SEIR as it relates to Contracts C3B and C4B. Appendix G, “Engineering,” has been added to clarify the need for the project. In addition, MR 2-1 and MR 3-1 outlines the project need and steps taken to minimize impacts to trees.

Indiv-308-2 Appendix G, “Engineering,” has been added to clarify the need for the project. Also, please reference MR 3, which addresses tree removal and plantings.

Individual 309 (Linda Bond)

Please refer to the responses to Form Letter 4.

Indiv-309-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 310 (Abbey Borstad Biehl)

Please refer to the responses to Form Letter 4.

Indiv-310-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 311 (Peggy McKeon)

Please refer to the responses to Form Letter 4.

Indiv-311-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-311-B Please refer to MR 3, which addresses tree removal and plantings; MR 5, which addresses impacts to habitat and wildlife; and MR 15, which addresses riparian forest.

Individual 312 (Veronica Kaufman)

Please refer to the responses to Form Letter 4.

Individual 313 (Gayle McNicholas)

Please refer to the responses to Form Letter 3.

Individual 314 (Christopher Smith)

Please refer to the responses to Form Letter 3.

Individual 315 (Rainbeau Lee)

Please refer to the responses to Form Letter 3.

Individual 316 (Kate Anderson)

Please refer to the responses to Form Letter 3.

Individual 317 (Jacob Wren)

Please refer to the responses to Form Letter 3.

Individual 318 (Gwendolyn Wren)

Please refer to the responses to Form Letter 3.

Individual 319 (Karen Z)

Please refer to the responses to Form Letter 3.

Individual 320 (Christie Vallance)

Please refer to the responses to Form Letter 4.

Indiv-320-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

- Indiv-320-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway.
- Indiv-320-C Please refer to MR 4, which addresses impacts to recreational access of the Parkway; MR 5, which addresses impacts to habitat and wildlife, MR 3, which addresses tree removal and mitigation measures; and MR 15, which addresses riparian forest.
- Indiv-320-D Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 321 (Samuel Barnett)

Please refer to the responses to Form Letter 3.

Individual 322 (Vicki Rinne)

- Indiv-322-1 The comment addresses the adequacy of the environmental studies and the need for more documentation and details; however, does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; MR 3, which addresses tree removal and plantings in Contract 3B and 4; MR 10, which addresses the purpose and goals of the Lower American River Erosion Contract 4B; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.
- Indiv-322-2 Please refer to response to Indiv-322-1.
- Indiv-322-3 Please refer to MR 5, which addresses impacts to habitat and wildlife; and MR 15, which addresses impacts to riparian forest.
- Indiv-322-4 Please refer to MR 6, which addresses public health and safety impacts from construction of Contract 3B. Please refer to MR 3, which addresses tree removal and plantings in Contract 3B.
- Indiv-322-5 Please refer to MR 4, which addressed impacts to recreation on the Lower American River from construction of Contract 3B.
- Indiv-322-6 Please refer to response to Indiv-322-1.

Individual 323 (Katherine Domek)

- Indiv-323-1 Please refer to MR 3, which address tree removal and plantings; MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering” which thoroughly addresses the design process and requirements of Contract 3B and 4 as well as implementation of replanting efforts.

Indiv-323-2 Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; and Appendix G, “Engineering,” which addresses the risk analysis, design process, and alternatives considered for Contract 3B and 4.

Individual 324 (Beverly Thomas)

Please refer to Form Letter 3.

Indiv-324-A This commenter provides unique comments relating to fish and wildlife habitat. Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; MR 5, which addresses impacts to habitat and wildlife; and MR 15, which addresses riparian forest.

Individual 325 (Ruth Tesar)

Please refer to the responses to Form Letter 3.

Indiv-325-A This form letter has unique comments relating to habitat impacts and purpose and need for the proposed project. Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 5, which addresses habitat and wildlife; MR 15, which addresses riparian forest; and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 326 (Michael Rex)

Please refer to the responses to Form Letter 3.

Individual 327 (Carrie Rohrbach)

Please refer to the responses to Form Letter 4.

Indiv-327-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 328 (Fred Kindel)

Indiv-328-1 American River Common Features was not authorized as an ecosystem restoration project; it is only authorized for flood risk management and compensatory mitigation. Project engineers considered engineering with nature style type solutions and incorporated them where feasible, refer to SEIRRA 1-1 for more info. Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 5, which addresses habitat and wildlife; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” which addresses

the risk analysis, design process, and alternatives considered for Contract 3B and 4.

Individual 329 (Nicholas Ewing)

Please refer to the responses to Form Letter 3. Also, please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; MR 5, which addresses habitat and wildlife; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” which addresses the risk analysis, design process, and alternatives considered for Contract 3B and 4.

Individual 330 (Robin Pasterski)

Please refer to the responses to Form Letter 4.

Individual 331 (Eric Schmidt)

Please refer to the responses to Form Letter 4.

Indiv-331-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-331-B Please refer to MR 3, which address tree removal and plantings; MR 5, which addresses impacts to habitat and wildlife; and MR 15, which addresses riparian forests.

Individual 332 (James Williams)

Please refer to the responses to Form Letter 3.

Individual 333 (Mer Mills)

Indiv-333-1 Please refer to MR 3, which address tree removal and plantings; MR 5, which addresses general mitigation; and MR 15, which addresses riparian forests at Contract 3B.

Individual 334 (Eric Webb)

Please refer to the responses to Form Letter 3.

Indiv-334-A Please refer to Appendix B, Section 5.1, “Cultural Resources,” in the SEIS/SEIR for a discussion of cultural and historic resources and compliance with the National Historic Preservation Act.

Individual 335 (Ellen Springwind)

Please refer to the responses to Form Letters 3 and 4.

- Indiv-335-A Please refer to MR 3, which addresses tree removal and plantings; MR 5, which addresses impacts to habitat and wildlife; and MR 15, which addresses impacts to riparian vegetation.
- Indiv-335-B Please refer to response to Indiv-335-A and MR 13, which addresses impacts to mental and psychological health.

Individual 336 (Bill Brattain)

- Indiv-336-1 The primary focus of this work is the reduction of levee failure risk due to the effects of 160,000 cfs of water flowing down the American River through a heavily urbanized area during emergency release conditions. These conditions require the placement of substantial amounts of riprap to combat the erosive effects high velocity water on highly erodible soils. In the recent work (2022-2023) riprap was filled with soil, buried and covered with at least a foot of topsoil. The topsoil is susceptible to surface erosion so it is protected with erosion control fabric and straw wattles until vegetation can be re-established and protect against surface erosion. The sites are being replanted with native vegetation and the sites will be monitored to ensure adequate growth.

The dead trees anchored with ropes and chains along the average summer waterline are part of a design to provide habitat for certain fish species. Since construction requires removal of woody material along the water line, it is replaced with the canopies of recycled orchard trees. This provides ideal habitat for juvenile salmon who need to find refuge from other larger fish in the river. USACE refers to this as In-stream Woody Material, or IWM. The IWM is anchored with chains to keep it in place during high water events.

In summary, two types of erosion must be addressed. Massive erosion, which threatens the levee and thus threatens the lives of thousands of people, has been addressed with heavy riprap, bringing a new level of flood protection to the communities surrounding the American River. The other form of erosion only affects the topsoil and is being addressed by erosion control fabric and straw wattles while vegetation is restored bringing long term, natural protection from surface erosion.

- Indiv-336-2 All of the erosion projects associated with the 2016 ARCF Project have different risks and environmental resources. Each project has been designed to meet the specific needs of the specific site. Appendix G, "Engineering," has been added to clarify the need for the project. Section 2.5.2, "Contract 3B" of Appendix G outlines the risks of the specific segments that make up American River Erosion Contract 3B. Please also see MR 2, which discussed the scope and approach of improvements in Contract 3B, including flooding and erosion risks. Please note that Folsom Dam and the existing levees were not established until the 1950's. Although the trees have been around for hundreds of years, the flows have since been restricted to the channel due to the levees.

- Indiv-336-3 Please refer to MR 2-2, 3-1, 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why the USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Individual 337 (A Harvey)

- Indiv-337-1 The comment states that USACE should perform a more adequate environmental analysis and should postpone work on Contracts 3B and 4 until this is done. The comment addresses the adequacy of the environmental analysis; however, does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-337-2 Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” Section 2.5, “Design Development” which addresses alternatives and the design process for Contracts 3B and 4.
- Indiv-337-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosions risks; and Appendix G, “Engineering,” which addresses the risk analysis, design process, and alternatives considered for Contract 3B and 4.
- Indiv-337-4 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosions risks; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest and the onsite planting strategy; and Appendix G, “Engineering,” Section 2.6, “Design Implementation” which discusses revegetation of sites.
- Indiv-337-5 The commenter states that under California law, a project with significant and unmitigated impacts cannot go forward unless all feasible and less damaging alternatives have been studied. This is an inaccurate understanding of the law. CEQA Guidelines Section 15126.6 state the following regarding alternatives analysis:

“An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.”

The Proposed Action has satisfied all CEQA requirements regarding alternatives analysis. Please refer to Appendix G “Engineering,” Section 2.5, “Design Development” for a discussion of the alternatives and design process for Contract 3B and 4.

Individual 338 (Ashley Root)

Please refer to the responses to Form Letter 3.

Individual 339 (Kevin Root)

Please refer to the responses to Form Letter 3. Please also refer to MR 6, which addresses public health and safety impacts from construction.

Individual 340 (Jennifer Enright)

- Indiv-340-1 The comment does not identify specific concerns related to the analysis in the SEIS/SEIR. Please refer to MR 6, which addresses public health and safety impacts from construction; MR 13, which addresses green space and physical and mental health; and MR 12, which addresses property value impacts.
- Indiv-340-2 Please refer to MR 3, which address tree removal and plantings; MR 15, which addresses riparian forest and provides results from tree surveys, and Appendix G, "Engineering," Section 2.6, "Design Implementation" which discusses revegetation of sites.
- Indiv-340-3 Please refer to MR 6, which addresses public health and safety from construction activities.
- Indiv-340-4 The comment does not identify specific concerns related to the analysis in the SEIS/SEIR.

Individual 341 (Peter Woods)

- Indiv-341-1 The comment does not identify specific concerns related to the analysis in the SEIS/SEIR. Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosion risks; and Appendix G "Engineering," which discusses the proposed design approach and implementation for Contract 3B and 4.

Individual 342 (William Avery)

- Indiv-342-1 Please refer to Appendix G, "Engineering," Section 2.1, "Background" and Section 2.3.2, "Hydrology;" the 160,000 cfs design flow is related to the congressional authorization. Appendix G Section 2.1, "Background" provides details on Folsom Dam history and flows. Please refer to also MR 2-3, MR 3-7, and response to Indiv-336-11 for success rates of past projects.
- Indiv-342-2 Based on the current water control manual for Folsom Dam, which accounts for all the Folsom Dam improvements planned for and currently under construction, the objective outflow for normal dam operations is 115,000 cfs; however, the objective emergency outflow (i.e. to prevent dam overtopping) for Folsom Dam is 160,000 cfs. Because of the downstream constraint imposed by the inability of the Lower American River levees to safely convey the 160,000 cfs flow release, flood risk reduction benefits provided by the Folsom Dam improvements cannot be

fully realized unless the Lower American River levees can safely convey the 160,000 cfs flow. For the overarching flood risk management system along the American River, including Folsom Dam and the Lower American River levees, to function as one comprehensive unit, the Lower American River levees must be able to safely convey the 160,000 cfs flood event. Please refer to Appendix G, “Engineering,” Section 2.1.2, "Folsom Dam Historical Performance" and Section 2.1.3, “Folsom Dam Operation Improvements" for more information.

Indiv-342-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosions risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; MR 8, which addresses consistency with the Wild and Scenic Rivers Act; MR 15, which addresses riparian forest and the onsite planting strategy; and Appendix G, “Engineering,” Section 2.6, “Design Implementation”, which discusses revegetation of sites. Also, please refer to response to comments Indiv-342-2.

Indiv-342-4 Please refer to response to Indiv-342-3.

Individual 343 (Katherine Domek)

Indiv-343-1 Please refer to MR 3, which addresses tree removal and plantings; MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” Section 2.6, “Design Implementation” which discusses revegetation of sites.

Indiv-343-2 Please refer to MR 3, which addresses tree removal and plantings; MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering” Section 2.5, “Design Development,” which discusses the proposed design of Contracts 3B and 4.

Individual 344 (Samuel Barnett)

Please refer to the responses to Form Letter 5.

Individual 345 (William Avery)

Inediv-345-1 Two informational figures demonstrating American River Erosion Contract 4B (Figure 3.5.2-11 and Figure 3.5.2-12) were inadvertently omitted from the Draft SEIS/SEIR. These figures have been added to the Final SEIS/SEIR where they are designated Figure 3.5.2-12 and 3.5.2-13. Additionally, these figures have been available to the public in the previous presentations and are available on the USACE website: <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/>. The figures describing project footprint by river mile and details of construction methods were available in the Public Meeting presentations, on Slide Number 11 on the Public Engagement tab.

Individual 346 (Steven Whitehead)

- Indiv-346-1 Please refer to MR 3, which addresses tree removal and plantings in Contract 3B. Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosion risks.
- Indiv-346-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-346-3 Please refer to MR 3, which addresses tree removal and plantings in Contract 3B; MR 7, which addresses public outreach; and MR 15, which addresses riparian forest.

Individual 347 (Wendy Silk)

- Indiv-347-1 The commenter states they do not see that the environmental analysis adequately characterizes the significant impacts, mitigation to consider impacts mitigated to insignificant, nor consideration of all feasible alternatives. This commenter inaccurately describes CEQA requirements regarding mitigation and alternative analysis. CEQA Guideline Sections 15126.4 states the following regarding mitigation:

An EIR shall describe feasible measures which could minimize significant adverse Impacts. . . If the lead agency determines that a mitigation measure cannot be legally imposed, the measure need not be proposed or analyzed. Instead, the EIR may simply reference that fact and briefly explain the reasons underlying the lead agency's determination.

CEQA Guidelines Section 15126.6 states the following regarding alternatives analysis:

"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

The Proposed Action includes all feasible mitigation available to lessen significant impacts; however, where mitigation is not feasible, this is discussed and a conclusion of significant and unavoidable is made. Additionally, the Proposed Action has satisfied all CEQA requirements regarding alternatives analysis.

- Indiv-347-2 Please refer to MR 3-1 and Appendix G, "Engineering," for a detailed discussion that includes the efforts to allow riparian vegetation to remain following project construction. Please also refer to CBD 3-8 for information on policies allowing vegetation on levees.

Individual 348 (Linda Cabatic)

- Indiv-348-1 Please refer to MR 3, which addresses tree removal and plantings; MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and the Appendix G, “Engineering,” Section 2.5, “Design Development” and 2.6, “Design Implementation,” which discusses the proposed design and alternatives considered for Contract 3B and 4 and revegetation of sites.
- Indiv-348-2 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting, MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and the Appendix G, “Engineering.”
- Indiv-348-3 Please refer to MR 15, which addresses riparian forest and replanting, and the Appendix G, “Engineering,” Section 2.6, “Design Implementation”, which discusses revegetation of sites.

Individual 349 (Sharon Nicodemus)

Please refer to the responses to Form Letter 4.

Individual 350 (Dr. Alison Slack)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

- Indiv-350-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 351 (Robin Pasterski and Trent Pasterski)

- Indiv-351-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 352 (Charles Pineda, Jr.)

- Indiv-352-1 Support for the proposed project is noted. This comment does not raise any issue related to the analysis in the SEIS/SEIR. No further response is needed.
- Indiv-352-2 This comment does not raise any issue related to the analysis in the SEIS/SEIR. Please refer to MR 3, which addresses tree removal and plantings, and MR 4, which addresses recreation.

Individual 353 (Adrienne Marcin)

Please refer to the responses to Form Letter 3.

Individual 354 (Maureen Burness)

Please refer to the responses to Form Letter 3.

Individual 355 (William Brattain)

Indiv-355-1 Please refer to responses to Indiv-356.

Individual 356 (William Brattain)

Indiv-356-1 Additional language and figures have been added to Section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR to better illustrate the proposed improvements. Please also refer to MR 2 for a discussion of the scope and approach of improvements to Contract 3B, MR 3 for a discussion of tree removal and plantings in Contract 3B, and MR 4-2 for a discussion of Contract 3B impacts to recreation.

Indiv-356-2 Please see MR 2 for a discussion of the scope and approach of improvements to Contract 3B, including risks of flooding and erosion. Appendix G, "Engineering," has also been added to clarify the need for the project.

Indiv-356-3 The Site Selection Process and studies that supported conclusion of determining Tiering of river segments and if a river segment is actionable or not is discussed in Sections 1.8, "Site Evaluation and Selection," 2.3, "Background Data and Ancillary Studies" and 2.4, "Site Evaluation and Selection" in Appendix G, "Engineering." The program's design objective flow is 160,000 cfs. Hydrodynamic conditions that were witnessed during the February 10, 2017, flood event of 82,400 cfs are very substantially different from conditions that would exist during a 160,000 cfs flow, and these different conditions result in different hazards.

Velocities are not the only factor considered when determining erosion risk. A variety of analysis tools from lateral erosion estimates supported by testing of erodibility characteristics of river bed and riverbank soils, geologic data collection and stratigraphic modeling of geologic conditions, vertical scour analysis, slope stability modeling, hydraulic modeling, surveying of riverbank side slope, plotting the levee prism and assessment of the distance from the levee toe to river toe, multiple expert panel elicitations, geomorphic assessment and considerations discussed in Appendix G support river Segment 4-3 (~RM 10.4 - 10.5) as being actionable (i.e. erosion mitigation being needed). The primary concern for Segment 4-3 is instability of the river toe or the levee foundation (PFM3). Alternatives for addressing this concern were explored and discussed in Section 2.5.2, "Contract 3B" of Appendix G, "Engineering."

Indiv-356-4 Stratigraphic modeling of the geologic conditions based on multiple data collection records for each segment were completed and are discussed in Section 2.3, "Background Data and Ancillary Studies" of Appendix G, "Engineering." Geomorphic assessment and engineering analysis involved past performance assessment, but it must also be completed in context of the anthropogenic changes

of the Lower American River systems since the installation of the modern levee system and Folsom dam. The Lower American River system, historically prone to flooding prior to the modern levee system era, used to be able to occupy a larger floodplain with break out flow channels recorded in geologic mapping. The Lower American River system now is confined in a narrower channel with levees on both sides and an urban environment developed immediately behind the flood protection system. The levee is constructed above gold rush alluvium sands with those levee foundation materials tested to be erodible especially under high flow conditions. Mapping and testing of gravel layers and the erosive resistant material where assessed, mapped and accounted for in design as well.

- Indiv-356-5 Please refer to MR 2-4 for details as to why the 2017 Monitoring Report has a separate purpose from the Proposed Action. Assessing a suite of local attributes went in to determining the hazard and selecting the site for erosion mitigation needs. For more detail on the Site Selection process please see Section 1.8, "Site Evaluation and Selection" and Section 2.4, "Site Evaluation and Selection" of Appendix G, "Engineering," and Section 2.3, "Background Data and Ancillary Studies" of Appendix G. These attributes did account for topographic surveying to determine the distance from the river toe to levee toe, the distance from the river toe to the levee prism, side slope and height of the riverbank, assessment of geology and erodibility characteristics of mapped units, vertical scour, lateral erosion, and slope stability analysis, hydraulic modeling, past performance assessment such as incorporating the 2017 annual erosion assessment report, and expert panel elicitation. Failure modes per river segment leading to levee integrity issues and associated consequences were characterized and used for the basis of design development.
- Indiv-356-6 Please refer to MR 2-4 for details as to why the 2017 Monitoring Report has a separate purpose from the Proposed Action. Please refer to Section 4.3, "Recreation" of the SEIS/SEIR for a summary of recreational resource and anticipated impacts. Please refer to Section 2.2, "Recreation" of Appendix B for a detailed analysis of recreation and mitigation measures to minimize impacts to recreation. Please refer to MR 4 for elaborated information on recreational impacts to informal trails and beaches.
- Indiv-356-7 The Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. Please see MR 8 (Wild and Scenic Rivers Act).
- Indiv-356-8 The commenter states that the project is likely inconsistent with NEPA and CEQA but does not provide details regarding inconsistencies. Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act.
- Indiv-356-9 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B. Appendix G Section 2.1, "Background" and Appendix G Section 2.3.2, "Hydrology" explains why the USACE is designing for 160,000 flows and how recent flood levels compare.

Indiv-356-10 Please refer to Appendix G, Sections 1.6, “Levee Erosion Failure Processes” and 2.4.3, “Summary of Site Selection.”

Indiv-356-11 Please refer to response to comment Indiv-356-2.

Indiv-356-12 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why the USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Individual 357 (Jeffrey Ewing)

Please refer to the responses to Form Letter 3.

Individual 358 (Maret Marcin)

Please refer to the responses to Form Letter 3.

Individual 359 (Vince Di Fiore)

Indiv-359-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 360 (Ursula Kastell)

This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to the responses to Form Letter 3.

Individual 361 (Laurie Resnikoff)

Indiv-361-1 Please refer to MR 3, which address tree removal and plantings; MR 5, which addresses impacts to habitat and wildlife from construction of Contract 3B; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-361-2 Please refer to MR 12, which addresses property values.

Indiv-361-3 Please refer to MR 5, which address impacts to habitat and wildlife from construction of Contract 3B; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-361-4 Please refer to MR 1, which addresses the public comment period and meetings; MR 7, which addresses public outreach; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 362 (Nathan Davis)

Please refer to the responses to Form Letter 4.

Indiv-362-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 4, which addresses impacts to recreational access of the Parkway, and MR 3, which addresses tree removal and mitigation measures.

Indiv-362-B Please refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.

Indiv-362-C Please refer to MR 3, which addresses tree removal, plantings, and mitigation measures.

Individual 363 (Heather Frye)

Please refer to the responses to Form Letter 3.

Individual 364 (Paul Kamper)

Please refer to response to Form Letter 3.

Indiv-364-A This commenter provides unique comments regarding their personal experiences with the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 365 (Charlie Mifkovic)

Indiv-365-1 Please see Appendix G, “Engineering,” that was developed in response to public comments requesting more information on engineering design and hydraulic modeling.

Indiv-365-2 The acronym that the commenter points out is the system wide improvement framework (SWIF), which is defined on page 4.1-22. This has been added to the Acronyms and Abbreviations list.

Indiv-365-3 Trees and vegetation were incorporated and accounted for in the 2-dimensional hydraulic models developed and utilized in the engineering analyses for assessing the erosion risk along the Lower American River. This 2-dimensional hydraulic modeling demonstrates that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. However, the erosion risk analyses performed along the Lower American River (LAR) evaluated the risk of erosion both the levee embankment itself (Probable Failure Mode [PFM] 2) and

erosion of the foundation of the levee (PFM 3), please refer to Appendix G, Section 1.6, "Levee Erosion Failure Processes," for more information on these PFMs. While velocities near the levee may be low, there is still the concern specific to PFM 3, which poses a risk to the levee's integrity. Please refer to MR 2-1 and 2-2 for more information on the purpose of Contract 3B, PFM 3 erosion risks, and the efficacy of vegetation alone as a form of erosion protection. Please also refer to MR 3-1 and MR 15-1, which addresses the need for tree removal in Contract 3B, and MR 3-6, which addresses site-specific tree assessments. Please also refer to Appendix G, "Engineering," Section 2.3, "Background Data and Ancillary Studies" for information on the various data, investigations, tools, and analyses utilized throughout the site selection and design development process.

- Indiv-365-4 Section 2.3.3, "Hydraulic Model Analysis "of Appendix G discusses the development of hydraulic modeling analysis that included calibration and validation runs, presence of existing vegetation, formal review by multiple review teams and consultation with the Hydrologic Engineering Center. The hydraulic model results are one form of identifying erosion hazards and levee failure modes. A suite of other analytical tools included assessing vertical scour and slope stability factors leading to toe instability concerns, lateral erosion assessment, review of past performance data such as from the 1986, 1997 and 2017 high flow events, surveying of vegetation condition, surveying of site bathymetry and topography conditions and width to the levee prism and levee toe, geomorphic assessment and expert elicitation panels from national, regional and local experts. Site evaluation and design alternative analysis is based on a design objective flow of 160,000-cfs with additional detail can be found in MR 2-5 on the design flow. The constrained Lower American River system (which was dammed and constrained by levees in the 1950s) in general exhibits greater hydraulic forces (e.g. shear and velocity) as the river flow increases prior to the levees overtopping. MR 2-2 discusses consideration of the presence of vegetation to mitigate flood risk. Within Site 4-1, river segments 3-7 (also referred as 10.0L) and Segment 4-2 (10.6L) are existing bank protection features installed in the early 2010s based on erosion concerns and past performance issues.
- Indiv-365-5 The flow hydrograph for the updated water control manual was included in hydraulic modeling, lateral erosion estimates, slope stability (e.g. rapid drawdown) modeling and considerations by expert panel members in the Risk Informed Design process. Cumulative Modeling efforts evaluated potential for levee overtopping concerns to confirm the suite of all erosion protection features on the Lower American River and Sacramento River does not increase the levee overtopping flood risk across the federal levee system. A variety of other flow events were modeled as well to assess hydraulic conditions for a suite of conditions (e.g. base flow to top of levee) and to support calibration and verification runs.
- Indiv-365-6 Please see Section 2.5.2.4, "Contract 3B Site 4-1" of Appendix G and key into Segment 3-6 discussions on risk drivers, design alternatives and the proposed design.

- Indiv-365-7 A no-action alternative was considered for all segments. However, considering the evaluation of the flood risk and associated consequences the no-action option for areas upstream of RM 9.7 was not selected. Risk Drivers, design alternatives and design development process are described in Section 2.5.2, "Contract 3B" of Appendix G where the Site Selection process is described in Section 1.8, "Site Evaluations and Selection" and 2.4, "Site Evaluations and Selection."
- Indiv-365-8 During the C3B 35 percent design phase, Site 4-1 was designed to include a buried overbank feature near the levee toe similar to the recommendation provided in this review comment. As each design phase includes habitat impact assessment and formal review, the 35 percent design was determined to not be supported as habitat impacts were too severe and risk metrics were not fully achieved. The design development process for Site 4-1 touching on this and coordination with partners are described in Section 2.5.2.4, "Contract 3B Site 4-1" in Appendix G, "Engineering."

Individual 366 (Jay Lowy)

Please refer to the responses to Form Letter 4.

- Indiv-366-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 367 (Catherine Hurd)

- Indiv-367-1 The commenter expresses opposition to the project but does not identify any specific issue relating to the analysis in the SEIS/SEIR.

Individual 368 (Janice Chung)

Please refer to the responses to Form Letter 4.

- Indiv-368-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-368-B Please refer to MR 3, which addresses tree removal, plantings, rip rap, and mitigation measures; and MR 15, which addresses impacts to riparian vegetation and.

Individual 369 (Hannah Esteves)

Please refer to the responses to Form Letter 3.

Individual 370 (Michele Tracy)

- Indiv-370-1 The commenter expresses general opposition to the proposed project due to tree removal along the American River Parkway. Please refer to MR 3, which addresses tree removal, plantings, and mitigation measures; MR 13, which

addresses green space and physical and mental health; and MR 15, which addresses riparian forest.

Individual 371 (Sherie Brubaker)

Please refer to the responses to Form Letter 4.

Indiv-371-A The commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses impacts to recreational access of the Parkway; MR 5, which addresses impacts to habitat and wildlife; and MR 15, which addresses riparian forest.

Individual 372 (Peter Kunstler)

Please refer to the responses to Form Letter 4.

Indiv-372-A The commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 373 (Barbara Ross)

Please refer to the responses to Form Letter 4.

Indiv-373-A The commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 374 (James M Pappas)

Indiv-374-1 Please refer to MR 8, which addresses public health and safety impacts from construction.

Indiv-374-2 Please refer to MR 8, which addresses public health and safety impacts from construction.

Indiv-374-3 As detailed in Section 3.5, “Alternative 2: Proposed Action,” if any roads or other access areas are damaged by construction activities, they would be fully repaired or restored to preconstruction conditions. Contractors are required to perform a preconstruction and post construction survey of roads used as haul routes. These surveys document the condition of road before and after construction. The contractor is required to repair any visible damage identified in these surveys.

Individual 375 (Danielle Best)

Please refer to the responses to Form Letter 4.

- Indiv-375-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-375-B Please refer to MR 3, which addresses tree removal, plantings, and mitigation measures, and MR 15, which addresses riparian forest.

Individual 376 (Phyllis Ehlert)

- Indiv-376-1 Please refer to MR 2, which address scope and approach of improvements in Contract 3B; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 377 (Dan Kopp)

- Indiv-377-1 This comment does not add to or change the analysis in this document and does not require additional analysis.
- Indiv-377-2 The purple martin is a cavity nesting, insect eating, migratory bird that has breeding habitat in California. According to the Sacramento Audubon, there are two known nesting locations near the American River Common Features Construction footprints. Although these two locations, Sutterville Rd Overpass and Ramona Ave, are not within the project area they are close enough to warrant inclusion in the environmental document. This comment does not change the effects determination, or the analysis provided in the document. No edits to the document are required.
- Indiv-377-3 For information on the purple martin please see comment Indiv-377-2. Although there are no documented sightings of the American badger in the American River parkway, the project falls within the species range. Also, the American badger is included the Lower American River Parkways Natural Resource Management Plan, dated 2023.
- Indiv-377-4 The Crotch’s bumble bee is a ground nesting pollinator species, which can be found in grasslands and scrub habitat in Central California. Due to standard levee maintenance operating in open grassland habitat along the parkway, it is possible that this species be present within haul routes, staging, and construction areas. Although they were not explicitly surveyed for, the Project Partners cannot assume their absence. This comment does not change the effects determination, or the analysis provided in the document. No edits to the document are required.
- Indiv-377-5 Please refer to MR 5, which addresses mitigation, and MR 15, which addresses riparian forest.
- Indiv-377-6 The commenter expresses dissatisfaction with the appearance of previous projects. The commenter does not identify any issues related to the analysis in the SEIS/SEIR. No response is required.

Individual 378 (Ronnie Jeanne Amato)

- Indiv-378-1 Comment letter does not refer to any projects within the SEIS/SEIR. The comment has been forwarded to USACE Public Affairs Office to provide an appropriate response. This comment does not add to or change the analysis in this document and does not require additional analysis.

Individual 379 (Zilan Chen)

Please refer to the responses to Form Letter 3.

Individual 380 (Jacqueline DeLu)

- Indiv-380-1 The commenter does not identify any specific issues related to the analysis in the SEIS/SEIR. No response is required.
- Indiv-380-2 Please refer to MR 3, which addresses tree removal and plantings; MR 5, which addresses mitigation; and MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-380-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest.
- Indiv-380-4 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-380-5 The Proposed Action includes all feasible mitigation available to lessen significant impacts; however, where mitigation is not feasible, this is discussed and a conclusion of significant and unavoidable is made. Additionally, the Proposed Action has satisfied all CEQA requirements regarding alternatives analysis. Please also refer to response to Indiv-347-1.
- Indiv-380-6 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest.

Individual 381 (Sandra Julee Starkey)

Please refer to the responses to Form Letter 3.

Individual 382 (Ron Farquhar)

- Indiv-382-1 Please refer to MR 3, which addresses tree removal and plantings, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 383 (Steven Whitehead)

Please refer to the responses to Individual 346.

Individual 384 (Brenda Gustin)

- Indiv-384-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; MR 3, which addresses tree removal and planting in Contract 3B and 4; MR 5, which addresses mitigation, ; MR 6 which address public health and safety from implementation of Contract 3B and MR 15 which addresses riparian habitat.
- Indiv-384-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-384-3 Please refer to MR 7, which addresses public outreach.
- Indiv-384-4 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; MR 8, which addresses consistency with the Wild and Scenic Rivers Act; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-384-5 Please refer to MR 4, which addresses impacts to recreation on the Lower American River, and MR 13, which addresses green space and physical and mental health.
- Indiv-384-6 The commenter states that they are unable to access omitted data but does not specify what data has been omitted.
- Indiv-384-7 Please refer to MR 1, which addresses extended public comment period and hosting in-person meetings.
- Indiv-384-8 Please refer to MR 1.
- Indiv-384-9 Please refer to MR 7, which addresses requests for documentation.
- Indiv-384-10 Please refer to MR 7, which addresses requests for documentation. Please refer also to Chapter 3, “Alternatives,” in the Final SEIS/SEIR, which includes additional maps and provides a higher degree of detail and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-384-11 Please refer to MR 1.

Individual 385 (Laurie Resnikoff)

- Indiv-385-1 The commenter states that analysis in the SEIS/SEIR is not adequate but does not identify any specific example of inadequate impact analysis. Please refer to MR 7, which addresses public outreach.
- Indiv-385-2 Please refer to MR 3, which addresses tree removal and plantings, and MR 15, which addresses riparian forest.
- Indiv-385-3 Please refer to MR 12, which addresses property values.

- Indiv-385-4 Please refer to MR 5, which addresses mitigation, and MR 15, which addresses riparian forest.
- Indiv-385-5 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 386 (James M Pappas)

- Indiv-386-1 Please refer to MR 6, which addresses public health and safety from implementation of Contract 3B.
- Indiv-386-2 Please refer to MR 6, which addresses public health and safety from implementation of Contract 3B. Additionally, vibration impacts are discussed in detail in Appendix B, “Detailed Analyses,” Section 4.4.7, “Noise and Vibration.”
- Indiv-386-3 Please refer to MR 6, which addresses public health and safety from implementation of Contract 3B. Additionally, noise impacts are discussed in detail in Appendix B, “Detailed Analyses,” Section 4.4.7, “Noise and Vibration.”
- Indiv-386-4 As detailed in Section 3.5, “Alternative 2: Proposed Action,” if any roads or other access areas are damaged by construction activities, they would be fully repaired or restored to preconstruction conditions. Contractors are required to perform a preconstruction and post construction survey of roads used as haul routes. These surveys document the condition of road before and after construction. The contractor is required to repair any visible damage identified in these surveys.

Individual 387 (Phyllis Ehlert)

- Indiv-387-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B; MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 388 (Nina Nazimowitz)

Please refer to the responses to Form Letter 4.

- Indiv-388-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-388-B Please refer to MR 7, which addresses public outreach and documentation.
- Indiv-388-C Please refer to MR 1, which addresses extension of public comment period and meetings. The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and

January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

Indiv-388-D Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Individual 389 (Janel Hernandez)

Indiv-389-1 Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-389-2 Please refer to response to Indiv-389-1.

Individual 390 (Karen Kunstler)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-390-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 391 (Tom Custer)

Please refer to the responses to Form Letter 4.

Indiv-391-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 3, which addresses tree removal and plantings, MR 15, which addresses riparian forest; and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-391-B Please refer to MR 7, which addresses public outreach and requests for documentation.

Individual 392 (Antony Smith)

Indiv-392-1 Please refer to MR 3, which addresses tree removal and plantings; MR 8, which discusses consistency with the Wild and Scenic Rivers Act; MR 15, which addresses riparian forest, tree removal, and replanting efforts; and Appendix G,

“Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

- Indiv-392-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B. The commenter also mentions Contract 3A which is not a project covered by this SEIS/SEIR.
- Indiv-392-3 Please refer to response to Indiv-392-1.
- Indiv-392-4 Please refer to MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-394-5 The comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 393 (Mike Wang)

Please refer to the responses to Form Letter 3.

Individual 394 (James Mamola)

Please refer to the responses to Form Letter 3.

Individual 395 (Eric Milstein)

Please refer to the responses to Form Letter 3.

Individual 396 (Lorraine Best)

Please refer to the responses to Form Letter 3.

Individual 397 (Claudia Kirkpatrick)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

- Indiv-397-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 398 (Heather Frye)

Please refer to the responses to Form Letter 3.

Individual 399 (Debbie Bakken)

Please refer to the responses to Form Letter 3.

Indiv-399-A The commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue related to the analysis in the SEIS/SEIR.

Individual 400 (Bob Luce)

Indiv-400-1 Please refer to MR 5, which address impacts to habitat and wildlife from construction of Contract 3B, MR 15, which addresses riparian forest, and Appendix G, “Engineering.” Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why existing vegetation or bioengineering cannot be relied on for levee protection, and steps that were taken to minimize tree removal as much as possible.

Individual 401 (Emilia Goldstein)

Please refer to the responses to Form Letter 3.

Individual 402 (Dale Scribner)

Indiv-402-1 This SEIS/SEIR includes analysis on upcoming projects. NEPA and CEQA has already been completed on projects that have been constructed. Your inquiry has been received and provided to the appropriate personnel for follow up. For any other concerns or questions on active construction, please email spk-pao@usace.army.mil or call (916) 557-5101.

Individual 403 (Annette Faurete)

Please refer to the responses to Form Letter 4.

Indiv-403-A Please refer to MR 13, which addresses physical and mental health, and MR 4, which addresses impacts to recreation access of the Parkway.

Indiv-403-B Please refer to Section 2.5, “Design Development,” in Appendix G, “Engineering,” which addresses the design development and alternatives considered.

Indiv-403-C Please refer to MR 3, which addresses tree removal and bioengineering techniques and MR 8, which addresses compliance with the Wild and Scenic Rivers Act.

Indiv-403-D Please refer to MR 3, which addresses tree removal and plantings.

Indiv-403-E Please refer to MR 4, which addresses impacts to recreation access of the American River Parkway.

Indiv-403-F Please refer to MR 15, which addresses impacts to riparian habitat and wildlife corridors.

Individual 404 (Todd Keeler-Wolf)

Please refer to the responses to Form Letter 3.

Indiv-404-A Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 405 (Glen Robins and Martha Robins)

Please refer to the responses to Form Letter 4.

Indiv-405-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-405-B Please refer to MR 1, which addresses the public comment period. As a result of public request, USACE extended the public comment period beyond the required 45-day review period, from an original closure of February 5, 2024, to February 23, 2024, to allow for more time to review the document and provide comments. Additionally, multiple public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

Indiv-404-C Please refer to MR 3, which addresses tree removal and bioengineering approaches.

Individual 406 (Nina Nazimowitz)

Please refer to the responses to Form Letter 3.

Individual 407 (Mia Shepherd)

Please refer to the responses to Form Letter 4.

Individual 408 (Ellen Schaefer)

Please refer to the responses to Form Letter 4.

- Indiv-408-A This commenter provides unique comments regarding habitat, wildlife, and tree removal but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 3, which addresses tree removal and plantings.
- Indiv-408-B Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 409 (Tim Sebright)

Please refer to the responses to Form Letter 4.

- Indiv-409-A This commenter provided some unique comments regarding their personal experiences in the American River Parkway but did not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-409-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 410 (Candace Northrop)

Please refer to the responses to Form Letter 3.

Individual 411 (Janice Cowden)

Please refer to the responses to Form Letter 3.

Individual 412 (Trenton Pitts)

Please refer to the responses to Form Letter 3.

Individual 413 (Wendy Cioni)

Please refer to the responses to Form Letter 3.

Individual 414 (Christie Vallance)

- Indiv-414-1 Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G, “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.
- Indiv-414-2 Please refer to MR 5 which address biological resources specific mitigation measures, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”

Individual 415 (Lloyd Levine)

- Indiv-415-1 Please refer to Appendix G “Engineering” for more information and details on the design.
- Indiv-415-2 Please refer to MR 2-3, MR 3-7 and Section 2.1.6 “LAR Contracts 1 and 2” of Appendix G “Engineering”. Please refer to MR 3-1 which discusses steps that were taken to minimize tree removal as much as feasible. Please refer to MR 5, which addresses biological resource specific mitigation measures and MR 15 which discusses riparian habitat. In order to provide adequate flood control, there are environmental impacts such as vegetation removal. However, USACE is required to mitigate for this loss at a 2:1 ratio and is confident, that the sites will regrow along with the mitigation sites and will continue to support the Wild and Scenic River that the American River represents.
- Indiv-415-3 Please refer to MR 2, MR 3, and the Appendix G “Engineering” more detailed explanations on the designs for these contracts.
- Indiv-415-4 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.
- Indiv-415-5 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-415-6 Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G, “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.
- Indiv-415-7 Please see response to Indiv-415-6.

Individual 416 (Wayne Orgar)

- Indiv-416-1 Please refer to MR 2, which addresses the scope and approach of Contract 3B, MR 3, which addresses tree removal and plantings, MR 5, which addresses biological resource specific mitigation measures, and Appendix G “Engineering” for more information on the effects to vegetation removal and modeling techniques that helped inform the designs for these contracts.

Individual 417 (Peter Spaulding)

- Indiv-417-1 Please refer to MR 1, which addresses the public comment period. As noted in the comment, as a result of public request, USACE extended the public comment period beyond the required 45-day review period, from an original closure of February 5, 2024, to February 23, 2024, to allow for more time to review the document and provide comments. Additionally, multiple public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4.

- Indiv-417-2 Please refer to response to Indiv-345-1.
- Indiv-417-3 At the start of the Public Meetings, USACE directed the public that only responses to basic questions, such as how to access the SEIS/SEIR, or technological questions that surround use of Webex would be answered during the public meeting, and that individuals should submit their comments in writing in order to be considered in the SEIS/SEIR. Therefore, all submitted comments have been responded to and are provided with the Final SEIS/SEIR.
- Indiv-417-4 Please refer MR 1 and MR 7 for more information on public outreach. USACE and Project Partners followed the rules and regulations required by both NEPA and CEQA for this Draft SEIS/SEIR. In addition, USACE and the non-Federal Partners sent out over 10,000 postcards to the surrounding neighborhoods near each project component.
- Indiv-417-5 Please refer to Indiv-417-1.

Individual 418 (Sandy Schuler)

Please refer to the responses to Form Letter 4.

- Indiv-418-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-418-B Mitigation Measure TRANS-1 requires that the construction contractor assess and document pre- and post-construction conditions of access roads and staging area used during construction. Designs and construction plans include measures such as stipulating access routes, ingress and egress locations, Contractor requirement to submittal of a haul route plan to minimize impacts to the maximum extent. The Contractor is required to restore existing pavement and repair damages associated with C3B construction activities to preconstruction conditions.
- Indiv-418-C Please refer to Appendix B, “Detailed Analyses” Section 2.2, “Recreation” for an explanation of the mitigation measures for impacts to recreation. Please refer also to MR 4, which addresses recreation.
- Indiv-418-D Please refer to MR 6, which addresses public health and safety.
- Indiv-418-E Please refer to MR 6, which addresses public health and safety.
- Indiv-418-F Please refer to MR 15, which addresses carbon sequestration, Section 3.6, “Greenhouse Gases and Energy” in Appendix B, “Detailed Analyses,” for the analysis of GHG, energy consumption and long-term weather condition impacts. Please refer to MR 3, which addresses tree removal, and Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.

- Indiv-418-G Please refer to Appendix G, “Engineering” Section 2, “Lower American River Erosion Protection” for a detailed summary of the erosion protection efforts on the Lower American River.
- Indiv-418-H Please refer to MR 15, which addresses wildlife corridors.
- Indiv-418-I Please refer to MR 6, which addresses public health and safety.
- Indiv-418-J Please refer to MR 4, which addresses impacts to recreation on the Lower American River.

Individual 419 (Jim Morgan and Lori Christensen)

Please refer to the responses to Individual 862.

Individual 420 (Mia Shepherd)

Please refer to the responses to Form Letter 4.

Individual 421 (Barbara Domek)

- Indiv-421-1 Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G, “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Individual 422 (Scott Anderson)

- Indiv-422-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B. The primary focus of USACE’s work is the reduction of levee failure risk due to the effects of 160,000 cfs of water flowing down the American River, through a heavily urbanized area during emergency release conditions. These conditions require the placement of substantial amounts of riprap to combat the erosive effects of high velocity water on highly erodible soils. In the recent work (2022-2023) riprap was filled with soil, buried and covered with at least a foot of topsoil. The topsoil is susceptible to surface erosion and will be protected with erosion control fabric and straw wattles until vegetation can be re-established and protect against surface erosion. The sites are being replanted with native vegetation and will be monitored to ensure adequate growth.

In summary, two types of erosion must be addressed. Massive erosion, which threatens the levee and thus threatens the lives of thousands of people, has been addressed with heavy riprap, bringing a new level of flood protection to the communities surrounding the American River. The other form of erosion noted in this comment only affects the topsoil and is being addressed by erosion control fabric and straw wattles while vegetation is restored bringing long term natural protection from surface erosion.

Individual 423 (Louise Davis)

Indiv-423-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest and wildlife corridors, and the Appendix G, “Engineering.”

Individual 424 (Scott Ricci)

Please refer to the responses to Form Letter 4.

Indiv-424-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-424-B Please refer to MR 15, which addresses riparian forests and wildlife corridors.

Indiv-424-C Please refer to MR 4, which addresses impacts to recreation in the Lower American River, and Appendix B Section 2.2, “Recreation” for a discussion regarding recreation access and mitigation.

Indiv-424-D Please refer to MR 14, which addresses mental health.

Individual 425 (Mike Hittle)

Please refer to the responses to Form Letter 4.

Indiv-425-A Please refer to MR 2, which addresses the scope and approach for Contract 3B and Appendix G, “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to MR 3, which addresses tree removal and bioengineering approaches.

Indiv-425-B Please refer to MR 8, which addresses compliance with the Wild and Scenic Rivers Act and MR 15, which addresses riparian forest and wildlife corridors.

Indiv-425-C Please refer to MR 6, which addresses public health and safety impacts.

Individual 426 (Garrett McCord)

Please refer to the responses to Form Letter 3.

Individual 427 (Roger Corell)

Please refer to the responses to Form Letter 3.

Indiv-427-A Please refer to MR 15 which address riparian forest and wildlife corridors, and MR 14, which addresses mental health.

Individual 428 (Elise Willmeth)

Indiv-428-1 Please refer to MR 15, which addresses riparian forest, and the Appendix G, “Engineering.” Additionally, refer to MR 4, which addresses recreation and commuting,

Individual 429 (Carsynn Costa)

Indiv-429-1 Please refer to MR 15, which addresses riparian forest, wildlife corridors, and fisheries.

Individual 430 (Michelle Colwell)

Please refer to the responses to Form Letter 3.

Indiv-430-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 431 (Rachel Wong-Degelos)

Please refer to the responses to Form Letter 3.

Individual 432 (Craig Wilson)

Please refer to the responses to Form Letter 3.

Indiv-432-A This commenter provides unique comments regarding their personal experience but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 433 (Chad Wilson)

Indiv-432-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, “Engineering.”

Individual 434 (Shannon Wilson)

Please refer to the responses to Form Letter 3.

Indiv-434-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 15, which addresses the riparian forest and wildlife corridors.

Individual 435 (Catherine Harris)

Please refer to the responses to Form Letter 3.

Indiv-435-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

- Indiv-435-B Please refer to MR 2, which addresses the scope and approach for Contract 3B, MR 3, which addresses tree removal and bioengineering approaches, and Appendix B, “Detailed Analyses” Section 3.4.3, Water Quality Effects Analysis” for an explanation of the impacts to water quality.
- Indiv-435-C Please refer to MR 12, which addresses impacts to property value.
- Indiv-435-D Please refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.

Individual 436 (David Zeanah)

- Indiv-436-1 Please refer to MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-436-2 Please refer MR 4, which addresses recreation and commuting, and MR 8, which addresses consistency with the Wilde and Scenic River Act.
- Indiv-436-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-436-4 Please refer to MR 6, which addresses public health and safety impacts from construction.
- Indiv-436-5 Stipulation IV (Identification and Evaluation) of the Programmatic Agreement provides guidelines for the identification and evaluation of cultural resources for eligibility for the National Register of Historic Places prior to construction of each phase of ARCF. Identification efforts have included pedestrian survey, records searches, consultation with interested public parties, consultation with Native American Tribes, and monitoring of geotechnical and utility location work within the project area. Findings of the identification efforts were reported and consulted on with the California State Historic Preservation Officer and Interested Native American Tribes per the terms of Stipulation I (Timeframes and Review Procedures) of the Programmatic Agreement. The results of identification and evaluation of Historic Properties include confidential information regarding the location and details of historic, cultural, and Tribal resources, and are not included in public documents.
- Indiv-436-6 USACE has conducted extensive consultation with Native American Tribes in accordance with the Programmatic Agreement and USACE Tribal Policy. Measures to avoid or minimize damages to cultural and Tribal resources and to respond to discoveries during construction have been developed and successfully implemented on previous phases of the ARCF project. Native American Tribes provide highly sensitive resource information to USACE with the condition that such information remain confidential; therefore, specific topics and outcomes of Tribal consultation will not be released in a public document.
- Indiv-436-7 As there is no Federally owned land within any ARCF Project area, the applicable laws are California Health and Safety Code, Section 7050.5 and California Public Resources Code 5097.98, and USACE must treat Native American human

remains and associated items and materials found within the ARCF Project area in accordance with the requirements of these laws. The CVFPB and SAFCA are non-federal sponsors as defined in the ARCF Project Partnership Agreement. USACE, CVFPB, and SAFCA all share responsibility for both logistical and cost requirements of complying with applicable laws for treatment of Native American human remains and associated items.

Indiv-436-8 Please refer to MR 2, which addresses the design process, and Appendix G, “Engineering.”

Individual 437 (Catherine Vigran)

Please refer to the responses to Form Letter 4.

Indiv-437-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 438 (Christopher Wright)

Please refer to the responses to Form Letter 3.

Individual 439 (Eric Ross)

Please refer to the responses to Form Letter 3.

Indiv-439-A Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and MR 3, which addresses tree removal.

Indiv-439-B Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and MR 3, which addresses tree removal.

Individual 440 (Janet Shipp)

Please refer to the responses to Form Letter 4.

Indiv-440-A Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and MR 3, which addresses tree removal.

Indiv-440-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 441 (Aaron Aldred)

Please refer to the responses to Form Letter 3.

Individual 442 (Shay Haddow)

Please refer to the responses to Form Letter 3.

Individual 443 (Christopher Wright)

Please refer to the responses to Form Letter 3.

Individual 444 (Marie Bastien)

Please refer to the responses to Form Letter 4.

Individual 445 (Deborah Harrington)

Please refer to the responses to Form Letter 3.

Indiv-445-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 446 (Sandy MacDonald-Hopp)

Please refer to the responses to Form Letter 3.

Individual 447 (Leslie Blaney)

Please refer to the responses to Indiv-418.

Individual 448 (Terry Porath)

Please refer to the responses to Form Letter 3.

Individual 449 (Lee Kane)

Indiv-449-1 Please refer to MR 15, which addresses the riparian forest and wildlife corridors.

Individual 450 (Rachel Gregg)

Please refer to the responses to Form Letter 3.

Indiv-450-A Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 451 (Virginia Volk-Anderson)

Please refer to the responses to Form Letter 4.

Indiv-451-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-451-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations,” and MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 452 (Laurie Hansen)

Please refer to the responses to Form Letter 4.

Indiv-452-A Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Individual 453 (Michael Frayne)

Please refer to the responses to Form Letter 4.

Indiv-453-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-453-B Please refer to MR 2 and Appendix G, “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to Appendix G, “Engineering,” Section 2.5, “Design Development,” which addresses the design development and alternatives considered. The Project Partners agree that a seepage risk does not need to be addressed along the Lower American River with the ARCF 2016 Project. The proposed work for the ARCF 2016 Project along the Lower American River addresses erosion risks not seepage risks (refer to section 1.6 “Levee Erosion Failure Processes” of Appendix G “Engineering” for more details).

Indiv-453-C Please refer to MR 2 and Appendix G, “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 454 (Mark Herman)

Indiv-454-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 455 (Kim Karen McKean)

Please refer to the responses to Form Letter 3.

Individual 456 (Ray Tretheway)

Indiv-456-1 The draft National Levee Safety Guidelines was under public review between April 1, 2024, through August 31, 2024. This draft document can be found at www.leveesafety.org. The draft guidelines include Best Practices for Vegetation Management on Levees. The comments received on this document are being reviewed and a final document will be posted in the spring of 2025. However, given that the guidelines are still under review, they are not currently USACE policy and are still subject to change as they are in draft form.

If the commentor is referring to the Congressional requirement under the Water Resources Reform and Development Act (WRRDA) of 2014 (H.R. 3080), which required a review and update to vegetation management policy specific to vegetation inside the vegetation free zone (as described in Engineering Technical Letter (ETL) 1110-2-571 [current version is 1110-2-583]), then, yes current policy is being followed. Trees found in the vegetation free zone of the levees which have been found to pose an erosion risk to the levee's integrity are being evaluated with the intent to preserve them in place via a variance request (Vegetation Design Deviation request) to the aforementioned ETL requirements that no woody vegetation exist in the vegetation free zone. This evaluation and associated variance request are being developed in conformance with the requirements found in the Federal Register (77 FR 9637).

Indiv-456-2 Please refer to MR 3, which addresses tree removal and plantings, and MR 15, which addresses riparian forest and fisheries.

Individual 457 (Belinda May)

Please refer to the responses to Form Letter 4.

Indiv-457-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-457-B Please refer to MR 15, which addresses riparian forest and wildlife corridors, and Appendix B Section 3.1, "Aesthetics and Visual Resources" for an explanation of the impacts to aesthetics.

Indiv-457-C Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, "Responses to Comments from Individuals and Organizations."

Individual 458 (Jessica Bennick Shevlin)

Please refer to the responses to Form Letter 4.

Indiv-458-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 15, which addresses riparian forest.

Individual 459 (Gary Agid)

Indiv-459-1 This comment does not identify any issue related to the analysis contained in the SEIS/SEIR.

Individual 460 (Betsy Reifsnider)

Indiv-460-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

- Indiv-460-2 Please refer to MR 3, which address tree removal and planting in Contract 3B and 4 and MR 4 which address impacts to recreation on the Lower American River.
- Indiv-460-3 Please refer to MR 15, which addresses riparian forest, MR 3, which addresses bioengineering approaches, and Appendix G, "Engineering."
- Indiv-460-4 Please refer to MR 15, which addresses impacts to fisheries.
- Indiv-460-5 Please refer to MR 4 which address impacts to recreation on the Lower American River.
- Indiv-460-6 Consultation with interested Native American Tribes is ongoing and has taken place according to the terms of the Programmatic Agreement and USACE Tribal Policy. The results of identification and evaluation of Historic Properties, approaches to avoid and minimize adverse effects, and plans for treatment of Tribal resources encountered during construction include confidential information regarding the location and details of historic, cultural, and Tribal resources, and are not included in public documents.

Individual 461 (Teresa West)

Please refer to the responses to Form Letter 3.

Individual 462 (William Avery)

- Indiv-462-1 Project Partners agree that trees and vegetation provide the benefits listed in your comment. The benefits provided by vegetation were considered when evaluating the erosion risks along the Lower American River (LAR) in addition to other factors such as hydraulic forces, soil characteristics, erosion resistivity of soils, etc. The benefits provided by vegetation are also why revegetation of the proposed erosion protection improvements is a critical component of the ARCF 2016 project; the planted vegetation will better protect the erosion protection sites from surface erosion into the future. However, the erosion protection benefits provided by vegetation do not adequately mitigate the erosion risk posed by a 115,000 cfs or 160,000 cfs flood along LAR. Tree roots cannot grow any significant depth below the summer low water surface levels of the river. The main weakness of relying solely on vegetation to arrest/prevent erosion is clear when evaluating the risk posed by Probable Failure Mode (PFM) 3, or failure of the levee foundation due to erosion at the riverbank or bank toe. For more information on why vegetation alone an inadequate erosion protection measure is, please refer to MR 2-2, and refer to Appendix G, "Engineering," Section 1.6, "Levee Erosion Failure Processes."

Based on the current water control manual for Folsom Dam, the objective outflow for normal dam operations is 115,000 cfs, however the objective emergency outflow (i.e. to prevent a dam overtopping) for Folsom Dam is 160,000 cfs, constrained by the physical dimensions of the downstream levee system. Please refer to the responses to DOI-51 and -52 and Appendix G, "Engineering,"

Sections 2.1.2, "Folsom Dam Historical Performance" and 2.1.3, "Folsom Dam Operation Improvements" for more information.

Indiv-462-2 Revetment is designed to be stable with a factor of safety for the design objective flow of 160,000-cfs to address levee integrity concerns and identified risk drivers per river segment. For proposed riverbank erosion protection features, the revetment is designed to be soil filled, include a soil lift atop the revetment, and include temporary erosion control best management features (e.g. coir fabric, coir logs, etc.), contracting permitting obligations (e.g. SWPPP), and warranty requirements. Implementing these measures prior to and during planting and the establishment period for plantings are required to mitigate short-term surface erosion impacts. Renderings of this type of feature as well as buried feature types are described and depicted in Section 2.5.2, "Contract 3B" of Appendix G, "Engineering." Lessons learned from Lower American River Contract 1 and Contract 2 are also applied to Contract 3B efforts. A summary of design criteria the project followed and achieve are included in Section 1.7.6, "Summary of Design Criteria" of Appendix G, "Engineering." Effectively a no-action alternative would result in portions of the Lower American River not meeting erosion risk buy-down objectives and subject the public to high level of flood risk and associated public safety and economic consequences. Please also refer to MRs 2-3, MR 3-7 and response to Indiv-336-1.

Indiv-462-3 Please refer to MR 15, which addresses riparian forest and onsite replanting strategy, and Appendix G "Engineering" Section 2.6, "Design Implementation" for a discussion of revegetation of sites. The study cited, Matzek, V., Warren, S., & Fisher, C. (2016) draws the conclusion that "Biomass accumulation over the restoration age gradient was rapid, and trends were generally consistent with expectations about canopy closure over the course of secondary succession: as the tree canopy increased in size, the biomass of understory herbs and shrubs decreased, while pools of senesced biomass (forest floor and CWD) accumulated. By the end of two decades, most of these forest components were indistinguishable in reforested and remnant forests, except for tree biomass and CWD. Remnant forests generally had fewer, larger trees than the oldest reforested sites, suggesting that both trends are due to trees in the restoration sites not yet having reached the age of senescence. Cottonwoods and willows are relatively fast-growing and short-lived trees, and other studies have found even higher rates of biomass accumulation in the first few decades of forest regeneration."

The study does not conclude that reforestation is normally unsuccessful in developing forest structure that resembles at least to a significant degree naturally occurring forests. The presence of the soil rip rap mix with layers of topsoil is unlikely to support an exact or near replacement of native undisturbed forest; however, USACE has successfully reforested bank protection features. These reforested areas include successful establishment of cottonwoods, willows, valley oaks, sycamores, box elder, Oregon ash, white alder. Examples of this on the Lower American Rive can be found on the revetments installed in the early 2000s on the south bank of the river upstream and downstream of the Highway 160

bridge, and on the south bank immediately upstream of the UPRR railroad bridge located downstream of the Business 80 freeway bridge. Please refer to MR 3-3 and MR 3-4 for photos and additional discussion of these sites. These examples feature plantings through non-soil filled riprap. Generally, soil filled rip rap with a surface layer of soil, has provided better growing conditions. At these example sites the non-soil filled rip rap has been filled in and largely covered by leaf litter, forming soil over the rip rap. This is in line with the conclusion of the study quoted above. Therefore, Project Partners feel it is reasonable to expect that soil filled revetments that are installed over areas that formerly supported healthy forests will be able to be successfully revegetated. The presence of the rip rap will undoubtedly affect growth of forests that grow on them; however, it is unlikely that this reforestation will result in regrowth limited to coyote brush, and Chinese tallow. The example sites noted above were able to regenerate to a closed canopy within 8-10 years and reached a point that fulfill much of the habitat functions initially lost at the outset.

- Indiv-462-4 It is probable that areas with soil-filled and soil-covered rip rap will support stands of healthy trees. It is likely that the rip rap will affect the long-term maximum size of trees growing in those areas. The loss of soil volume in the upper few feet of soil is likely to affect growth rates and mature tree size. That does not mean that the areas in question will not support vegetation that will fulfill many of the habitat and recreational functions initially lost. Please refer to Master Response 3-3, Master Response 3-4, Master Response 15-2, and Master Response 15-3 for more details.
- Indiv-462-5 Please refer to MR 9 which address use of the American River Mitigation Site. Please refer also to the response to CBD-3-17, which addresses success criteria for mitigation sites.
- Indiv-462-6 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 463 (Sevim Larsen)

- Indiv-463-1 Please refer to Section 4.3.7, "Noise and Vibration" in the Draft SEIS/SEIR and Appendix B "Detailed Analyses" Section 3.7.3, "Analysis of Environmental Effects" for a discussion of vibration impacts and mitigation measures.
- Indiv-463-2 Please refer to MR 6, which addresses public health and safety.
- Indiv-463-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-463-4 Storm drains are a local responsibility. The SEIS/SEIR does not propose alterations to the storm drain system.
- Indiv-463-5 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

- Indiv-463-6 Please refer to MR 6, which addresses public health and safety.
- Indiv-463-7 Please refer to MR 6, which addresses public health and safety and MR 3, which address tree removal and planting in Contract 3B and 4.
- Indiv-463-8 Please refer to MR 15, which addresses riparian forest and wildlife corridors, and the Appendix G, “Engineering.”
- Indiv-463-9 Please refer to MR 12, which addresses impacts to property value.
- Indiv-463-10 The Project Partners understand that the commenter is referring to the bench in the image that follows. The construction specifications will require the construction contractor temporarily store the bench away from active construction to ensure it is not impacted during construction activities.



Individual 464 (George Parrott)

- Indiv-464-1 Please refer to MR 3, which address tree removal and planting in Contract 3B and 4.

Individual 465 (Scott Anderson)

- Indiv-465-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 466 (Alicia Ward)

Please refer to the responses to Form Letter 3.

Individual 467 (Kent Augenstein)

Please refer to the responses to Form Letter 4.

Individual 468 (Louise Davis)

Indiv-468-1 Please refer to MR 15, which addresses riparian forest and wildlife corridors.

Individual 469 (Rebecca Jaggars)

Please refer to the responses to Form Letter 4.

Indiv-469-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-469-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-469-C The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

Individual 470 (James Cooper and Betty Cooper)

Please refer to the responses to Form Letter 3.

Individual 471 (Erik Gabele)

Indiv-471-1 Please refer to MR 4 for further details on impacts to recreation access in the American River Parkway.

Indiv-471-2 Section 4.2.2.2, “Proposed Action” of the SEIS/SEIR says that “possible closures to hiking and equestrian trails (including those visiting the Pony Express National Historic Trail) and impacts to recreational events would create short-term

significant and unavoidable impacts on recreation in the American River Parkway." Appendix B "Detailed Analyses" Section 2.2.3, "Analysis of Environmental Effects" states that most of the levee area would be used for haul access, construction, or staging so in some areas there would not be a feasible way to detour these hiking, and equestrian use trails within the parkway. During construction, these trails would be closed to hiking, and equestrian use in some areas for safety. Consultation would be done with Sacramento County Regional Parks to ensure that detours are put in place for hiking and equestrian use where it is safe to do so, but it is anticipated that there would be locations where detours are not safely feasible. Where it is unsafe to provide detours, the trails would be closed during construction. Additionally, under REC-1 the area, Project Partners would "repair any construction-related damage to recreational facilities to pre-project conditions". Please refer to MR 4 for a discussion on social trails.

- Indiv-471-3 Please refer to MR 4 for a discussion on river access points. All official boat launches managed by Sacramento County Regional Parks will be returned to the existing condition once work is finished.

- Indiv-471-4 Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes to ensure that all possible impacts to the environment were communicated to the public. Project Partners are now more confident with the design's footprints so updated maps with the most up-to-date information and maps showing tree removal areas have been added to Section 3.5.2.1.1, "Erosion Protection Features" of the Final SEIS/SEIR.

- Indiv-471-5 Figures 3.5.2-21 and 3.5.2-28 have been added to show areas where replanting will occur. Figures 3.5.2-16 and 3.5.2-22 to 3.5.2-27 have been added to the Final SEIS/SEIR and show renderings of what the levee cross sections are anticipated to look like. These cross sections indicate locations where woody vegetation would be added and locations where grasses would be planted. Please also refer to MR 15-2, which addresses onsite replanting.

- Indiv-471-6 Project Partners concur that it is very important to visually hide revetment where feasible. The launchable toes, planting bench tiebacks, and revetment around existing outfalls would not be soil filled. Generally, areas with revetment that will be wet during construction cannot be constructed with soil fill in the revetment. For example, the revetment under the planting benches will also not be soil filled and tiebacks in the planting benches. The launchable toes would be covered in choke stone (smaller stone to fill in the larger gaps between the larger pieced of revetment) to minimize fish predation and to be more comfortable for recreationalists to walk on. Tiebacks above the mean summer water level would be soil filled.

- Indiv-471-7 Contractor work would be restricted to the project footprint. It is anticipated that the bike trail would need to be closed and provided a detour during part of

construction and river access locations at the levee in the area will be closed because the haul route is on top of the levee. However, since the project footprint does not go clear down to the river at Site 4-2, the contractor would not have the ability to fence off access to the river.

- Indiv-471-8 Onsite vegetation will be managed and monitored to reach performance and success criteria that is agreed up on with the resource agencies. Additional information can be found in Appendix I of the 2016 Final EIS/EIR. Erosion in freshly constructed or planted areas will be fixed before the site is transferred to the local maintaining agency. Once the project has been determined to be functionally complete and the vegetation has met performance and success standards, then funding and performing the long-term operations and maintenance will fall to the local maintaining agency. See MR 5 for further information on short term and long-term management.

Individual 472 (Steve Jones)

- Indiv-472-1 The bank protection working group (BPWG) and the Technical Resource Advisory Committee (TRAC) were both consulted on the design of contract 1 and their recommendations were incorporated into the final design. The sites were constructed according to design. However, Contract 1 is not covered in this SEIS/SEIR. For more information on the environmental documentation for Contract 1, please visit www.sacleveeupgrades.com.
- Indiv-472-2 Please review the response to Comment Indiv-472-1.
- Indiv-472-3 Project Partners assumed that the commenter is referring to Lower American River Erosion Contract 3B. More detail has been provided for the Final SEIS/SEIR on American River Erosion Contract 3B. USACE also acknowledges the request for more engineering information to be provided in the Final SEIS/SEIR, which has been provided in Appendix G "Engineering." Please also refer to MR 7 which addresses requests for documents.
- Indiv-472-4 The Draft SEIS/SEIR is an update to the refinements made in the 2016 GRR FEIS/EIR and follows a similar alternatives analysis as the previous document.
- Indiv-472-5 Please refer to MR 2-3, MR 3-7 and response to Indiv-336-1 for a discussion of the previous erosion work that was completed nearby. Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-472-6 USACE has and will continue to work with the non-Federal Partners and other interested parties such as Sacramento County Regional Parks Department.

Individual 473 (Kathy Kasic)

Please refer to the responses to Form Letter 3.

Individual 474 (Patty Selsky)

Please refer to the responses to Form Letter 3.

Individual 475 (William Brattain)

- Indiv-475-1 Additional language and figures have been added to Section 3.5.2.1, "Features of the Proposed Action and Construction Details" of the SEIS/SEIR to show the most up to date information. Appendix G, "Engineering," has been added to clarify the need for the project. Section 2.5.2.4, "Contract 3B Site 4-1" of Appendix G outlines the risk drivers requiring erosion protection in the area and different alternatives that came up during design. Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why the USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible. Please refer to MR 3-5 for information on expected acreage of erosion protection features launching. Please refer to MR 2-3, MR 3-7, and response to Indiv-336-1 for a discussion of the previous erosion work that was completed nearby.
- Indiv-475-2 Please refer to response to comment Indiv-475-1.
- Indiv-475-3 Please refer to MR 15, which addresses riparian forest, and Appendix G, "Engineering" Section 2.5, "Design Development" which discusses the design process, alternatives considered, and proposed design for Contracts 3B and 4.
- Indiv-475-4 Please refer to response to comment Indiv-475-1.
- Indiv-475-5 Please refer to MR 4 that addresses impacts to recreation access in the Lower American River.

Individual 476 (Greg Gearheart)

Please refer to the responses to Form Letter 3.

- Indiv-476-A Please refer to MR 4 that addresses impacts to recreation access in the Lower American River.

Individual 477 (Mari Golub)

Please refer to the responses to Form Letter 3.

Individual 478 (Barbara Ray)

Please refer to the responses to Form Letter 4.

Individual 479 (Toni Michele)

- Indiv-479-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act

Individual 480 (Cara Ball)

- Indiv-480-1 Please refer to MR 3, which address tree removal and planting in Contract 3B and 4 and MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-480-2 Please refer to MR 6, which addresses public health and safety.

Individual 481 (Candace Furlong)

- Indiv-481-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description of the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.
- Indiv-481-2 Please refer to response to comment Indiv-481-1.
- Indiv-481-3 Please refer to Section 4.3.5, “Air Quality” of the Draft SEIS/SEIR and Appendix B Section 3.5, “Air Quality” for Project Partner’s analysis on air quality.
- Indiv-481-4 Please refer to response to comment Indiv-481-1.

Individual 482 (Timothy Conway)

- Indiv-482-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and Appendix G, “Engineering,” which addresses historical flows on the American River and the design requirements.
- Indiv-482-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 483 (David Ball)

- Indiv-483-1 Please refer to MR 3, which address tree removal and planting in Contract 3B and 4 and MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-483-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.
- Indiv-483-3 Please refer to MR 6, which addresses public health and safety.
- Indiv-483-4 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.

Individual 484 (Bradley Sanders)

Please refer to the responses to Form Letter 4.

- Indiv-484-A Please refer to MR 12, which addresses impacts to property values.
- Indiv-484-B Please refer to MR 4, which addresses impacts to recreational access along the Lower American River.

Individual 485 (Gary Peterson)

Indiv-485-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 486 (Erik Gantenbein)

Please refer to the responses to Form Letter 3.

Individual 487 (Teresa Ortega)

Please refer to the responses to Form Letter 4.

Indiv-487-A Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Individual 488 (Kristen Baker)

Please refer to the responses to Form Letter 4.

Indiv-488-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 489 (Kristen Baker)

Please refer to the responses to Form Letter 5.

Individual 490 (Elvin Norman)

Indiv-490-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 491 (Randall Matthews)

Please refer to the responses to the List of Key concerns provided at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Individual 492 (Nathan Domek)

Indiv-492-1 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering” Section 2.6 which discusses revegetation of sites.

Indiv-492-2 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, MR 15 which address riparian forest and wildlife corridors.

Indiv-492-3 Please refer to MR 12, which addresses impacts to property values.

Indiv-492-4 This commenter states that a selective and more targeted approach should occur but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B.

Individual 493 (Mary Howard)

Please refer to the responses to Form Letter 4.

Indiv-493-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 494 (Rich Howard)

Please refer to the responses to Form Letter 4.

Indiv-494-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-494-B Please refer to MR 3, which addresses tree removal and plantings. Please refer to Section 2.3, “Background Data and Ancillary Studies,” in Appendix G “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to MR 15, which addresses riparian forest.

Individual 495 (Carol McKee Marque)

Please refer to the responses to Form Letter 4.

Indiv-495-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 496 (Joan Rubenson)

Please refer to the responses to Form Letter 4.

Indiv-496-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-496-B Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B and MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Indiv-496-C Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-496-D Please refer to MR 7, which addresses public outreach and documentation.

Individual 497 (Alicia Etcheverry)

Please refer to the responses to Form Letter 3.

Individual 498 (Teri Burns)

Please refer to the responses to Form Letter 4.

Indiv-498-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-498-B Please refer to MR 3, which addresses tree removal and plantings.

Indiv-498-C Please refer to MR 2, which addresses the scope and approach for Contract 3B and MR 3, which addresses tree removal and plantings.

Indiv-498-D Please refer to MR 15, which addresses riparian forest and wildlife corridors.

Individual 499 (Gay Jones)

Please refer to the responses to Form Letter 3.

Indiv-498-A The example work that the commenter refers to is not a part of the Proposed Action. Therefore, this comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 500 (Will Schaafsma)

Please refer to the responses to Form Letter 3.

Individual 501 (Gay Jones)

Please refer to the responses to Form Letter 3.

Individual 502 (Christine Norman)

Indiv-502-1 This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-502-2 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal and bioengineering approaches.

Individual 503 (Lisa Merritt)

Indiv-503-1 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal and bioengineering approaches.

- Indiv-503-2 Please refer to MR 6, which address public health and safety, and MR 15, which addresses riparian forest and heat island effect.
- Indiv-503-3 Please refer to MR 15, which addresses impacts to habitat and wildlife from Contract 3B.

Individual 504 (Ken Poelman)

Please refer to the responses to Form Letter 3.

- Indiv-504-A This commenter expresses opposition for the use of a vacant lot on Crondall Drive but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please note that use of the vacant lot for staging has been removed from consideration as a staging area for the project and consequently was removed in the Final SEIS/SEIR.
- Indiv-504-B This commenter raises an objection to extra traffic from construction activities on American River Drive and Crondall while school is in session. However, there are no specific issues raised with regards to the traffic. Please refer to Section 2.1, “Transportation,” Section 3.5, “Air Quality,” and 3.7, “Noise and Vibration” in Appendix B “Detailed Analyses” for an explanation of the impacts and mitigation measures relating to heavy truck traffic near sensitive receptors.
- Indiv-504-C Mitigation Measure NOI-1 requires that the construction contractor provide notification to all residences within 100 feet of where construction will occur and provide contact information to request pre- and post-construction surveys. Please contact USACE’s Public Affairs Office at SPK-PAO@usace.army.mil if you wish to request a survey.

Individual 505 (Deedie Poelman)

Please refer to the responses to Form Letter 3.

- Indiv-505-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-505-B Please refer to MR 4, which addresses recreational access to the American River Parkway; MR 6, which addresses public health and safety impacts from construction; and MR 13, which addresses green space and physical and mental health. Please refer also to the response to comment Parks-2-12 for a discussion of equestrian trails.
- Indiv-505-C Please refer to MR 6, which addresses public health and safety impacts from construction. Mitigation Measure TRANS-1 requires that the construction contractor assess pre- and post-construction conditions of roadways used during construction and repair all potholes, fractures, and visual damages associated with project work.

Indiv-505-D Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to MR 3, which addresses tree removal and plantings.

Individual 506 (Tiffany Caudill)

Indiv-506-1 Please refer to MR 3, which address tree removal and planting.

Individual 507 (Therese Collentine)

Indiv-507-1 Please refer to MR 3, which addresses tree removal and replantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering” Section 2.5, “Design Development”, which discusses design coordination and collaboration for Contract 3B and 4.

Indiv-507-2 Please refer to MR 7, which addresses public outreach; and Appendix G Section 2.4.1, “Phase I Site Evaluations- Relative Risk Tier Rankings.”

Individual 508 (Zara Marfori)

Please refer to the responses to Form Letter 5.

Individual 509 (Jill Noordzij)

Please refer to the responses to Form Letter 3.

Indiv-509-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-509-B Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 510 (Bill McClendon)

Indiv-510-1 Managing encroachments within a project footprint is a Non-Federal Sponsor responsibility (i.e., the Central Valley Flood Protection Board). If the cross levee fence you observed is within the footprint of work to be undertaken in the future, the Central Valley Flood Protection Board would address it before construction begins. No work covered by the SEIS/SEIR has begun construction. More information regarding encroachments can be found in MR 11, which addresses levee safety and public access.

Individual 511 (Patricia Weiner)

Indiv-511-1 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting, MR 8, which addresses wildlife habitat; MR

15, which addresses riparian forest, and Appendix G, “Engineering” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-511-2 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.

Indiv-511-3 Please refer to MR 2, which addresses the scope and approach for Contract 3B.

Individual 512 (Jacquelyn Cotter)

Indiv-512-1 Please refer to MR 3, which addresses tree removal and plantings; and MR 7, which address public outreach and request for documentation.

Individual 513 (Russell Croel)

Indiv-513-1 Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering” Section 2.5, “Design Development,” which describes the design approach and alternatives considered for Contract 3B and 4.

Individual 514 (Ryan Todd)

Indiv-514-1 Please refer to MR 7, which addresses public outreach and request for documentation.

Indiv-514-2 Please refer to MR 1, which addresses the comment period and public participation opportunities.

Indiv-514-3 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosion risks; and Appendix G, “Engineering” has been added to clarify the need for the project.

Indiv-514-4 Please refer to response to comment Indiv-514-3. Specifically, Appendix G, “Engineering,” Section 1.6, "Levee Erosion Failure Processes," discussed failure modes.

Indiv-514-5 Please refer to response to comment Indiv-514-3. Please refer to the original 2016 American River Watershed Common Features General Reevaluation Report (which can be found here: https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/Final_ARCF_GRR_Jan2016.pdf) includes details on cost and benefits for the whole 2016 ARCF Projects, which include American River Erosion Contract 3B.

Indiv-514-6 Please refer to MR 5, which addresses mitigation; and MR 15, which addresses impacts to habitat and wildlife corridors from implementation of Contract 3B.

Indiv-514-7 Please refer to MR 5, which addresses mitigation; and MR 15, which addresses impacts to habitat and wildlife corridors from implementation of Contract 3B.

- Indiv-514-8 Please refer to MR 5, which addresses mitigation; and MR 15, which addresses impacts to habitat and wildlife corridors from implementation of Contract 3B.
- Indiv-514-9 Please refer to MR 5, which addresses mitigation and MR 15, which addresses impacts to habitat and wildlife corridors from implementation of Contract 3B. .
- Indiv-514-10 Please refer to MR 5, which addresses mitigation; and MR 15, which addresses riparian forest, habitat, and wildlife corridors; and Appendix G, "Engineering," which addresses revegetation of sites.
- Indiv-514-11 Please refer to MR 11, which addresses levee safety and public access. SEIS/SEIR Appendix B Sections 4.2.1, "Transportation," 4.3.5, "Air Quality," and 4.3.7, "Noise and Vibration," of the SEIS/SEIR summarize impacts and mitigation measures related to transportation, air quality and noise. Appendix B Sections 2.1, "Transportation and Circulation," 3.5, "Air Quality," and 3.7, "Noise and Vibration," provide more details on impacts and mitigation measures related to transportation, air quality and noise.
- Indiv-514-12 Please refer to response to comment Indiv-514-11, and MR 12, which addresses the loss of real estate value.
- Indiv-514-13 This staging area has been removed from consideration for American River Erosion Contract 3B.
- Indiv-514-14 This staging area has been removed from consideration for American River Erosion Contract 3B.
- Indiv-514-15 Real Estate negotiations are ongoing and will be completed before the project proceeds to construction. This document only identifies what properties are being proposed for use as staging and access. Mitigation for impacts to a given property will be negotiated with the property owner. Please note that Glenbrook Park River Access and Oak Meadow Park have been removed as possible staging areas.
- Indiv-514-16 Please refer to response to comment Indiv-514-3. In particular, Appendix G "Engineering," Section 1.6, "Levee Erosion Failure Processes," outlines how erosion causes levee failure and Section 2.3.2, "Hydrology," describes why the project is designed to meet the 160,000 cfs flows from Folsom Dam. The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the alternatives in the 2016 GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR, due primarily to changes in the design of project components including projects on the American and Sacramento Rivers, the development of mitigation sites, and the piezometer network. The No Action Alternative is considered in the Draft SEIS/SEIR and explains that without the Proposed Action at American River Erosion Contract 3B and 4B, unacceptable high risk of erosion exists which could undermine the integrity of the levee. USACE developed Appendix G, "Engineering," to explain these exact risks and rationale for why erosion protection is needed, while minimizing the impacts to the human and natural environment.

- Indiv-514-17 Please refer to response to comment Indiv-514-3. In particular, Appendix G, “Engineering,” Section 1.6, “Levee Erosion Failure Processes,” outlines how erosion causes levee failure and Section 2.3.2, “Hydrology,” describes why the project is designed to meet the 160,000 cfs flows from Folsom Dam.
- Indiv-514-18 Please refer to response to comment Indiv-514-5.
- Indiv-514-19 Please refer to MR 15, which addresses impacts to riparian habitat and wildlife from implementation of Contract 3B.
- Indiv-514-20 Please refer to MR 15, which addresses carbon sequestration, SEIS/SEIR Appendix B, Section 3.6, “Greenhouse Gases and Energy,” “Detailed Analyses,” for the analysis of GHG and energy consumption.
- Indiv-514-21 Please refer to MR 15, which addresses riparian forest and changing conditions.
- Indiv-514-22 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.
- Indiv-514-23 This SEIS/SEIR does not include any analysis for Contract 3A as referred to by the commenter. The April 2022 SEIR/EA for American River Watershed Common Features Contract 3A has already gone through the NEPA and CEQA process and have completed Finding of No Significant Impact (https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/Documents/AmericanRiver/ARCF_ARC3A_FONSI_Nov2022.pdf) and Notice of Determination (https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/WRDA16/Documents/AmericanRiver/ARCF_ARC3A_SEIR_NOD_Oct2022.pdf).
- Indiv-514-24 The commenter provides comments regarding their belief that the SEIS/SEIR should be rewritten but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Appendix G, “Engineering,” has been added to the final SEIS/SEIR to provide further information on the decision-making process that led to the current contract designs. This comment does not add to or change the analysis in this document and does not require additional analysis. MR 2 and MR 3 include a summarized version of the decision-making process.

Individual 515 (Polly Laporte)

- Indiv-515-1 Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which address impacts to habitat and wildlife from implementation of Contract 3B; and riparian forest, respectively.
- Indiv-515-2 Please refer to response to comment Indiv-515-1; MR 6, which addresses public health and safety impacts from construction; and MR 11, which addresses levee safety and public access.

Individual 516 (Margaret Graf)

- Indiv-516-1 This comment expresses general opposition to tree removal but does not relate to a specific analysis in this SEIS/SEIR. Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest, and Appendix G, “Engineering,” which addresses revegetation of sites.

Individual 517 (Leendert Noordzij)

- Indiv-517-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B as well as flooding and erosion risks; and Appendix G, “Engineering,” which has been added to clarify the need for the project.
- Indiv-517-2 This commenter raises concerns over traffic impediments from construction activities, however, there are no specific issues raised with regards to the traffic. Please refer to SEIS/SEIR Appendix B Section 2.1, “Transportation” “Detailed Analyses” for an explanation of the impacts and mitigation measures relating to heavy truck traffic.
- Indiv-517-3 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.

Individual 518 (Steve Cippa)

Please refer to the responses to Form Letter 3.

- Indiv-518-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-518-B Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B. The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

Individual 519 (Jerry Jaggers)

Indiv-519-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 520 (Cynthia Albrecht)

Please refer to the responses to Form Letter 3.

Indiv-520-A The comment is predicated on the idea that the Contract 3B improvements would result in a bare shoreline. This assumption is incorrect; please refer to MR 2, which addresses the scope and approach for improvements in Contract 3B; and MR 3, which addresses tree removal and plantings, and Appendix G, “Engineering,” which addresses revegetation of sites. MR 4 addresses recreation impacts of the project; based on the analysis in the SEIS/SEIR (Appendix B, Section 2.2, “Recreation”) and the additional detail provided in MR 4, recreational access to the shoreline would be similar to existing conditions after construction of the project is completed, and demand for water rescue would also be similar.

Indiv-520-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway. During the design process, USACE considered a range of potential staging areas and selected staging areas based on criteria including proximity to work areas, co-location with hauling areas, and minimizing disruption to surrounding areas. Please refer to MR 14, which addresses social impacts to at-risk communities.

Indiv-520-C Please refer to MR 15, which addresses habitat and wildlife impacts and impacts to the riparian forest.

Indiv-520-D See response to Indiv-520-A. Also, please refer to MR 6, which addresses public health and safety impacts from construction.

Individual 521 (Kevin Hittle)

Please refer to the responses to Form Letter 4.

Indiv-521-A This commenter provides unique comments regarding the purpose and need of the proposed work in Contract 3B and 4. Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies, for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Indiv-521-B Please refer to MR 3, which addresses tree removal and plantings; MR 6, which addresses public health and safety impacts from construction; MR 8, which addresses consistency with the Wild and Scenic Rivers Act; and MR 15, which addresses impacts to habitat and impacts to riparian forests.

Indiv-521-C Please refer to MR 6, which addresses public health and safety impacts from construction, and MR 4, which addresses impacts to recreational accesses of the Parkway.

Individual 522 (Alan Dowling)

Indiv-522-1 This letter is a duplicate of Individual 49. Please refer to the responses to Indiv-49-1 through -4.

Individual 523 (Douglas Grass)

Please refer to the responses to Form Letter 4.

Indiv-523-A Please refer to MR 11, which addresses the unhoused community; MR 3, which addresses tree removal and plantings; and Appendix G, “Engineering,” which addresses revegetation of sites.

Individual 524 (Nancy Eichorn)

Indiv-524-1 Please refer to MR 2, which addresses the scope and approach to improvements in Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 7, which addresses public outreach; MR 15, which address impacts to habitat and wildlife and riparian forest; and Appendix G, “Engineering,” which addresses revegetation of sites.

Individual 525 (Laretta Johnson)

Please refer to the responses to Form Letter 4.

Indiv-525-A Please refer to MR 2, which addresses the scope and improvements in Contract 3B; MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to wildlife and habitat and riparian forest.

Individual 526 (Sarah Williams Kingsley)

Please refer to the responses to Form Letter 3.

Indiv-526-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 527 (Sharon Larkin)

Please refer to the responses to Form Letter 3.

Indiv-527-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 528 (Susan Rodriguez)

Please refer to the responses to Form Letter 3.

Indiv-528-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 529 (Nic Domek)

Please refer to the responses to Form Letter 5.

Individual 530 (Karen Shahbandi)

Indiv-530-1 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses impacts to recreation on the Lower American River from Contract 3B; MR 13, which addresses green space and physical and mental health; MR 15, which addresses impacts to habitat and wildlife and riparian forest.

Individual 531 (Cindy Austin)

Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations” in the Final SEIS/SEIR.

Individual 532 (Sherie Baker)

Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations” in the Final SEIS/SEIR.

Individual 533 (Sherie Brubaker/Marcia Shultz)

Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations” in the Final SEIS/SEIR.

Indiv-533-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 534 (r m)

Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations” in the Final SEIS/SEIR.

Individual 535 (Michelle Neely)

Please refer to the responses to Form Letter 4.

Indiv-535-A Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreational access of the Parkway; MR 15, which addresses impacts to habitat and wildlife and riparian forest.

Individual 536 (Bozidarka Theodorovic)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations” in the Final SEIS/SEIR.

Indiv-536-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please also refer to response to Indiv-535-A.

Individual 537 (Sherie B)

Please refer to the responses to Form Letter 4.

Indiv-537-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please also refer to response to Indiv-535-A.

Individual 538 (Harry Brubaker)

Please refer to the responses to Form Letter 4.

Indiv-538-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please also refer to response to Indiv-535-A.

Indiv-538-B Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to the riparian forest. Please refer to MR 2, which addresses the scope and approach for Contract 3B and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 539 (Natasha Cevasco)

Please refer to the responses to Form Letter 1.

Individual 540 (Peggy Kennedy)

Indiv-540-1 Please refer to MR 1, which addresses extended public comment period and hosting in-person meetings.

Individual 541 (Jay Domeny)

Indiv-541-1 Please refer to MR 1, which addresses extended public comment period and hosting in-person meetings; MR 2, which addresses the scope and approach for improvements to Contract 3B; MR 3, which addresses tree removal and plantings; MR 8, which addresses consistency with the Wild and Scenic Rivers Act; MR 10, which addresses the purpose and goals for Contract 4B; and MR 15, which addresses habitat and wildlife and riparian forest.

Individual 542 (John Geibel)

Please refer to the responses to Form Letter 1.

Individual 543 (Carol Clifton)

Please refer to the responses to Form Letter 1.

Individual 544 (Jennifer Enright)

Please refer to the responses to Form Letter 1.

Individual 545 (Nicholas Ewing)

Please refer to the responses to Form Letter 1.

Individual 546 (Barbara Dugal)

Indiv-546-1 Please refer to MR 1, which addresses extended public comment period and hosting in-person meetings.

Indiv-546-2 The commenter requests to be added to any lists for public notification related to this project. Commentor can be added to the list by going to sacleveeupgrades.com and going to “Subscribe for Construction and Traffic email updates”.

Individual 547 (Laura Hansen)

Indiv-547-1 Please refer to MR 1 for information of extension of the public comment period; and MR 7, which addresses public outreach and requests for documentation.

Indiv-547-2 USACE extended the public comment period out to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1 for more information.

Indiv-547-3 The lower American River is designated both a federal and state wild and scenic river which is managed by Sacramento County Regional Parks through their 2008 Parkway Plan. Both Sacramento County Regional Parks and the National Parks Service have been included in contract design and mitigation development. MR 8 has additional information, and the Wild and Scenic Rivers Act Appendix has been added to the Final SEIS/SEIR.

Indiv-547-4 Appendix G, “Engineering,” has been added to clarify the need for the project. Please also refer to MR 2-3 and MR 3-7 for a discussion on success of other erosion protection projects, and MR 8 for consistency with the Wild and Scenic Rivers Act.

Indiv-547-5 Please refer to Appendix G, “Engineering,” Section 2.4, “Site Evaluations and Selection” and MR 2-1, which discusses segment selection approach completed by Project Partners. Project Partners have regularly worked with Sacramento

County Regional Parks, who have been a part of the review process of designs on the Lower American River.

- Indiv-547-6 Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” Section 2.5 Design Development” which discusses the design process for Contract 3B and 4.
- Indiv-547-7 Impacts to recreation is summarized in Section 4.2.2, “Recreation” of the SEIS/SEIR and discussed in more details in Section 2.2, “Recreation” of Appendix B. Please refer to MR 4, which addresses recreation and access.
- Indiv-547-8 Spot fixes will not reduce flood risk objectives in the area. Appendix G, “Engineering,” has been added to clarify the need for the project. Please refer to MR 2, which addresses the scope and approach to Contract 3B; MR 3, which addresses tree removal and plantings; and MR 15, which addresses habitat and wildlife and riparian forest.
- Indiv-547-9 Please refer to response to comment Indiv-547-8.
- Indiv-547-10 Please refer to MR 1, which addresses extension of the public comment period and in-person meeting.

Individual 548 (Gisla Dewey)

Please refer to the responses to Form Letter 5.

Individual 549 (Mark Andrews)

Please refer to the responses to Form Letter 1.

Individual 550 (Melissa Gates)

- Indiv-550-1 This commenter expresses general opposition to the Proposed Action but did not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses habitat and wildlife and riparian forest.

Individual 551 (Deirdre Des Jardins)

- Indiv-551-1 This letter does not identify any issue related to the ARCF 2016 Project and no response is required.

Individual 552 (Lissa Souther)

- Indiv-552-1 Please refer to MR 2, which addresses the scope and approach for improvements to Contract 3B; MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest. In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to

minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the LAR Parkway. Please also refer to Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information.

Individual 553 (Mary Swisher)

Indiv-553-1 Please refer to MR 2, which addresses the scope and approach for improvements to Contract 3B; MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest..

Individual 554 (Samuel Barnett)

Please refer to the responses to Form Letter 5.

Individual 555 (William Avery)

Please refer to the responses to Form Letter 5.

Individual 556 (Chen Zilan)

Please refer to the responses to Form Letter 5.

Individual 557 (Pat H)

Please refer to the responses to Form Letter 5.

Individual 558 (Adele Krueger)

Please refer to the responses to Form Letter 5.

Individual 559 (Christopher Beier)

Please refer to the responses to Form Letter 5.

Individual 560 (Heather Frye)

Please refer to the responses to Form Letter 5.

Individual 561 (Brenda Gustin)

Please refer to the responses to Form Letter 5.

Individual 562 (Andrew May)

Please refer to the responses to Form Letter 5.

Individual 563 (Christie Vallance)

Please refer to the responses to Form Letter 5.

Indiv-563-A The commenter provided unique comments requesting USACE to consider nature-based flood control initiatives. Please refer to MR 2-2 and MR 3-2, which explain why use of existing vegetation or bioengineering is not possible.

Indiv-563-B Please refer to MR 3.

Individual 564 (Debbie Bakken)

Please refer to the responses to Form Letter 5.

Individual 565 (Tom Custer)

Please refer to the responses to Form Letter 5.

Individual 566 (Clint Duke)

Please refer to the responses to Form Letter 5.

Individual 567 (Brenda Gustin)

Indiv-567-1 Please refer to MR 1, which addresses the extension of the public comment period and meeting.

Indiv-567-2 A Final SEIS/SEIR will be prepared to incorporate responses to all comments received on the draft document. The Final SEIS/SEIR will also include changes to the draft document based on the comments received. The CVFPB will hold a public hearing during a regularly scheduled meeting to consider adoption of the SEIS/SEIR and approval of the project. The date for this meeting has not yet been set but agendas are routinely available on the CVFPB webpage at cvfpb.ca.gov/meetings.

Individual 568 (Karen Jacques)

Please refer to the responses to Form Letter 5.

Individual 569 (Steven Whitehead)

Please refer to the responses to Form Letter 5.

Individual 570 (Barbara Domek)

Please refer to the responses to Form Letter 5.

Individual 571 (Jaime Becker)

Please refer to the responses to Form Letter 5.

Individual 572 (Roger Corell)

Please refer to the responses to Form Letter 5.

Individual 573 (Sharon Corell)

Please refer to the responses to Form Letter 5.

Individual 574 (Chad Wilson)

Please refer to the responses to Form Letter 5.

Individual 575 (Christopher Wright)

Please refer to the responses to Form Letter 5.

Individual 576 (Kristen Baker)

Please refer to the responses to Form Letter 5.

Individual 577 (Nic Domek)

Please refer to the responses to Form Letter 5.

Individual 578 (Nathan Domek)

Indiv-578-1 Please refer to MR 3.

Indiv-578-2 Please refer to MR 4 and MR 15.

Indiv-578-3 Please refer to MR 4, MR 12, and MR 15.

Individual 579 (Greg Gearheart)

Please refer to the responses to Form Letter 3.

Indiv-579-A Please refer to MR 4, which addresses impacts to recreational access of the Parkway. Please also see MR 14, which addresses social impacts to at-risk communities, and Appendix B 2.6, “Socioeconomics,” Section 2.6.3.1, “Analysis Methodology” which describes the Impact Focus Approach (EPA 2016) used a Federal mapping tool as the first step in identifying at-risk communities, then secondarily conducted demographic analysis, routine site visits, and public outreach to determine baseline conditions and determine impacts from the Project. Please see Section 5.1.5 in the Final SEIS/SEIR for cumulative impacts, including a discussion that the Project could contribute to burdens experienced by at-risk communities, resulting from increased exposure to PM2.5 and traffic proximity and volume.

Indiv-579-B Please refer to response to Indiv-579-A.

Indiv-579-C Please refer to MR 15, which addresses impacts to habitat and wildlife, and riparian vegetation, including urban heat island effect and climate change.

Indiv-579-D Please refer to MR 14, which addresses social impacts to at-risk communities; and MR 6, which addresses public health and safety impacts during construction.

- Indiv-579-E Please refer to MR 2, which addresses the scope and approach for Contract 3B and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to MR 3, which addresses tree removal and bioengineering approaches.
- Indiv-579-F The commenter asks for economic or demographic data to be synthesized to help communities better understand the value of their losses but does not suggest which metrics of demographic or economic data should be synthesized or how this would help communities understand their losses. Please refer to SEIS/SEIR Appendix B, Section 2.2, “Recreation” “Detailed Analyses” for more explanation of the impacts to recreational resources and MR 4, which addresses impacts to recreational access of the Parkway.

Individual 580 (Rich Howard)

Please refer to the responses to Form Letter 5.

Individual 581 (Scott Ricci)

Please refer to the responses to Form Letter 4.

- Indiv-581-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-581-B Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to habitat and wildlife and riparian forest.
- Indiv-581-C Please refer to MR 4, which addresses impacts to recreational access of the Parkway.
- Indiv-581-D Please refer to MR 13, which addresses green space and physical and mental health.

Individual 582 (Joan Rubenson)

Please refer to the responses to Form Letter 4.

- Indiv-582-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-582-B Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches. Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B.

- Indiv-582-C Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”
- Indiv-582-D The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public’s concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

Individual 583 (Will Schaafsma)

Please refer to the responses to Form Letter 5.

Individual 584 (Patty Selsky)

Please refer to the responses to Form Letter 5.

Individual 585 (Cynthia Albrecht)

Please refer to the responses to Indiv-520.

Individual 586 (Jill Noordzij)

Please refer to the responses to Form Letter 5.

Individual 587 (Ann Trowbridge)

Please refer to the responses to Form Letter 3.

- Indiv-587-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 588 (Doug Cauch)

- Indiv-588-1 Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G, “Engineering,” Section 2.5, “Design Development” which addresses the design process for Contract 3B and 4. In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS,

Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer Appendix G, “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information.

Individual 589 (Joshua Thomas)

- Indiv-589-1 Thank you for providing your background with flood control history.
- Indiv-589-2 The comment states that neither the GRR nor the 2023 Draft SEIS/SEIR considered less destructive nature-based alternatives to riprap. The Record of Decision has long been signed for the GRR, and this document is only supplementing the changes to the designs that have occurred since the GRR, which is the purpose for the "no-action" under this 2023 ARCF SEIS/SEIR. USACE Project Delivery Teams evaluate many alternatives for designs and have come to the conclusions of the designs included in the 2023 ARCF SEIS/SEIR as they meet the minimum risk objectives for flooding. For more information on designs, please refer to Appendix G, “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration,” for more information. Additionally, please refer to Section 1.7.4 “Erosion Protection Design Alternatives” of Appendix G, “Engineering” for information on bioengineering approaches that were considered during design.
- Indiv-589-3 The comment states that USACE is only offering the public a choice between riprap and more riprap. In alignment with Engineering with Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the LAR Parkway. Please refer to Appendix G, “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration,” for more information. Additionally, please refer to Section 1.7.4 “Erosion Protection Design Alternatives” of Appendix G, “Engineering” for information on bioengineering approaches that were considered during design.
- Indiv-589-4 The comment accuses USACE of turning the public review process into an empty formality due to only evaluating riprap as alternatives for C3B. USACE takes the public review process very seriously and extended the public comment period to allow the public more time to review the document. Many alternatives were previously evaluated by the Project Delivery Team to come to the conclusion of the current designs, which are being evaluate in this analysis. Please refer to Appendix G, “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration,” for more information.
- Indiv-589-5 Please see MR 8 (Wild and Scenic Rivers Act).

- Indiv-589-6 Appendix G, "Engineering," has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Specifically, Section 2.4, "Site Evaluations and Selection" discusses how segments were selected for needing erosion protection. Please see response to Indiv-289-8 for details on borings and erosion resistant material.
- Indiv-589-7 Please see response to Indiv-289-8 for details on borings and erosion resistant material (referred to as the Pleistocene Fair Oaks Formations in this comment).
- Indiv-589-8 The comment states that USACE is not following the requirements of the American River Parkway plan and NEPA standards by not "minimizing damage to riparian vegetation and wildlife habitat." Unfortunately, some projects result in significant environmental effects, as analyzed in this ARCF SEIS/SEIR. In addition, USACE is required to mitigation at a 2:1 and 3:1 ratio which will result in more riparian habitat than the site currently has. Please refer to MR 5 for more information on impacts to habitat and wildlife.
- Indiv-589-9 USACE appreciates this comment about the SEIS/SEIR not citing the Lower American River Erosion Conditional Risk Assessment: Subreach 1, 3, and 4. However, the analysis of the designs included in the SEIS/SEIR did in fact take this document into account. USACE added Appendix G, "Engineering," to the SEIS/SEIR and this report is included in the references and is cited throughout the appendix.
- Indiv-589-10 Please refer to MR 3-2, and Appendix G Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives," for a discussion explaining why bioengineering is not an option at the American River Erosion Contract 3B location. Please refer to MR 2-4 to understand why the purpose of the 2017 Lower American River Streambank Erosion Monitoring Report is different than the purpose of the Proposed Action.
- Indiv-589-11 Updated hydraulic modeling has been completed for design advancement and the Site Selection Process. A discussion of the hydraulic modeling development is discussed in Section 2.3.3, "Hydraulic Model Analysis" of Appendix G, "Engineering." The hydraulic model results are one form of identifying erosion hazards and levee failure modes on a localized level. Velocities are not the only factor considered when determining erosion risk. A suite of other analytical tools included assessing vertical scour and slope stability factors leading to toe instability concerns, lateral erosion assessment, review of past performance data such as from the 1986, 1997 and 2017 high flow events, surveying of vegetation condition, surveying of site bathymetry and topography conditions and width to the levee prism and levee toe, geomorphic assessment and expert elicitation panels from national, regional and local experts. Site evaluation and design alternative analysis is based on a design objective flow of 160,000-cfs. MR 2-5 provides input on the design flow. The constrained Lower American River system in general exhibits greater hydraulic forces (e.g. shear and velocity) as the river flow increases prior to the levees overtopping. The erosion protection feature is targeted addressing specific erosion failure modes, accounts for local site

conditions, and includes the smallest footprint capable of meeting project criteria. Erosion protection features are not included where erosion risk drivers are non-existent. The project feature renderings in Section 2.5.2, "Contract 3B" provide input on layout, how the features also include on-site habitat mitigation elements and preserve existing vegetation where suitable.

Indiv-589-12 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Please see Section 2.5.1, "Overview and Process" and 2.5.2, "Contract 3B" in Appendix G on the design development process and alternatives considered by the USACE design team, comprehensive review team and multi-agency Project Partners. Design alternatives were considered and evaluated by the Technical Resource Advisory Committee (TRAC) at the onset of design development. The TRAC included members from USACE, NMFS, USFWS, Sacramento County Regional Parks, NPS, DWR, SAFCA, and their consultants. The TRAC is a multi-disciplinary group which includes water resource engineers, geotechnical engineers, geoscientists, biologists, and ecologists. Other erosion mitigation alternatives such as installation of log cribs (e.g. bioengineering approach) for LAR C2 were evaluated by the TRAC concurrent to C3B 10 percent alternative analysis and thus informed C3B evaluation and selection of 10 percent design feature types for USACE to advance. Considering the high flood risk and associated consequences present, design options need to account for those reliability needs reflective of the risks and consequences within the project setting. The iterative design process included a variety of data collection efforts, development of a suite of analytical tools, field visits and review cycles from many review teams to determine the minimal acceptable design layout. The design does include on-site habitat mitigation features such as inclusion of planting benches, soil filled revetment, top soil placed above the revetment, planting plan and provisions to protect existing vegetation above the erosion protection feature.

Indiv-589-13 Trees and vegetation were incorporated and accounted for in the 2-dimensional hydraulic models developed and utilized in the engineering analyses for assessing the erosion risk along the Lower American River. Trees and vegetation are accounted for by adjusting the Mannings Roughness Coefficient to the appropriate value which reflects the presence of trees and vegetation. The Mannings Roughness Coefficient value selected at a given location within the model is based on evaluation of the corresponding real-world location along the river and volume/density of trees and vegetation present at that real-world location. Please also refer to Appendix G, "Engineering," Section 2.3.3, "Hydraulic Model Analysis," for information on the hydraulic modeling tools utilized, their development, and their application. This 2-dimensional hydraulic model is in agreement that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. However, the erosion risk analyses

performed along the Lower American River (LAR) evaluated the risk of erosion both of the levee embankment itself (Probable Failure Mode [PFM] 2) and erosion of the foundation of the levee (PFM 3), please refer to Appendix G Section 1.6, "Levee Erosion Failure Processes" for more information on these PFMs. While velocities near the levee may be low, there is still the concern specific to PFM 3, which poses a risk to the levee's integrity. Please refer to MR 2-1 and 2-2 for more information on why trees and vegetation alone are inadequate forms of bank protection.

Use of a 3-dimensional hydraulic model is unnecessary to evaluate the risk of erosion along the Lower American River. For more information on why 3-dimensional models are unnecessary and why 2-dimensional hydraulic models are appropriate and were selected for use in the erosion risk analyses, please refer to Appendix G Section 2.3.3, "Hydraulic Model Analysis."

- Indiv-589-14 Both the older 2004 Ayres hydraulic model referred in the Draft SEIS/SEIR, and the more recent hydraulic models developed since authorization of the ARCF 2016 Project in 2016 are in agreement that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. These models were all 2-dimensional models which incorporate the impacts/influence of vegetation and trees on the river flow dynamics; however, the result of this modeling still indicates velocities in certain levee segments along the Lower American River will still be subjected to unacceptably high velocities and erosive conditions despite the presence of vegetation.

Use of a 3-dimensional hydraulic model is unnecessary to evaluate the risk of erosion along the Lower American River. For more information on why 3-dimensional models are unnecessary and why 2-dimensional hydraulic models are appropriate and were selected for use in the erosion risk analyses, please refer to the Appendix G Section 2.3.3, "Hydraulic Model Analysis."

Please also refer to MRs 2-3, MR 3-7 and response to Indiv-336-1 for details on erosion at recent USACE projects.

- Indiv-589-15 Please refer to response to Indiv-589-14

- Indiv-589-16 USACE appreciates the comment regarding the Heritage Oak Trees located at Contract 3B. Please refer to MR 3-1 which discusses steps taken to protect as many trees as possible. Please refer to DOI-21a for information on compliance with the Sacramento County Tree Ordinance.

The primary purpose of Contract 4B is to preserve these beautiful Heritage Oak Trees that are hundreds of years old. In addition, USACE would not be able to get the WSRA CD without the preservation of most of these Heritage Oak Trees. For more information on Contract 4B, please see MR 10 and Appendix G, "Engineering." Please refer to MR 15, which addresses riparian forest and presents data describing the efforts to preserve large trees within the Contract 3B project site.

- Indiv-589-17 Please refer to MR 15, which addresses riparian forest. Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act including long-term impacts to mature riparian forests.
- Indiv-589-18 Please refer to Appendix G, “Engineering” Section 2.5, “Design Development” for a detailed discussion of the proposed design for Contract 3B and 4. Please refer to MR 15, which details the impacts to the riparian forest and describes results from tree surveys onsite.
- Indiv-589-19 Please refer to Appendix G, “Engineering” Section 2.5, “Design Development” which details the proposed design of Contract 3B and 4 and MR 15 which details impacts to the riparian forest, including results from tree surveys onsite.
- Indiv-589-20 Comment states that USACE provides poor quality figures of various habitats in the C3B project footprint that fails to distinguish with any detail the different habitats and how much tree loss each segment will suffer. USACE will be updating the figures in the Final SEIS/SEIR.
- Indiv-589-21 The comment states that in addition to the low-quality figure of various habitats, USACE also provides a vague and confusing map of project impacts. See response to comment Indiv-589-20.
- Indiv-589-22 The comment states that the area along the top of levee around Watt and to Larchmont Park is labeled yellow as construction zones on figures but the area top of levee from Larchmont Park and along the Mayhew drain is labeled purple for construction access. These figures will be updated with proper coloring and labeling.
- Indiv-589-23 The comment states that USACE disregard for public apprehension is evident by their decision to include so many projects in this SEIS/SEIR, when all other construction projects received standalone documents. This SEIS/SEIR seeks to update the 2016 GRR by evaluating design refinements that have changed since the 2016 document.
- Indiv-589-24 Please refer to the response to Indiv-586-20.
- Indiv-589-25 Please refer to MR 15, which addresses impacts to the riparian forest including results from tree surveys onsite Please refer to MR 8 which discusses consistency with the WSRA including long-term impacts to mature riparian forests.
- Indiv-589-26 The Final SEIS/SEIR contains additional maps illustrating project features, including ramps and tie backs, especially in relation to existing riparian vegetation. MR 3 and MR 15 provides much more specific detail regarding tree preservation and removal.
- Indiv-589-27 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.” Project Partners agree that various construction activities in the vicinity of trees could harm the trees. Figures 3.5.2-10 and 3.5.2-11 have been added to show the locations where trees will be removed, but trees within the

project footprint could be negatively impacted by construction equipment. The Draft SEIS/SEIR submitted for public review included a conservative, buffered footprint that indicated that many of the trees would be removed instead of kept and negatively impacted by construction equipment. Generally, it is assumed that trees within the project footprints could be negatively impacted by construction equipment through compaction or weight near roots or equipment accidentally hitting trees. Impacts to trees are not binary, i.e. survival or removal, the impacts to trees from nearby activities will cover a spectrum from minor impacts to relatively quick decline and death. Please refer to MR 3-1 for steps taken for Project Partners to minimize the project footprint as much as possible. Additionally Contract Specifications for the American River Erosion Contract 3B Construction Contract include Tree and Plant Protection requirements which include having an arborist present for tree trimming or work that is expected to expose tree roots, fines and replacement for damaged trees, and fencing around trees to be protected.

- Indiv-589-28 Please refer to MR 3-5 for information on what happens when benches launch. Please refer to MR 5 for information on mitigation.
- Indiv-589-29 The proposed planting benches serve multiple purposes from the plug of rock on the waterside edge being placed and sized to counter vertical incision and river toe instability issues to also being an on-site habitat mitigation feature. The erosion mitigation features must be resilient and provide protection over the project design life of 50-years. Hence the revetment is sized and designed for a flow of 160,000-cfs to prevent erosion or breach of the levee system. On-site habitat features are meant to address temporal impacts and provide biological lift at more seasonal flow conditions such as during average summer flows around 2,000-cfs. Incrementally spaced tie-back features from the planting bench toe to the existing riverbank edge are placed to provide some rigidity of limiting bank scalloping potential in the stream flow direction. The planting benches cross section includes a layered design to minimize planting media soil loss horizontally or vertically through the larger revetment material. The planting bench is also designed with a coir fabric capable of resisting hydraulic forces during the plant germination period. The planting benches include a planting plan and in-stream woody material for habitat mitigation purposes as well as increasing roughness on the benches to resist erosive forces. Mature vegetation with a developed root system will also reduce the erosive potential but the designs include an underlayment of revetment for needed flood risk resiliency discussed earlier. Assessment of existing planting benches and in-water bank protection features on the LAR were applied during design. Riverward focused design alternatives including planting bench features were considered and evaluated by the Technical Resource Advisory Committee (TRAC) at the onset of design development. The TRAC included members from USACE, NMFS, USFWS, Sacramento County Regional Parks, NPS, DWR, SAFCA, and their consultants. The TRAC is a multi-disciplinary group which includes water resource engineers, geotechnical engineers, geoscientists, biologists, and ecologists. For more input

on the design development process please see Section 2.5, “Design Development” in Appendix G, “Engineering.” Please also refer to Indiv-589-28.

- Indiv-589-30 Tiebacks are installed to help limit erosion, not prevent it. Please refer to MR 3-5 for a discussion on how USACE determined how to mitigate for loss of habitat from the function of the launchable toe and trench. Please refer to MRs 2-3, MR 3-7 and response to Indiv-336-1 for information on what happened at the American River Erosion Contract 2 Site.
- Indiv-589-31 Please refer to Indiv-589-19 to understand that many trees will be left onsite. Please refer to MR 3-3 and 3-4 to see example of replanting success at previous erosion protection sites. Please refer to MR 15-2 and 15-3 for a discussion on anticipated success. Please refer to MR 15-1 for clarifications on habitat impacts. Please see Figure 2-1 of Appendix G to see a photo example of tree loss during the 1986 flood (caused by 134,000 cfs). Please note that Folsom Dam and the existing levees were not established until the 1950's so though the trees have been around for hundreds of years. The flows have since been restricted to the channel due to the levees.
- Indiv-589-32 Future conditions of the river were not used to determine the effects of the project. In 2016 the Final EIS/EIR discussed the existing conditions of all project areas. In the 2024 Supplemental EIS/EIR the work which has been already completed was considered the baseline, however any work described in the 2016 document but not completed was not considered to be part of the environmental baseline. This distinction was also described in the No Action Alternative and the Proposed Action Alternative sections of the 2024 document.
- Indiv-589-33 Civil Works projects are jointly funded by the Federal and the Local Project Partners. The operations and maintenance of the project features (including compensatory mitigation) are the requirement of the local sponsors. WRDA 1996 fully funded the American River Common Features project through its authorization.
- Indiv-589-34 See response to comment Indiv-589-33 and Indiv-589-28. Mitigation benches planted on top of launchable rock features were evaluated for their potential to loss over the 50-year life of the project in the Launchable Rock Memo. This analysis led to the project team adding compensatory mitigation to the overall requirement to cover the very slow risk of vegetation loss.
- Indiv-589-35 Please see MR 8 (Wild and Scenic Rivers Act) for discussion of the Project and the Wild and Scenic Rivers Act. Regarding “50 years,” by USACE policy, the period of analysis for projects is typically 50 years (ER 1105-2-103) while the project life is essentially forever unless the project is deauthorized. For design purposes, different materials have different effective lifespans and require routine maintenance and may require periodic repair and/or replacement. Without erosion protection, analyses completed by Project Partners indicate that lands in the Parkway will erode, and trees and lands will be lost as part of that process. The Project will protect Parkway lands and reestablish native trees, shrubs, grasses,

and forbs to the maximum extent feasible and consistent with achieving the flood risk management objectives of the authorized project.

- Indiv-589-36 Please refer to MR 15-9, which addresses anadromous fisheries and the creation of riparian planting benches to mitigate for the loss of riparian forests.
- Indiv-589-37 The cumulative analysis in the SEIS/SEIR acknowledges the significant short-term impacts related to construction of multiple contracts on the LAR, including work completed near Paradise Beach, Sacramento State University, and Campus Commons golf course. Mitigation measures implemented as part of the ARCF 2016 project, including requirements for revegetation and actions taken to comply with conditions of NMFS's Biological Opinion related to salmonids will address project and cumulative impacts in the longer term. Please refer also to MR 3, which presents additional information on revegetation, MR 4, which addresses recreation, and MR 15, which addresses riparian forest, including SRA and habitat corridors.
- Indiv-589-38 Please refer to MR 4, which discusses recreational impacts.
- Indiv-589-39 Please refer to MR 2, which discusses the scope of the project, MR 3 which discusses step taken to minimize tree impacts, and MR 15 which discusses riparian habitat and fisheries.
- Indiv-589-40 Please refer to response to comment Indiv-589-6 and -7.
- Indiv-589-41 Please refer to response to comment Indiv-589-14.
- Indiv-589-42 Please refer to response to comment Indiv-589-10.

Individual 590 (Mary Swisher)

- Indiv-590-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to MR 2, which addresses the scope and approach to improvements in Contract 3B; MR 3, which addresses tree removal and plantings; and Appendix G "Engineering," Section 2.5.2.1, "Design Coordination and Collaboration" for more information.

Individual 591 (Paula Bowden)

- Indiv-591-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR. No further response is required.

Individual 592 (Ashley Langdon)

Please refer to the responses to Form Letter 4.

Indiv-592-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-592-B Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses impacts to habitat and wildlife and riparian forest; and MR 4, which addresses impacts to recreational access of the Parkway.

Individual 593 (Jennifer Wyatt)

Please refer to the responses to Form Letter 4.

Individual 594 (Charlie Stein)

Please refer to the responses to Form Letter 3.

Individual 595 (Erin Beckman)

Please refer to the responses to Form Letter 3.

Individual 596 (Art Stapleton)

Indiv-596-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. Please also refer to MR 3, which addresses tree removal and plantings, and MR 15, which addresses riparian forest. In addition, please see MR 10 for more information on Contract 4B, which sole purpose is to save the Heritage Oak Trees.

Individual 597 (Paul Miller)

Indiv-597-1 Please refer to MR3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and MR 7, which addresses public outreach. Please also see response to comment Indiv-609-1.

Indiv-597-2 Please see response to comment Indiv-609-2 for a response regarding document errors, range of alternatives, environmental impacts, and scoping. Please refer to MR 15, which discusses impacts to habitat, wildlife, and riparian forest, and MR 9, which exclusively discusses the American River Mitigation Site.

Indiv-597-3 Please see Indiv-609-3 for a response on actions taken to improve public acceptability of the project.

Individual 598 (Michael Conley)

Indiv-598-1 Please refer to MR 3, which addresses tree removal and plantings, and MR 15, which address impacts to habitat and wildlife and riparian forest.

Individual 599 (Laura Fanger)

Indiv-599-1 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting, and MR 15, which addresses riparian forest.

Individual 600 (John Oconnor)

Please refer to the responses to Form Letter 3.

Indiv-600-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 13, which addresses green space and physical and mental health.

Individual 601 (Marchelle DeClue)

Please refer to the responses to Form Letter 3.

Indiv-601-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 15, which addresses impacts to habitat and wildlife and riparian forest.

Individual 602 (Charlie Willard and Joan Willard)

Please refer to the responses to Form Letter 4.

Indiv-602-A Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses impacts to recreational access of the Parkway; MR 15, which addresses impacts to habitat and wildlife and riparian forest; and Appendix G “Engineering,” for more explanation of the purpose and need for the project.

Indiv-602-B Please refer to response to Indiv-602-A.

Indiv-602-C This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 603 (Grant Deary)

Indiv-603-1 Please refer to response to MR 3, which provides details on why Project Partners cannot rely on trees to protect the levee. Please refer to MR 2, which address the scope and approach for improvements in Contract 3B; MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest. Please also refer to Appendix G “Engineering,” for more information on the design and approach.

- Indiv-603-2 Please refer to MR 4, which addresses impacts to recreation.
- Indiv-603-3 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act and Appendix H (Wild and Scenic Rivers Act).
- Indiv-603-4 Please refer to Appendix G “Engineering,” Folsom Dam History and operations.
- Indiv-603-5 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to MR 2, which address the scope and approach for improvements in Contract 3B. Please refer to Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information.
- Indiv-603-6 Please see response to comment Indiv-603-5.
- Indiv-603-7 Please see response to comment Indiv-603-5.
- Indiv-603-8 In addition, please see MR 10 for more information on Contract 4B, which sole purpose is to save the Heritage Oak Trees. Also see MR 3 on vegetation removal. Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-603-9 Please refer to response to Indiv-603-1.

Individual 604 (Anne Shuck)

- Indiv-604-1 Please refer to MR 2, which addresses the scope and approach to improvements in Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 605 (Robert James)

- Indiv-605-1 Please refer to MR 2, which address the scope and approach to improvements in Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 15, which addresses riparian forest, and Appendix G, “Engineering” for an explanation of the design approach for Contracts 3B and 4B.

Individual 606 (Kyle Keaton and Mary Alice Keaton)

- Indiv-606-1 Please refer to MR 2, which address the scope and approach to improvements in Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR

15, which addresses riparian forest, and Appendix G, “Engineering” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-606-2 Please refer to response to Indiv-606-1.

Indiv-606-3 Please refer to response to response to Indiv-606-1. Please also refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 607 (Katherine Middlekauff)

Please refer to the responses to Form Letter 3.

Individual 608 (Joyce Hsiao)

Indiv-608-1 Please refer to MR 2, which address the scope and approach to improvements in Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 15, which addresses riparian forest, and Appendix G, “Engineering” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-608-2 Please refer to response to MR 3, which provides details on why Project Partners cannot rely on trees to protect the levee. Please refer to Appendix G, “Engineering,” for more information on the design and approach. Please also refer to response to Indiv-608-1.

Indiv-608-3 Please refer to response to Indiv-608-1 and Indiv-609-1. Please also refer to MR 7, which addresses public outreach.

Indiv-608-4 The commenter has requested to be added to the notification list regarding this project. Commentor can be added to the list by going to sacleveeupgrades.com and going to “Subscribe for Construction and Traffic email updates”.

Individual 609 (Susan Goodrich)

Indiv-609-1 Any identified errors and inconsistencies brought to the attention of USACE and the non-federal Partners during the public comment period have been corrected in the Final SEIS/SEIR. Response to Comment Indiv-623-5 includes details on document review cycles and NEPA Implementing Regulations. MR 7 discusses public outreach in response to comments on meaningful involvement of the public and responsible agencies. Appendix G “Engineering,” has been developed in response to public comments to provide the long coordination history demonstrating engagement with resources agencies through the BPWG and the TRAC to provide targeted flood risk reduction while minimizing impacts to the human and natural environment.

Indiv-609-2 The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the alternatives in the 2016 GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR, due primarily to changes in the design of project components including projects on the American and Sacramento Rivers, the development of

mitigation sites, and the piezometer network. MR 15 discusses impacts to wildlife habitat and riparian forest. MR 9 discusses the American River Mitigation Site exclusively.

Indiv-609-3 During this response period, USACE and the non-federal Partners have strived to gain public acceptance of the Proposed Action, including developing Appendix G “Engineering,” which includes technical information demonstrating the purpose and need for erosion protection, as well as MR 3, which discusses the alternative selection process and nature-based solutions. USACE acknowledges that there will be short-term, significant and adverse effects to the community. However, the long-term benefits of flood risk reduction outweigh these temporary effects.

Individual 610 (Kevin Oleary)

Indiv-610-1 Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest, and Appendix G, “Engineering,” which includes technical information demonstrating the purpose and need for erosion protection.

Individual 611 (Bob Stanley)

Please refer to the responses to Form Letter 3.

Indiv-611-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 612 (Ann Trowbridge)

Please refer to the responses to Individual 587.

Individual 613 (Lesann Dorffler)

Please refer to the responses to Form Letter 3.

Individual 614 (Ray Rozema)

Indiv-614-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, please see MR 10 for more information on Contract 4B, which sole purpose is to save the Heritage Oak Trees. Also see MR 3, which addresses tree removal and plantings, and MR 15, which addresses riparian forest.

Individual 615 (Kent Wilson)

Please refer to the responses to Form Letter 3.

Indiv-615-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 616 (Larry Galizio)

Please refer to the responses to Form Letter 4.

Indiv-616-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 617 (Kathy Downey)

Please refer to the responses to Form Letter 3.

Indiv-617-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 618 (Claire Smurr)

Please refer to the responses to Form Letter 3.

Indiv-618-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 619 (Sara Forestieri)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-619-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 620 (Douglas Smurr)

Please refer to the responses to Form Letter 3.

Indiv-620-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 621 (Cheryl Bly-Chester)

- Indiv-621-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act and MR 4, which addresses tree removal and plantings.
- Indiv-621-2 Please refer to MR 2, which addresses the scope and approach to Contract 3B; and Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Specifically, Section 2.4, “Site Evaluations and Selection” explains how Project Partners looked at the American River Segment by Segment.

Individual 622 (Mary Daugherty)

Please refer to the responses to Form Letter 3.

- Indiv-622-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 623 (Leo Winternitz)

- Indiv-623-1 Please refer to MR 7, which addresses public outreach. This comment does not add to or change the analysis in this document and does not require additional analysis. Project designs at the American River Mitigation site are still being developed and site impacts continue to be understood and further avoided and minimized.
- Indiv-623-2 Please refer to MR 7, which addresses public outreach. Two public scoping meetings were held for the Supplemental SEIS/SEIR (Both NEPA and CEQA documents), the first was on November 2nd and the second was on November 30th, 2023. The scoping meetings were held jointly with all the Project Partners present. Sacramento County Regional Parks has been part of the American River Common Features project delivery teams and technical resource advisory committee since 2019.
- Indiv-623-3 The commenter states that the document is difficult and confusing to read. They also state that there is missing information and references; however, does not specify what information is missing or referenced inaccurately. Please refer to MR 7, which addresses public outreach.
- Indiv-623-4 Please refer to MR 9, which addresses the American River Mitigation Site.
- Indiv-623-5 All identified errors and inconsistencies brought to the Project Partner’s attention during the public comment period have been corrected in the Final SEIS/SEIR. Additionally, this Final SEIS/SEIR has undergone additional review including Project Delivery Team, Non-Federal Partner, Supervisory, District Quality Control, Legal, Agency Technical Review, Environmental Resources Branch, Planning Division, and Executive Level to ensure the highest quality deliverable.

The Draft SEIS/SEIR follows the USACE Engineer Regulation 200-2-2 Recommended format for the document to ensure standardized and effective communication to provide clear presentation of the alternatives and effects analysis.

The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the alternatives in the 2016 GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR, due primarily to changes in the design of project components including projects on the American and Sacramento Rivers, the development of mitigation sites, and the piezometer network.

Appendix G, “Engineering,” has been developed in response to public comments to provide the long coordination history demonstrating engagement with resources agencies through the BPWG and the TRAC to provide targeted flood risk reduction while minimizing impacts to the human and natural environment.

Individual 624 (Scott Prentice)

Indiv-624-1 Please refer to MR 3, which address tree removal and plantings; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” which includes technical information demonstrating the purpose and need for erosion protection and revegetation of sites.

Individual 625 (Stephen Sax)

Please refer to the responses to Form Letter 4.

Indiv-625-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-625-B The commenter states the models used to design the project refinements are old and the maps produced are not overgeneralized. Please refer to MR 2, which addresses the scope and approach for Contract 3B as well as flooding and erosion risks; and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 626 (Mariah Cosand)

Please refer to the responses to Form Letter 4.

Indiv-626-A Please refer to MR 15, which addresses impacts to habitat and wildlife.

Indiv-626-B Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses impacts to recreational access of the Parkway; and MR 15, which addresses impacts to the riparian forest.

Indiv-626-C Please refer to MR 2, which addresses the scope and approach to improvements in Contract 3B; MR 3, which addresses tree removal and plantings; and Appendix G “Engineering,” which includes technical information demonstrating the purpose and need for erosion protection and revegetation of sites.

Indiv-626-D Please refer to MR 8, which addresses consistency with the Wild and Scenic River Act.

Individual 627 (Thomas Vigran)

Please refer to the responses to Form Letter 4.

Indiv-627-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 628 (Steven Benson)

Please refer to the responses to Form Letter 4.

Indiv-628-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-628-B Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses habitat and wildlife and riparian forest; MR 4, which addresses impacts to recreational access of the Parkway; and MR 13, which address green space and physical and mental health.

Individual 629 (Linda Collins)

Please refer to the responses to Form Letter 3.

Indiv-629-A Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Individual 630 (Joshua Thomas)

Indiv-630-1 Please refer to responses to Indiv-589.

Individual 631 (Eliza J Morris)

Indiv-631-1 Please refer to MR 2, which addresses scope and approach of improvements in Contract 3B; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting, MR 15, which addresses habitat and wildlife and riparian forest, and Appendix G, “Engineering,” which has been added to clarify the need for work, including data and reports used to determine the erosion

protection methods at the site. Specifically, Section 1.6, "Levee Erosion Failure Process," spells out the general processes that could compromise the levee. Section 2.4, "Site Evaluation and Selection," explains the process followed to select segments that need erosion protection. Additional figures have been added to Section 3.5.2.1.1, "Erosion Protection Features," of the SEIS/SEIR to show the anticipated areas of tree removal. More detailed designs have indicated that trees do not need to be removed from Larchmont Park.

- Indiv-631-2 Please refer to response to Indiv-631-1.
- Indiv-631-3 Please refer to Appendix B Section 2.6.3.4, under the analysis of American River Erosion Contract 3B North and South, and American River Erosion Contract 4B for Basis of Significance 2.6-f, for a discussion on haul routes through at-risk communities, including low-income and/or minority neighborhoods. Appendix B Impact 2.6-f describes the impacts to at-risk communities resulting from haul truck traffic. These communities are more susceptible to air emission pollution due to pre-existing burdens identified by CEQ's Federal mapping tool and are disproportionately affected. Mitigation Measures Air-1, Air 2, and Air-3 assist in reducing the effect; however, it remains significant and unavoidable. Designs balanced minimizing the project footprint, meeting flood risk objectives, and environmental impacts. Additional language and figures have been added to Section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR to show the most up to date information. Use of Glenbrook River Access has been removed as an option for staging as use of Glenbrook River Access required expanding the project footprint to reach the staging area, removal of additional trees, temporary closure of the paved bike trail at that location and placement of a staging area further from the project area (increasing vehicle emissions). In addition, if Larchmont Park was removed as a staging area, haul traffic would still need to leave the levee at the Mayhew Drain. There is no feasible way to access the rest of the haul route without going through an at-risk community; therefore, there is an unavoidable social impact for that haul route.
- Indiv-631-4 Please refer to Figure 3.5.2-9 of the SEIS/SEIR; only the two soccer fields adjacent to the levee will be used for staging at Larchmont Park. Project Partners have determined that it will not be safe to allow access during construction. Specifications have been added to require the contractor to provide pedestrian access through the site when safe and when feasible. Please also refer to MR 4, which addresses impacts to recreational access of the Parkway.
- Indiv-631-5 Appendix G, "Engineering," has been added to clarify the need for the project. Please refer to Appendix G, "Engineering," Section 2.1.4, "LAR River Mileage" for details on River Miles. Figure 2-9 in Appendix G shows the segments where work was determined to be needed. Please refer to MR 2-4 to understand why the purpose of the 2017 Lower American River Streambank Erosion Monitoring Report is different than the purpose of the Proposed Action.
- Indiv-631-6 Please see MR 10 for more information on Contract 4B along with Appendix G "Engineering."

- Indiv-631-7 Project Partners coordinate detours with Sacramento County Regional Parks. Currently there is not a planned official detour at Site 4-1 as it was recommended that the detour would be confusing and that those needing a detour would choose their own way along the neighborhood streets. Please also refer to MR 4, which addresses impacts to recreational access to the Parkway.
- Indiv-631-8 Appendix B 2.6 “Socioeconomics” describes in Criteria 2.6-d O.W. Erlewine Elementary School is not within a at-risk community according to a Federal mapping tool used to identify at-risk communities. Impact Criteria 2.6-d states the following "Additionally, there are four public schools within ½-mile of the American River Erosion Contract 3B North and South, and American River Erosion Contract 4B: Rio Americano High School, Sierra Oaks K-8 School, Isador Cohen Elementary School, and O.W. Erlewine Elementary School." Please see MR 14 for details on concerns about social impacts to at-risk communities faced with socioeconomic and environmental burdens.

Corrections to text in Appendix B, Section 3.8-5, "School Facilities" include the deletion of "~~The project locations considered under the Proposed Action do not fall within 1/4 mile of any schools.~~"

The following text has been added to Section 2.6.3, “Analysis of Environmental Effects,” in Appendix B, “Detailed Analyses:”

Additionally, O.W. Erlewine Elementary School and Isadora Cohen Elementary are listed receiving Title 1 funds in the 2023-2024 fiscal year (California Department of Education 2024). ... Additionally, a staging area for Contract 3B South is adjacent to O.W. Erlewine Elementary School. Project Partners have conducted a Health Risk Assessment for the Contract 3B component as the public was concerned about health impacts to students at O.W. Erlewine Elementary School. The Heath Risk Assessment indicates that there is not a risk with construction and can be viewed in Appendix J. Additionally the staging area will be completely fenced off to prevent students from getting near construction equipment.

- Indiv-631-9 Please refer to MR 3, which address tree removal and plantings; and MR 15, which addresses riparian forest.
- Indiv-631-10 The commenter refers to information from SMAQMD’s guidance document available at: <https://www.airquality.org/LandUseTransportation/Documents/SMAQMDFriantRanchFinalOct2020.pdf>. The tool referred to by the commenter is intended to communicate the long-term health effects of a new project at a particular location (2-2 and 2-3 are the closest to the Contract 3B project area) which would emit particular air contaminants at the air district’s daily emissions thresholds on an ongoing basis. This analysis is better applied to projects which would change land uses and result in ongoing increases in emissions from new uses that would not be mitigated. In the case of the proposed project, there are no changes to operational activities, and only construction air emissions are modeled and considered. The

referenced guidance document states that “Construction emissions could be included in the analysis if the lead agency determines the size, intensity, and duration of construction warrant review and disclosure.” (p. 17). Because the proposed project would include construction air emissions only, these emissions would occur during a limited period, and mitigated emissions for NOx and PM would be further reduced either to the threshold of significance level or to 0, depending on the year, the Project Partners have determined that the conservative, long-term exposure scenario used in the referenced document provides an output that is not informative relative to the proposed project.

- Indiv-631-11 The commenter states that the noise analysis indicates that changes due to the Proposed Action would be negligible; however, this is inaccurate and is not stated within the noise analysis. As detailed in Appendix B “Detailed Analyses,” Section 3.7, “Noise and Vibration,” depending on the project component, impacts would either be less-than-significant or significant and unavoidable.
- Indiv-631-12 Please refer to Appendix G, “Engineering” Section 2.5, “Design Development” which details the proposed design of Contract 3B and 4 and MR 15 which details impacts to the riparian forest, including results from tree surveys onsite.
- Indiv-631-13 Please refer to response to Indiv-631-12.
- Indiv-631-14 Please refer to MR 4-1 and 4-2, which address impacts to recreational access.
- Indiv-631-15 Revetment is designed to be stable with a factor of safety for the design objective flow of 160,000-cfs to address levee integrity concerns and identified risk drivers per river segment. Consequently, the levee is at lower risk of breach with the project constructed.

For proposed riverbank erosion protection features, the revetment is designed to be soil filled, include a soil lift above it, include temporary erosion control best management features (e.g. coir fabric, coir logs, etc.), contracting permitting obligations (e.g. SWPPP) and warranty requirements, be planted via a separate contract and include O&M responsibilities long term. Renderings of this type of feature as well as buried feature types are described and depicted in Section 2.5.2, “Contract 3B” of Appendix G, “Engineering.” During the planting establishment and maturation period, proposed planting benches, the topsoil, surface fabric and plantings are subject to potential local erosion concerns, but the levee integrity concerns would not apply as they currently do. The erosion protection designs account for lessons learned from past bank protection projects on the LAR and basin. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for targeted tree removal and why existing vegetation cannot be relied on alone to mitigate existing flood risks.

- Indiv-631-16 Please refer to MR 6, which addresses public health and safety.

Indiv-631-17 USACE reviewed Section 3.4-B (Water Quality) and determined that the NEPA impact conclusion located at the top the Magpie Creek Project impact analysis concluded "Short-Term Significant and Unavoidable; Long-term and Minor effects that are less than significant with Mitigation Incorporated. USACE determined that this significance conclusion was an error and will update the determination to state ""Short-term Significant and Unavoidable; Long-term and *Negligible* effects that are Less than Significant with Mitigation Incorporated."

Individual 632 (Michael Yanuck)

Please refer to the responses to Form Letter 3.

Indiv-632-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 633 (Lynn Jordan)

Indiv-633-1 Please refer to MR 2, MR 3, and MR 15, which provide further information on LAR Contract 3B. This comment does not add to or change the analysis in this document and does not require additional analysis.

Indiv-633-2 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G "Engineering," Section 2.5.2.1, "Design Coordination and Collaboration" for more information. In addition, please see MR 10 for more information on Contract 4B, which sole purpose is to save the Heritage Oak Trees. Also see MR 3 and MR 15, which addresses vegetation removal and plantings.

Indiv-633-3 Please refer to response to Indiv-633-2.

Individual 634 (Craig Heimbichner)

Please refer to the responses to Form Letter 4.

Indiv-634-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 635 (Howard Price)

Please refer to the responses to Form Letter 3.

Individual 636 (Layla Airola)

- Indiv-636-1 This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-636-2 Those identified errors and inconsistencies brought to the attention of USACE and the non-federal Partners during the public comment period have been corrected in the Final SEIS/SEIR. Response to Comment Indiv-623-5 includes details on document review cycles and NEPA Implementing Regulations. MR 7 discusses public outreach in response to comments on meaningful involvement of the public and responsible agencies. Appendix G “Engineering,” has been developed in response to public comments to provide the long coordination history demonstrating engagement with resources agencies through the BPWG and the TRAC to provide targeted flood risk reduction while minimizing impacts to the human and natural environment.
- Indiv-636-3 Please see response to Indiv-636-2.
- Indiv-636-4 The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the alternatives in the 2016 GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR, due primarily to changes in the design of project components including projects on the American and Sacramento Rivers, the development of mitigation sites, and the piezometer network. Please also refer to response to Indiv-636-2; MR 15, which addresses impacts to wildlife habitat and riparian forest; and MR 9, which discusses the American River Mitigation Site exclusively.
- Indiv-636-5 Please see response to Indiv-636-4
- Indiv-636-6 During this response period, USACE and the non-federal Partners have strived to gain public acceptance of the Proposed Action, including developing Appendix G “Engineering,” which includes technical information demonstrating the purpose and need for erosion protection, as well as MR 3, which discusses the alternative selection process and nature-based solutions. USACE acknowledges that there will be short-term, significant and adverse effects to the community. However, the long-term benefits of flood risk reduction outweigh these temporary effects. Please also refer to responses to Indiv-623.
- Indiv-636-7 Please see response to Indiv-636-6

Individual 637 (Dionna Campbell)

- Indiv-637-1 Please refer to MR 2, which addresses the scope and approach to improvements in Contract 3B; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and access to the Parkway; MR 15, which addresses riparian forest, and Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 638 (Michael Perry)

Please refer to the responses to Form Letter 3.

Individual 639 (Jodi Sato-King)

Please refer to the responses to Form Letter 4.

Indiv-639-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 640 (Ronald Hall)

Indiv-640-1 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 15, which addresses riparian forest, and Appendix G, "Engineering," for an explanation of the design approach for Contracts 3B and 4B.

Individual 641 (Micki Harriman)

Indiv-641-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, "Engineering," for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection" for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Individual 642 (Sara Caspi)

Please refer to the responses to Form Letter 3.

Indiv-642-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 643 (John Hervey)

Indiv-643-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G "Engineering," Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Please also refer to MR 15-2 and 15-3 for a discussion on replanting.

Individual 644 (Caitlin Mueller)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

- Indiv-644-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-644-B Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to wildlife and habitat and riparian forest.
- Indiv-644-C Please refer to MR 12, which addresses real estate values.
- Indiv-644-D Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 645 (Larry Bernstein)

- Indiv-645-1 Please refer to MR 3, which addresses tree removal and plantings; MR 15, which addresses riparian forest; and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Additionally, please refer to Appendix B Section 5.1, “Cultural and Tribal Cultural Resources.” In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G, “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, MR 4 for more information on effects to recreation.
- Indiv-645-2 Please refer to response to Indiv-645-1.
- Indiv-645-3 Please refer to MR 3, which addresses tree removal and plantings; MR 10, which addresses the purpose and goals of Lower American River Erosion Contract 4B; MR 15, which addresses Lower American River Contract 3B riparian forest; and Appendix G “Engineering,” for more detailed information.

Individual 646 (Patricia Prendergast)

Please refer to the responses to Form Letter 3.

Indiv-646-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 647 (Lisa Howard)

- Indiv-647-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, refer to MR 3 for more information on vegetation removal and MR 4 for more information on effects to recreation. Please refer to MR 2, which addresses scope and approach, and MR 15, which addresses riparian forest.
- Indiv-647-2 Please refer to MR 15, which addresses riparian forest. This comment does not add to or change the analysis in this document and does not require additional analysis. The effects determination to vegetation and wildlife is significant and unavoidable with mitigation.
- Indiv-647-3 Please refer to MR 15, which address impacts to habitat and wildlife from construction of Contract 3B, and riparian forest. This comment does not add to or change the analysis in this document and does not require additional analysis. The effects determination to vegetation and wildlife is significant and unavoidable with mitigation.
- Indiv-647-4 The Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. For additional information please see MR 8 and the Wild and Scenic River Appendix that has been included in the Final document.
- Indiv-647-5 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, refer to MR 3 for more information on vegetation removal and MR 4 for more information on effects to recreation.
- Indiv-647-6 Comment noted.

Individual 648 (Jon Schwedler)

Please refer to the responses to Form Letter 3.

Indiv-648-A Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal and plantings.

Indiv-648-B Please refer to MR 15, which addresses impacts to habitat and wildlife and riparian forest.

Individual 649 (Leslie Overstreet)

Please refer to the responses to Form Letter 3.

Individual 650 (Victoria Harris)

Indiv-650-1 The commenter expresses concern over work that has already been implemented to levees but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-650-2 The commenter requests that an alternative that results in less removal of vegetation is approved but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered. Please also refer to MR 2 and MR 3, which address the design process for Contract 3B improvements and addresses the need for tree removal and plantings, specifically.

Indiv-650-3 As required by CEQA, a mitigation monitoring and reporting program will be prepared, prior to certification of the Final SEIS/SEIR and will be available for the public.

Individual 651 (Travis VanZant)

Indiv-651-1 Support of the ARCF projects is noted.

Individual 652 (William Patterson)

Please refer to the responses to Form Letter 3.

Individual 653 (Nancy Kniskern)

This comment letter is identical to Indiv-712. Responses to both letters are included here.

Indiv-653-1 This commenter provided some unique comments regarding their personal experiences in the American River Parkway but did not raise a specific issue relating to the analysis in the SEIS/SEIR. The American River Parkway is viewed as a valuable asset by the community, including USACE and the non-federal Partners, which needs protection as flood risk increases due to upstream management of Folsom Dam. Projects on the American River have been designed

in accordance with requirements from NMFS in order to improve habitat for federally and state listed fish. MR 3 and 15 both contain detailed information on project designs and habitat objectives. MR 3-7 and response to Indiv-336-1 discusses the past erosion work at Contract 1 and Contract 2. Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, “Engineering.” Please refer to MR 3-7 and Indiv-336-1 for a discussion on erosion that occurred on previous work. Vegetation had not been replanted in the area during the SEIS/SEIR public comment period. Both Contract Specifications for ARCF 2016 Projects and requirements under the Clean Water Act require Contractors to develop a Storm Water Protection Plan, which spells out the best management practices the Contractor is going to implement to minimize sediment running off into water ways. Part of this requires establishment of plants in areas that are bare soil. The Contract cannot be closed out until the Contractor meets grass establishment standards (75% cover of all seeded areas in the American River Erosion Contract 3B).

- Indiv-653-2 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. As discussed in Section 3.5.2.1.3 of the SEIS/SEIR for American River Erosion Contract 3B, “The site where construction occurred during the previous year would be revegetated in 2027 and in 2028, and associated maintenance (such as installing an irrigation system, weeding, browse control, clean-up maintenance, and replanting dead plants) and monitoring would be done for an additional 3 years.” A separate contractor, who will replant the area, will be monitoring the success of areas that are being planted over 3 years and replacing the plants that fail. Please refer to MR 3-3, MR 3-4, and Section 2.6.4, “Revegetation of Sites” in Appendix G, “Engineering” for what vegetation looks like over the years for previous USACE Projects. In addition, woody vegetation replanted at the American River Erosion Contract 3B site will be considered onsite mitigation and subject to monitoring and success criteria. Please refer to Appendix B Section 4.1.3, “Vegetation and Wildlife,” Mitigation Measure VEG-1 for details on measures taken to ensure success of mitigation sites. Project Partners would armor the banks with revetment after tree removal to prevent future erosion, consequently tree removal will not worsen erosion over the long term as the placed revetment will prevent erosion. Please refer also to MR 2-2, which summarizes the reasons (provided in more detail in Appendix G, “Engineering”) why a natural bank protection approach is infeasible to address erosion hazards at the Contract 3B site. Please also refer to MR 5-6 and MR 15 which discuss long term management of onsite mitigation plantings. USACE is balancing objectives including managing flood risk and preventing habitat loss in sensitive areas. Modeling indicates that the American River levee system will not adequately capture an emergency spill (without erosion) as Folsom Dam operations have been upgraded beyond the built conditions of the levee systems. Please refer to Section 2.1 “Background” of Appendix G, “Engineering” for more information. Indiv-653-3 The commenter provided a cost benefit analysis with no values associated to the resources listed. The purpose and need of the

proposed work is to reduce erosion risk and improve flood protection. Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B. Please refer to MR 3, which addresses tree removal, plantings, and mitigation measures; MR 15, which addresses impacts to habitat and wildlife and riparian vegetation; and MR 4, which addresses impacts to recreational access of the Parkway. USACE appreciates your consideration of costs and benefits. All prior documents referenced in the following responses can be found in the online Sac Levee Upgrades Archive: <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/Sac-Levee-Upgrades-Archive>. Appendix A.2 of the 2016 ARCF General Reevaluation Report (GRR), Development of Costs and Benefits for the Focused Array of Alternatives, describes the cost estimates for all six alternatives discussed with the benefits of flood risk reduction. Table 1 shows the federal and non-federal costs associated with the total project cost and includes Fish & Wildlife Facilities, Levees & Floodwalls, and Cultural Resource Preservation."

- Indiv-653-4 Appendix I of the 2016 GRR Final EIS/EIR contains the project's Habitat Mitigation, Monitoring and Adaptive Management Plan (HMMAMP) which presents mitigation proposals, establishes performance standards, and outlines tasks and costs. The project used a Habitat Evaluation Procedures (HEP) to create a baseline condition for habitat quality. Using the HEP, USACE conducted a cost effectiveness/incremental cost analysis (CE/ICA) which evaluated five options for mitigation. The HMMAMP evaluated the following habitats: giant garter snake, shaded riverine aquatic habitat, valley foothill riparian habitat, valley elderberry longhorn beetle habitat, oak woodland, and green sturgeon benthic habitat. Table 7 of Appendix I shows the potential impacts to all wildlife habitats with implementation of the Proposed Action and calculates cost to mitigate for the losses of those habitats due to construction. Appendix A (CE/ICA) demonstrates that alternatives were considered based upon their impacts to habitats. Project Alternatives that provided flood risk benefits with fewest environmental impacts were most cost effective and ultimately carried forward. Please refer to MR 2-2, which addresses bioengineering approaches, MR 4, which addresses recreation, and MR 15, which addresses riparian habitats. Commenter states that they believe the document fails to inform the public of impacts and that mitigation measures do not address the loss of the immediate area. However, commenter does not list specific issues there are besides breeding seasons. As described in Chapter 3, “Alternatives,” construction schedules are limited to work windows that have been selected to reduce or avoid affects to fish and wildlife, including nesting birds and salmonids. Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible

- Indiv-653-5 The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public's concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, "Sacramento Levee Upgrades – American River Levees" at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 1, which addresses the SEIS/SEIR review extension and public meeting; and MR 7, which addresses public outreach.
- Indiv-653-6 Please refer to MR 2-2 and 3-2 for a discussion on why Project Partners cannot rely on existing vegetation or bioengineering.
- Indiv-653-7 Please see response to Indiv-653-5 of this letter, above, regarding public engagement and the public comment period. All substantive comments received during the public comment period must be addressed in accordance USACE Engineer Regulation 200-2-2. USACE and the non-federal Partners have supplemented, improved/modified analysis, made factual corrections, and explained why some comments do not warrant further agency response in preparation of the Final SEIS/SEIR. The completion of a Final SEIS/SEIR does not equate to approval of the project for construction authorization. The NEPA Record of Decision must be signed and the SEIR must be CEQA certified for construction to commence. The Draft SEIS/SEIR is a supplemental document. Meaning that decisions were already made based upon the 2016 GRR Final EIS/EIR and signed ROD. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR, due primarily to changes in the design of project components including projects on the American and Sacramento Rivers, the development of mitigation sites, and the piezometer network.
- Indiv-653-8 Please refer to MR 3, which addresses tree removal and bioengineering approaches and MR 15, which addresses carbon sequestration, heat island effects, wildlife movement, fisheries, and removal of riparian vegetation.
- Indiv-653-9 Please refer to MR 15, which addresses carbon sequestration, Section 3.6, "Greenhouse Gases and Energy" in Appendix B, "Detailed Analyses," for the analysis of climate change impacts. Please refer to MR 3, which addresses tree removal, and Appendix G, "Engineering," for a more in-depth explanation of the design process, data used, and alternatives considered. Long-term weather condition and extreme event impacts to inland hydrology were considered during design following Engineering Construction Bulletin 2018-14 and Project Partners actually determined the opposite risk. Increased sea level rises could be a risk for

needing higher planting bench elevations (USACE 2022⁹⁷). The challenge is that the plantings must be able to establish and perform under both current conditions and the envelope of potential future conditions which the sea level change analysis quantifies (USACE 2022³⁸). Consideration was given to increasing the planting bench height, however if this was done, the bench would need to be narrowed to maintain channel cross sections capacity and limit hydraulic stage impacts (USACE 2022³⁸). Increasing the planting bench elevation would also increase the quantity of exposed riprap media along the aquatic margins reducing the benefits and purposes of the salmonid mitigation feature included in National Marine Fisheries Service’s Biological Opinion. Additionally increasing the elevation of the planting benches would increase aesthetic and recreational impacts for recreational users pursuant to National Park Service’s Consistency Determination (USACE 2022³⁸). The area will be replanted, so the Proposed Action would not prevent carbon capture (refer to MR 15 for more information).

- Indiv-653-10 Appendix G “Engineering,” includes additional information on the project designs as well as the purpose and need for the erosion protection work.
- Indiv-653-11 Please refer to MR 3, which addresses tree removal and bioengineering techniques and Appendix G,” Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered. Please also refer to MR 7, which addresses public outreach.
- Indiv-653-12 Please refer to MR 6, which addresses public health and safety during construction.

Individual 654 (Rob Lindgren)

- Indiv-654-1 Please refer to MR 3, which address tree removal and plantings; MR 4, which addresses recreation and commuting; MR 15, which address impacts to habitat and wildlife from construction and riparian forest; and MR 13, which addresses green space and physical and mental health.
- Indiv-654-2 Glenbrook River Access has been removed from consideration for a staging area for American River Erosion Contract 3B.
- Indiv-654-3 Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Individual 655 (Anne Klein)

Please refer to the responses to Form Letter 3.

- Indiv-655-A Please refer to MR 15, which addresses impacts to habitat and wildlife and riparian vegetation.

⁹⁷ U.S. Army Corps of Engineers (USACE). 2022. Draft Engineering Construction Bulletin 2018-14 Assessment American River Common Features Erosion Protection Contract 3B. Engineering and Design Phase. Doc Version: 95% ATR Review Submittal.

Individual 656 (Patrick Carroll)

Please refer to the responses to Form Letter 3.

Indiv-656-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-656-B Please refer to MR 15, which addresses impacts to the riparian forest.

Individual 657 (Andonia Cakouros)

Indiv-657-1 Please refer to MR 2, which addresses the scope and approach in Contract 3B; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreational access to the Parkway; MR 15, which addresses riparian forests; and Appendix G “Engineering,” which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Indiv-657-2 Please refer to response to Indiv-657-1.

Indiv-657-3 Please refer to response to Indiv-657-1. Please also refer to MR 3-1, which explains all the steps taken to minimize the impacts to impacts to trees and the project footprint as much as possible.

Individual 658 (Jessica Epperson)

Please refer to the responses to Form Letter 3.

Indiv-658-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-658-B Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-658-C Please refer to MR 6, which addresses public health and safety impacts from construction and MR 13, which addresses green space and physical and mental health.

Individual 659 (Carrie Sessarego)

Please refer to the responses to Form Letter 4.

Individual 660 (Angela Laws)

Please refer to the responses to Form Letter 4.

- Indiv-660-A Please refer to MR 15, which addresses impacts to riparian vegetation, carbon sequestration, heat island effects, wildlife movement and fisheries. Please refer to MR 3, which addresses tree removal and plantings.
- Indiv-600-B Please refer to MR 15, which addresses impacts to habitat, wildlife, riparian vegetation, and carbon sequestration.

Individual 661 (Alicia Eastvold)

- Indiv-661-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, refer to MR 3 for more information on vegetation removal. Additionally, updated maps with the most up to date information and maps showing tree removal areas have been added to Section 3.5.2.1.1, “Erosion Protection Features” of the SEIS/SEIR.
- Indiv-661-2 Please refer to MR 1 and MR 7 which provide information on public outreach. This SEIS/SEIR has not been reopened for a new public comment period.

Individual 662 (Louise Berner)

Please refer to the responses to Form Letter 3.

- Indiv-662-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 663 (Alicia Eastvold)

- Indiv-663-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, refer to MR 3 for more information on vegetation removal and MR 7 for more information on public outreach.
- Indiv-663-2 Beyond the required noticing established by NEPA and CEQA as described in Section 2.3 of the Draft SEIS/SEIR, USACE conducted additional outreach to area residents by mailing postcards to more than 15,000 property owners located

within reasonable proximity to the Project area. The mailing list boundaries took into consideration directly impacted neighborhoods that bordered Project area levee segments and extended landward to major roads or highways. The intended purpose was to go beyond formal state and federal noticing requirements and mail directly to property owners most impacted by Project activity. The postcard described the Proposed Action, provided notice of the availability of the DRAFT SEIS/SEIR and the start of the 45-day public review period, as well as served as an announcement of two planned virtual public meetings. USACE's website address, where interested parties could access the document online and find relevant information about how to attend the January 10 and January 16, 2024, public meetings, was prominently called out on the postcard. Please refer to MR 7, which addresses public outreach.

Indiv-663-3 Please see response to Indiv-663- 2. Yes, the River Blu and Apex apartments were included in the mailing list. Signage will be placed on the river prior to construction.

Individual 664 (Jill Peterson)

Indiv-664-1 Please refer to MR 2, which addresses the scope and approach of Contract 3B as well as flooding and erosion risks; MR 3, which addresses tree removal and plantings; MR 10, which addresses the purpose and goals of Contract 4B; MR 15, which addresses riparian forest and carbon sequestration; and Appendix G, "Engineering," for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-664-2 The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the array of alternatives in the 2016 GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR. Alternative development for Contract 3B is discussed in Appendix G "Engineering," Section 1.7.4, "Erosion Protection Design Alternatives" which describes that in the 2016 GRR the following alternatives were evaluated and considered: waterside armoring of the levees, launchable rock trenches, bioengineering solutions, and grade control structures (i.e., a structure which reduce flow velocities).

Indiv-664-3 USACE and the Project Partners have considered all substantive comments received during the public comment period of the Draft SEIS/SEIR and addressed them in accordance with NEPA Implementing Regulations USACE Engineer Regulation ER 200-2-2. Please see response to Indiv-712-27 for specifics on what changes were made for the Final SEIS/SEIR.

Individual 665 (Alicia Eastvold)

Indiv-665-1 USACE appreciates your concern over some areas that experienced erosion on Contracts 1 & 2. These areas have and will be repaired. For more information on Contracts 1 and 2, please visit www.sacleveeupgrades.com.

Indiv-665-2 Please refer to MR 2-3, MR 3-7 and Indiv-336-1.

Individual 666 (Barbara Domek)

- Indiv-666-1 The comment refers to USACE's "Engineering with Nature," claiming that Contract 3B plan does not follow these principles. However, USACE worked in alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to the Appendix G "Engineering," Section 2.5.2.1, "Design Coordination and Collaboration" for more information. In addition, refer to MR 3 for more information on vegetation removal and MR 4 for more information on effects to recreation.
- Indiv-666-2 USACE appreciates your concern over erosion that occurred during the storms at previously constructed Contracts 1 and 2. Please refer to MR 2-3, MR 3-7 and Indiv-336-1 for more information.. For more information on Folsom Dam Operations and the need for this project, please see Appendix G "Engineering," for more explanation of the data models used during the design process of Contract 3B and 4B.
- Indiv-666-3 See response to comment Indiv-666-1.

Individual 667 (Malinda Ruiz)

Please refer to the responses to Form Letter 3.

- Indiv-667-A Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 3, which addresses tree removal and plantings; MR 10, which addresses the purpose and goals for Contract 4B; MR 15, which addresses riparian forest; and Appendix G "Engineering," for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 668 (Alicia Eastvold)

- Indiv-668-1 Based on the current water control manual for Folsom Dam, the objective outflow for normal dam operations is 115,000 cfs; however, the objective emergency outflow (i.e. to prevent a dam overtopping) for Folsom Dam is 160,000 cfs. Because of the downstream constraint imposed by the inability of the Lower American River levees to safely convey the 160,000 cfs flow release, flood risk reduction benefits provided by the Folsom Dam improvements cannot be fully realized unless the Lower American River levees can safely convey the 160,000 cfs flow. For the overarching flood risk management system along the American River, including Folsom Dam and the Lower American River levees, to function as one comprehensive unit, the Lower American River levees must be able to safely convey the 160,000 cfs flood event. Please refer to Appendix G "Engineering," Section 2.1.2, "Folsom Dam Historical Performance" and 2.1.3, "Folsom Dam Operation Improvements" for more information.

Individual 669 (William Avery)

- Indiv-669-1 The identified riverbank segments determined to be at an unacceptably high risk for erosion induced levee failure were identified by risk assessments performed between 2019 and 2020. These risk assessments exclusively evaluated the risk of erosion induced levee failures because other levee failure modes, such as seepage induced failures, were addressed via projects which preceded the ARCF 2016 project. Erosion induced levee failures are the remaining risks left to be addressed along the Lower American River (LAR) in order for the LAR levees to safely convey the 160,000 cfs flood event. These risk assessments were informed by both existing data available prior to the ARCF 2016 Project's authorization in 2016 and new data and analyses acquired since the ARCF 2016 Project's authorization. Please refer to Appendix G "Engineering," Section 2.3, "Background Data and Ancillary Studies" for more information on the data used in these erosion risk evaluations, and Section 2.4, "Site Evaluations and Selection" for more information on how expert panels from both within and outside of USACE were convened to perform these new risk assessments between 2019 and 2020.
- Indiv-669-2 The tier classifications performed in 2019 were based mostly on existing data and limited new analyses available prior to 2019. These evaluations identified areas of uncertainty, and the design teams performed new investigations and performed new analyses to reduce those uncertainties. With these new data and analyses in hand, a second phase of risk assessments was performed in 2019 and 2020 to review the previous rankings; this second phase of assessments confirmed the previous rankings and identified additional areas which presented an unacceptable risk of erosion induced levee failure. Please refer to Appendix G, "Engineering," Section 2.4, "Site Evaluations and Selection" for more details on this matter.

The TRAC and BPWG were regularly consulted throughout the design development process for Lower American River Erosion Contract 3B. Please refer to Appendix G, "Engineering," Section 2.5.2.1, "Design Coordination and Collaboration" for more information.

For Contract 4B, the TRAC and BPWG will be involved as the designs are developed. Currently, this contract is in its infancy (i.e., conceptual design level) and the design team is still evaluating the erosion risk posed by trees on or near the waterside levee slope. Once this more detailed evaluation is completed, the Project Partners will resume coordination and collaboration efforts with the TRAC and BPWG in a robust manner similar to the approach used for Lower American River Contract 3B.

All the erosion protection designs along LAR have been developed with Engineering with Nature (EWN) principles in mind throughout the design life cycle for each contract. Through the robust Design Coordination and Collaboration efforts described above, and in direct coordination with resource and LAR parkway regulatory agencies, the designs for Lower American River Erosion Contract 3B have been reduced to the minimum footprint necessary to

adequately address the erosion risk (refer to MR 3-1 for more details) while simultaneously minimizing impacts to vegetation, habitat, and recreational resources along the Lower American River.

- Indiv-669-3 Please refer to response to comment Indiv-289-8.
- Indiv-669-4 Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.
- Indiv-669-5 Please refer to MR 4-1 and 4-2, which addresses recreation.
- Indiv-669-6 Please refer to MR 15-8, which addresses riparian forest and wildlife corridors.
- Indiv-669-7 White Alder is incorporated in the planting plans for American River Erosion Contract 3B. Language has been added to Section 3.5.2.1.1 of the SEIS/SEIR to clarify the native species in the planting plans.
- Indiv-669-8 When safe and feasible, access will be provided to the American River Parkway. Specifications have been added to the contract requiring contractors to provide pedestrian access when safe and feasible. Nevertheless, it is not anticipated that the construction areas themselves will be available on weekends or the evenings due to safety requirements associated with construction sites. It is not anticipated that access will be allowed through haul routes either for the public at Site 4-1 (Contract 3B South) since haul access will be needed both on top of the levee and at the toe of the levee in some locations. On the north side of the river, current detour plans include providing flaggers at Site 3-1 when safe and feasible to allow access through the area as there are three access roads (the top of levee, the levee toe maintenance road, and the Jedediah Smith Memorial Recreation Trail) in this area. Construction work at Site 4-2 would be phased to minimize closures to the Jedediah Smith Memorial Trail, and site closures at Site 4-2 would be limited. Please also refer to MR 4, which addresses recreational access; and MR 6, which addresses public health and safety.
- Indiv-669-9 Refer to MR 1, which addresses the public meeting, and MR 7, which addresses public outreach.

Individual 670 (Doris Brown)

- Indiv-670-1 USACE appreciates your concern over the flood control projects. Please see MR 2 and 3 along with the Appendix G “Engineering,” for more details on designs and impacts from vegetation removal.
- Indiv-670-2 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the

American River Parkway. Please refer to Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, refer to MR 3 for more information on vegetation removal and MR 4 for more information on effects to recreation.

Individual 671 (Josh Levesque)

Indiv-671-1 Thank you for sharing your perspective and beneficial use of the American River Parkway. Please refer to MR 2, which discusses the scope and approach for Contract 3B, MR 3, which addresses tree removal and plantings and nature-based solutions; MR 4, which has been developed to describe recreational impacts; and MR 13, which addresses green space and physical and mental health.

Individual 672 (Randall Ruiz)

Please refer to the responses to Form Letter 3.

Indiv-672-A Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 3, which addresses tree removal and plantings; MR 10, which addresses the purpose and goals for Contract 4B; MR 15, which addresses riparian forest; and Appendix G “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 673 (David Ganz)

Please refer to the responses to Form Letter 2.

Individual 674 (David Ganz)

Indiv-674-1 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and MR 6, which addresses public health and safety from construction activities.

Individual 675 (Lisa Nieman)

Indiv-675-1 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to Appendix G “Engineering,” Section 2.5.2.1, “Design Coordination and Collaboration” for more information. In addition, refer to MR 3 for more information on vegetation removal and MR 4 for more information on effects to recreation.

Indiv-675-2 Please refer to MR 3 and MR 15 for information on tree removal and riparian impacts. Also, please refer to Appendix G “Engineering.”

Indiv-675-3 Please refer to Section 4.3.5, “Air Quality” for a summary of impacts of the project on air quality and Section 3.5.3, “Analysis of Environmental Effects” of

Appendix B for more details on impacts to air quality. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Indiv-675-4 Please refer to response to Indiv-675-3.

Indiv-675-5 The use of electric equipment for construction would not be feasible from a construction standpoint at this point in time. Please refer to Mitigation Measure AIR-3 contained in Appendix B, Section 3.5, “Air Quality,” of the Draft SEIS/SEIR for measures proposed to lower exhaust and diesel particulate matter emissions for construction equipment. Please also refer to MR 6, which addresses public health and safety from construction activities.

Indiv-675-6 Unfortunately, erosion risk must be addressed where the risk is identified, and erosion risk has been identified along the bank line near O.W. Erlewine Elementary School and Larchmont Park. In addition, construction requires staging and stockpile areas in the vicinity and Larchmont Park is one of the few areas available. All staging and stockpile areas will be fenced and secured for public safety.

Indiv-675-7 All but one of the contracts along the Lower American River include revegetation with woody vegetation onsite. These revegetated areas will be monitored and managed so the vegetation is able to mature and provide habitat for listed species for the life of the project. Vegetation will be planted onsite immediately following the completion of construction activities.

Indiv-675-8 The public is welcome to comment during the scoping meeting and during the public comment period for NEPA and CEQA documents. The public is also welcome to reach out to the local flood control agencies and congressional members. The USACE has included project information on their social media pages, on the project website sacleveupgrades.com, through post cards and the public can sign up to receive electronic flyers. Additional information on the public outreach is included in MR 7.

Individual 676 (Tanya Veldhuizen)

Please refer to responses to Form Letter 4.

Indiv-676-A Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 3, which addresses tree removal and plantings; MR 10, which addresses the purpose and goals for Contract 4B; MR 15, which addresses riparian forest; and Appendix G “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-676-B The commenter summarizes elements of the Proposed Action Description contained in Section 3.5, “Alternative 2: Proposed Action,” of the Draft

SEIS/SEIR. The comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

- Indiv-676-C Please refer to MR 8 and Appendix H, which addresses consistency with the Wild and Scenic Rivers Act, and MR 3 and Appendix G, “Engineering,” which document the efforts to preserve large trees. MR 15 also expands on analysis of riparian impacts in the Draft SEIS/SEIR.
- Indiv-676-D Please refer to MR 2, MR 5, and MR 15, which address the design modifications to preserve tress, mitigation, and habitat values. Please also refer to Appendix G, “Engineering,” which documents the process for minimizing impacts on trees, particularly for erosion projects.
- Indiv-676-E Please refer to Appendix G,” Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered. Additionally, as described in Section 3.9, “Alternative 6: No Project Alternative (CEQA),” this alternative would not implement additional erosion control techniques (the proposed American River Erosion Contracts 3B, 4A and 4B) beyond 11 miles of launchable trench and bank protection on the Lower American River. Section 3.5.2, “American River Erosion Contracts 3B North, 3B South and 4B,” include alternative bank armoring techniques discussed in the comment, which are proposed under the American River Erosion Contracts 3B, 4A and 4B and evaluated throughout Appendix B of the Draft SEIS/SEIR.
- Indiv-676-F Please refer to MR 2 and MR 3, which address the design process and tree removal. Please also refer to Appendix G, “Engineering,” and to MR 5 and MR 15, which addresses habitat mitigation, including planting benches and other similar techniques as the comment suggests.
- Indiv-676-G The comment discusses the amount of USACE projects being implemented along the Lower American River and how the SEIS/SEIR does not include cumulative impacts of all the projects’ riparian habitat, recreation, and cultural resources. Specifically, the commenter states the No Action Alternative includes cumulative impacts to the American River that were not considered. The cumulative effects of the overall ARCF 2016 Project were analyzed in the ARCF GRR Final EIS/EIR and is incorporated by reference into the Draft SEIS/SEIR. Because the temporal scope of the Proposed Action has changed since the preparation of the ARCF GRR Final EIS/EIR, the cumulative effects analysis within Chapter 5 of the Draft SEIS/SEIR considers cumulative projects that would be relevant to proposed projects, including American River Erosion Contracts 3B, 4A and 4B. A list of those projects that are relevant and would overlap in construction time/impacts with American River Erosion Contracts 3B, 4A, and 4B are included in Section 5.0, “Methodology and Geographic Scope of Analysis,” which does include relevant Caltrans and City of Sacramento cumulative projects. Refer to Section 5.1, “Cumulative Impacts Analysis,” of the Draft SEIS/SEIR for an analysis of cumulative impacts and proposed mitigation to address potential cumulative impacts. Commentor states that USACE erosion control projects will impact 11 miles of the Lower American River. Though initially approved to

impact 11 miles of the Lower American River, the ARCF 2016 Project is now projected to install erosion control along 6 miles of the Lower American River.

- Indiv-676-H Project Partners have already coordinated with Sacramento County Regional Parks about the equestrian trail on April 19, 2023. Sacramento County Regional Parks indicated that they would adjust the horse trail as needed to account for the American River Erosion Contract 4A project were to overlap the equestrian trail.
- Indiv-676-I Please refer to Appendix G, "Engineering," for a more in-depth explanation of the design process, data used, and alternatives considered. A Statement of Overriding Considerations will be prepared prior to certification of the Final EIS/EIR.
- Indiv-676-J Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 677 (Chris Conard)

- Indiv-677-1 Please refer to MR 1, which addresses extension of the public comment period and meeting; MR 7, which addresses public outreach; and response to comment SIERRA-1-1.
- Indiv-677-2 This SEIS/SEIR is meant to address the design refinements made to ARCF since the 2016 ARCF GRR FEIS/EIR and includes eight different project components. Unfortunately, documents with multiple project components tend to be long in order to adequately capture and analyze all the resources, including cumulative impacts.
- Indiv-677-3 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 3, which addresses tree removal and plantings; MR 10, which addresses the purpose and goals for Contract 4B; MR 15, which addresses riparian forest; and Appendix G "Engineering," for more explanation of the data models used during the design process of Contract 3B and 4B.
- Indiv-677-4 Please see response to Indiv-677-3.
- Indiv-677-5 Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; and MR 15, which addresses riparian forest.
- Indiv-677-6 USACE appreciates the comment and has since held multiple meetings to help clarify the designs and the impacts from the project. Please also refer to MR 7, which addresses public outreach.

- Indiv-677-7 USACE appreciates the comment, however, the construction schedule along with impacts to riparian habitat were in fact analyzed in the SEIS/SEIR. Please see MR 3, MR 5, and MR 15 for more information.
- Indiv-677-8 Please refer to MR 15, which addresses wildlife habitat and riparian forest.
- Indiv-677-9 Please see MR 4 for more information on impacts to recreation, and MR 13, which addresses green space and physical and mental health.
- Indiv-677-10 Please refer to MR 9, which addresses use of the American River Mitigation Site.
- Indiv-677-11 Please see response to comment Indiv-677-3.

Individual 678 (William Foster)

- Indiv-678- Please refer to MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; and MR 15, which addresses riparian forest. Please also refer to Appendix G, “Engineering,” which documents the process for minimizing impacts on trees, particularly for erosion projects.

Individual 679 (Nancy Kapellas)

- Indiv-679-1 This commenter expresses general opposition to the Proposed Action but did not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-679-2 Please refer to comment response SIERRA-1-1. Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 7, which addresses public outreach, and MR 15, which addresses riparian forest, carbon sequestration, heat island effects, wildlife movement and fisheries. Please also refer to Appendix G, “Engineering,” which documents the process for minimizing impacts on trees, particularly for erosion projects.
- Indiv-679-3 Please see response to comment Indiv-679-2.

Individual 680 (Daniel Steinberg)

- Indiv-680-1 Please refer to MR 2-1 Project Objectives and Flooding Risk in Sacramento, which describes that the Sacramento Metropolitan area is one of the most at-risk areas for flooding due to the confluence of the American and Sacramento Rivers, with high probability that flows could stress the levee network to failure point with catastrophic consequences of flooding up to 20-feet deep in urbanized areas with minimal warning or evacuation time. Please see Section 2.1 of Appendix G “Engineering,” and MR 2-1 Erosion Risks from Aging Infrastructure which explains the Congressional authorization of improvements to Folsom Dam to control a 200-year flood events with a peak release of 160,000 cubic feet per second (cfs), and the corresponding need to update the aging downstream levee system for safe conveyance of such an emergency spillway release.

- Indiv-680-2 Appendix G “Engineering,” and MR 2 further discusses how the project designs were developed. The effects determination for vegetation and wildlife is significant and unavoidable.
- Indiv-680-3 The ARCF 2016 Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. For additional discussion, please see MR 8 and Appendix H (Wild and Scenic Rivers Act).
- Indiv-680-4 In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway.
- Indiv-680-5 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act, and response to Form Letter 4-3. Mitigation for impacts to the outstanding fisheries and recreation are required to and will be completed within the Lower American River Parkway in coordination with Sacramento County Regional Parks.
- Indiv-680-6 This ARCF SEIS/SEIR is a supplemental document to the 2016 FEIS/EIR analyzing design refinements made to the projects since the 2016 document. For more detailed information on these refinements please see Appendix G, “Engineering.”
- Indiv-680-7 The greater American River Common Features Authorization includes work in the Natomas Basin and work at Folsom Dam. The completion of the Folsom Dam Spillway increased the amount of water that can be passed downstream, this is where the 160,000 cfs requirement originated. For additional information on the background of the project need please see Appendix G “Engineering,” and MR 2-1 and MR 2-5.
- Indiv-680-8 Scoping meetings and the Public Comment period were available to the public for both the 2016 Final EIS/EIR as well as the 2024 SEIS/SEIR. Two public scoping meetings were held for the Supplemental SEIS/SEIR, the first was on November 2, 2023 and the second was on November 30, 2023. The scoping meetings were held jointly with all of the Project Partners present. USACE has included project information on their social media pages, on the project website sacleveeupgrades.com, through post cards and the public can sign up to receive electronic flyers. Additional information on the public outreach is included in MR 7.
- Indiv-680-9 Please refer to MR 15 which provides more details on trees that will be removed. The design process has included presentation to, and feedback from, federal, state, and local agencies on the 10 percent, 35 percent, 65 percent, and 95 percent

designs. Each review cycle has resulted in refinements to the designs based upon the feedback provided from USFWS, NMFS, NPS, and Sacramento County Regional Parks. As designs have progressed through the review and refinement process, they have shown a decrease in the construction footprint and a decrease in environmental effects. Appendix G “Engineering,” has been added to the SEIS/SEIR to explain the methods and rationale used in the engineering analyses for the ARCF 2016 project. Given the nature of the design refinements and the impacts analyzed presented in this supplemental document a recirculated draft document is not warranted or planned. Project Partners continue to work with NPS and the local implementing agency to ensure the design is consistent with The State and Federal Wild and Scenic River Act and the American River Parkway Plan. MR 8 and Appendix H covers additional information on the Wild and Scenic Rivers Act.

Indiv-680-10 Please see the response to comment Indiv-680-4 and for additional information on the background of the project need please see MR 2 and Appendix G “Engineering.”

Individual 681 (Aydin Ermolaeva)

Please refer to the responses to Form Letter 3.

Individual 682 (Jude Turczynski)

Please refer to Form Letter 4.

Indiv-682-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 2, which addresses the scope and approach for Contract 3B, and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-682-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway, and M 15, which addresses impacts to habitat and wildlife and riparian forest. Please refer to Section 2.1 “Background” of Appendix G, “Engineering” for a discussion on how Folsom Dam is related to the Proposed Action. For additional information on the background of the project need please see Appendix G “Engineering,” and MR 2-1 and MR 2-5.

Indiv-682-C Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act and the American River Parkway Plan.

Individual 683 (Laurie Hagen)

Please refer to the responses to Form Letter 3.

Indiv-683-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 684 (Mark Tele)

Please refer to the responses to Form Letter 3.

Indiv-684-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-684-B The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public's concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, "Sacramento Levee Upgrades – American River Levees" at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

Individual 685 (Joshua Thomas)

Indiv-685-1 Project Partners will review the material submitted by the commenter and determine if anything might help support the SEIS/SEIR. Please refer to MR 2-4.

Individual 686 (Nancy Kniskern)

Indiv-686-1 Specific reasons for use of different erosion protection methods, including launchable trench, is discussed in Appendix G "Engineering," Section 2.5.2, "Contract 3B." Please also refer to MR 8 for details on compliance with the Wild and Scenic Rivers Act.

Indiv-686-2 Please refer to MR 2-2 and MR 3-2 which discuss why natural vegetation and bioengineering cannot be used. In addition, please see MR 10 for more details on Contract 4B, which sole purpose is to save the Heritage Oak trees.

Individual 687 (Eleanor Averitt)

Please refer to the responses to Form Letter 3.

Indiv-687-A This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 4, which addresses

recreation, and MR 13, which addresses green space and physical and mental health.

Individual 688 (Edith Thacher)

Indiv-688-1 Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation and commuting; MR 10, for more details on Contract 4B, which sole purpose is to save the Heritage Oak trees; MR 15, which addresses habitat, wildlife, and riparian forest, and Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 689 (Nancy Kniskern)

Indiv-689-1 USACE understands the difficulty the public had in reading and comprehending the document. There are many project components included in this Draft SEIS/SEIR, and the page count needed to adequately describe the projects, alternatives, impacts to the human and natural environment, and avoidance, minimization and proposed mitigation measures to reduce those impacts, was tremendous. The Draft SEIS/SEIR follows the USACE Engineer Regulation 200-2-2 Recommended format for the document to ensure standardized and effective communication to provide clear presentation of the alternatives and effects analysis.

Indiv-689-2 As a result of public request, USACE extended the public comment period beyond the required 45-day review period, from an original closure of February 5, 2024, to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1, for more details on the public comment extension, and MR 7, which addresses public outreach.

Indiv-689-3 Please refer to response to comment Indiv-689-1.

Indiv-689-4 Please refer to Table 3.5.2-1 American River Contract Erosion Protection Terminology which defines the following: bank protection scenario, launchable trench scenario, launchable (rock) toe and tiebacks. In addition to definitions, the table provides "Types seen" describing the placement locations and unique features. This table is modified for the Final SEIS/SEIR to refer each erosion protection type to a figure for better understanding.

Individual 690 (Steve Powell)

Indiv-690-1 Appendix G “Engineering,” has been added to clarify the need for the project. Please refer to the original 2016 GRR (which can be found here: https://www.spk.usace.army.mil/Portals/12/documents/civil_works/CommonFeatures/Final_ARCF_GRR_Jan2016.pdf) and includes details on cost and benefits for the whole 2016 ARCF Projects, which includes American River Erosion Contract 3B.

- Indiv-690-2 Please refer to MR 2, which addresses the scope and approach for Contract 3B.
- Indiv-690-3 USACE recognized the need for more public involvement and has since held multiple additional meetings to help inform the public about the designs and associated effects. Please refer to MR 1, which addresses the public comment extension and meetings; and MR 7, which addresses public outreach. Please refer to MR 15 which addresses riparian habitat.

Individual 691 (Sarah E. Denzler)

- Indiv-691-1 Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes. Work at American River Erosion Contract 3B is to address erosion issues, not seepage issues.
- Indiv-691-2 Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Section 2.3.4, “Geology,” spells out how the Pleistocene Fair Oaks Formation was considered in design. Please refer to Indiv-862-5, -6, -7, -8, -9, and -10 for responses to BRECA’s comments on 3D modeling.
- Indiv-691-3 Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses wildlife habitat and riparian forest. Additionally, updated maps with the most up to date information and maps showing tree removal areas have been added to Section 3.5.2.1.1, “Erosion Protection Features,” of the SEIS/SEIR. Please refer to CVBC-1 for responses to the Central Valley Bird Club letter.
- Indiv-691-4 Please refer to Section 5.1.15, “Vegetation and Wildlife,” of the SEIS/SEIR for the cumulative analysis of habitat impacts. Please refer to Section 2.4.3, “Summary of Site Selection,” in Appendix G, “Engineering;” only 6 of the originally approved 11 miles of erosion protection features are actually being constructed on the Lower American River.
- Indiv-691-5 Please see MR 3, which addresses tree removal and plantings; MR 4, which addresses recreation; MR 8 and Appendix H, “Wild and Scenic Rivers Act,” which address consistency with the Act; and MR 15, which addresses riparian forest.
- Indiv-691-6 For information on compliance with the Wild and Scenic Rivers Act, please see MR 8 and Appendix H, “Wild and Scenic Rivers Act.” The 2016 EIS/EIR and the current SEIS/SEIR which supplements the 2016 document, address long term impacts associated with recreation (including aesthetics), water quality, free-flowing condition and natural character, geologic, historic, and fish and wildlife. Please see the Table D below for the relevant sections in each document.

Table D. Sections in the 2016 SEIS/SEIR and Current SEIS/SEIR that Address Existing and No Action Conditions and Impacts, and Aesthetics,

Water Quality, Free-flowing Condition and Natural Character, Geologic, Historic, and Fish and Wildlife Resource Impacts

Resource	Discussed in 2016 EIS/EIR Section	Discussed in 2023 Draft SEIS/SEIR Section
Scenic (i.e., aesthetic)	3.15 Visual Resources; 4.2.10 Visual Resources (Cumulative Impact Analysis)	4.4.1 Aesthetics and Visual Resources; 5.1.7 Aesthetic/ Visual Resources (Cumulative Impact Analysis)
Water quality	3.5 Water Quality and Groundwater Resources; 4.2.1 Water Quality (Cumulative Impact Analysis)	4.4.4 Water Quality; 5.1.10 Water Quality (Cumulative Impact Analysis)
Free-flowing condition and natural character	3.4 Hydrology and Hydraulics provides good overview of the condition of the system, including the lower American River	4.4.3 Hydraulics and Hydrology; 5.1.9 Hydraulics and Hydrology (Cumulative Impact Analysis)
Geologic	3.2 Geologic Resources	4.4.2 Geologic Resources; 5.1.8 Geologic Resources (Cumulative Impact Analysis)
Historic	3.9 Cultural Resources; 4.2.5 Cultural Resources (Cumulative Impact Analysis)	4.6.1 Cultural and Tribal Resources; 5.1.18 Cultural Resources (Cumulative Impact Analysis)
Fish and wildlife	3.6 Vegetation and Wildlife; 3.7 Fisheries; and 3.8 Special Status Species;	4.5.1 Vegetation and Wildlife; 4.5.2 Aquatic Resources and Fisheries; 4.5.3 Special Status Species;
	4.2.2 Vegetation and Wildlife; 4.2.3 Fisheries; 4.2.4 Special Status Species (Cumulative Impact Analysis)	5.1.15 Vegetation and Wildlife; 5.1.16 Aquatic Resources and Fisheries; 5.1.17 Special Status Species (Cumulative Impact Analysis)
Recreation	3.14 Recreation; 4.2.9 Recreation (Cumulative Impact Analysis)	4.3 Recreation; 5.1.2 Recreation (Cumulative Impact Analysis)

- Indiv-691-7 Please refer to MR 4, which addresses recreational access to the Parkway.
- Indiv-691-8 Please refer to MR 6, which addresses air quality and public health.
- Indiv-691-9 Please refer to MR 6, which addresses air quality and public health.
- Indiv-691-10 Please see MR 4 for a discussion of recreational impacts, as well as MR 14 for a response to public concerns on social issues for at-risk communities and effects to low-income and minority populations.
- Indiv-691-11 USACE apologizes for the technical issues at the public meetings in January 2024. This issue has resulted in additional Webex training to prevent future technology problems that affect the public. The slide-deck and recordings of the

live part of the presentation is available at sacleveeupgrades.com. USACE provided those resources in the event, a member of the public could not attend, or had difficulty reading or hearing portions of the presentation. Please refer to MR 7, which addresses public outreach.

Indiv-691-12 Thank you for providing feedback on the public presentations. Project Partners will consider this for future public outreach efforts. Ongoing public outreach outside of the NEPA/CEQA process is intended. The Lower American River Bank Protection Working Group has been continuing sessions. A session occurred on April 30, 2024, and August 13, 2024, and the recordings are available on sacleveeupgrades.com. Sessions are being developed for the BPWB and TRAC. MR 7 provides further detail on public outreach.

Indiv-691-13 If interested, you may read the responses to the comments from the Butterfield-Riviera East Community Association from Indiv-862-1 through 862-31, and responses to the Central Valley Bird Club comments can be read at CVBC-1, 1-91.

Individual 692 (Judith Martin)

Please refer to the responses to Form Letter 3.

Individual 693 (George M. Kimmerlein)

Please refer to the responses to Form Letter 4.

Indiv-693-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-693-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway.

Individual 694 (Joshua Thomas)

Indiv-694-1 Project Partners will review the material submitted by the commenter and determine if anything might help support the SEIS/SEIR. Please refer to MR 2-4 to understand the purpose of the 2017 Lower American River Streambank Monitoring Report and how its purpose differs from the purpose of the Proposed Action.

Individual 695 (George M. Kimmerlein)

Please refer to the responses to Form Letter 3.

Indiv-695-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 696 (Leslie Stradley)

- Indiv-696-1 There will be unavoidable disturbance to the local wildlife; in time they will be able to reclaim the bank protection areas as habitat. Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses wildlife habitat and riparian forest and wildlife migration. MR 3-7 and Indiv-336-1 for a discussion on erosion that occurred on previous work.
- Indiv-696-2 MR 2, which addresses the scope and approach for Contract 3B. Also, the addition of Appendix G “Engineering,” provides additional information of the design process and is summarized in MR 2.
- Indiv-696-3 This comment does not add to or change the analysis in this document and does not require additional analysis. Many of the staff working on the American River Common Features Project enjoy spending time in the Parkway and value the unique experiences it provides, but USACE is also tasked with maintaining the life, property and safety of the humans and animals that live behind the levees.

Individual 697 (Alicia Eastvold)

- Indiv-697-1 Appendix G, “Engineering,” has been added to clarify the need for the project. Overall, the project will minimize the risk of flooding to many people and neighborhoods, including at-risk communities. Were these communities to flood, they would be displaced until the flood damage was repaired. Please refer to MR 3-1 for a discussion of the process Project Partners went through to minimize the project footprint and impacts to habitat as much as feasible. This included coordinating early with stakeholders, please refer to SIERRA 1-1 for more information.
- Indiv-697-2 See response to CBD-3-51 for a response on how impacts to social equity were evaluated.

Individual 698 (Fred Foerster)

- Indiv-698-1 All except one contract on the Lower American River includes planting woody vegetation onsite. There will be unavoidable disturbance to the local wildlife; in time they will be able to reclaim the bank protection areas as habitat. Please refer to MR 7, which addresses public outreach. Please see the sacleveeupgrades.com website and signup for the mailing list so that you will receive the most up to date information on construction as soon as it is provided to the public.
- Indiv-698-2 Commenter has listed concern of use of Waterglen Access for staging. Responders are assuming this is referring to the Glenbrook Park River Access. Glenbrook Park River Access has been removed from consideration for staging for American River Erosion Contract 3B.

Individual 699 (Nancy Kniskern)

- Indiv-699-1 Please refer to MR 8, which addresses the proposed project’s consistency with the Wild and Scenic Rivers Act.

- Indiv-699-2 The commenter cited CEQA statute but does not raise a specific issue relating to the analysis in this SEIS/SEIR.
- Indiv-699-3 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Further, refer to MR 3, which addresses bioengineering techniques.

Individual 700 (Eleanor Averitt)

Please refer to the responses to Form Letter 3.

- Indiv-700-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 701 (Beth McClure)

- Indiv-701-1 Appendix G, “Engineering,” has been added to clarify the need for the project. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation cannot be relied on to protect the levee,, and steps that were taken to minimize tree removal as much as possible. Please refer to MR 3-7 for a discussion on the work completed near the Sacramento State University.

Individual 702 (Robert L'Heureux)

- Indiv-702-1 Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible.
- Indiv-702-2 Please refer to response to Indiv-702-1

Individual 703 (Dennis Eckhart)

- Indiv-703-1 Thank you for providing your background and experience with invasive species.
- Indiv-703-2 Please refer to Appendix B Section 4.1.3 (under the subheading 4.1-b *Substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community*), as it already discusses ensuring compliance with updated 2023 USACE Invasive Species Policy Guidance and discusses operations and maintenance measures to minimize weedy species. Additionally, Table 2.4-2 in Appendix B discusses measures involving weedy species to ensure alignment with the American River Parkway Natural Resources Management Plan.

More site-specific weed treatment methods are spelled out in the Contract Specifications. These draft Contract Specifications have been reviewed by Sacramento County Regional Parks and USACE has updated the draft Contract Specifications to address concerns Sacramento County Regional Parks had with spread of invasive species. As there are already invasive species within the American River Parkway, Project Partners only have the authority to address invasive species associated with the project itself. Commenter seems particularly concerned about Lower American River Contracts 3B, 4A and 4B.

The current draft of Contract Specifications for Contract 3B include methods such as cleaning equipment, installing rumble strips to knock soil of tires before leaving the construction site, purchasing weed free products (such as certified weed free seed, straw and mulch), providing USACE a Weed Control Plan, regular mechanical weeding and/or hand pulling or spot spraying during erosion work construction, maintaining weeds at mitigation sites under 6 inches during the maintenance period, spot spraying problematic weeds at mitigation sites during the maintenance period and preventing target weeds from seeding. The current draft of Contract Specifications for Contract 4A include measures such as cleaning all used equipment prior to coming to the site, purchasing weed free products (such as manure, seed, straw and mulch), and testing that stockpiled soils are free of noxious weeds. Contract 4B does not have Contract Specifications drafted yet, however Contract Specifications will likely be drafted using the most up to date draft of Contract 3B or C4A Contract Specifications as an example and will likely have similar requirements to the earlier contracts.

- Indiv-703-3 Thank you for letting Project Partners know about the date error, it has been fixed from 1999 to 1989. Thank you for providing information on invasive species not discussed in the SEIS/SEIR. “Additionally Spanish broom (*Spartium junceum*), stinkwort (*Dittrichia graveolens*) and yellow starthistle (*Centurea solstitialis*) are commonly found in the American River Parkway.” has been added to Appendix B Section 4.1.1 under the subheading “Nonnative Invasive Species.”
- Indiv-703-4 Thank you for providing your experience with stinkwort and the American River. Please refer to responses to Indiv-703-2 and Indiv-703-3.

Individual 704 (Clint Duke)

Please refer to the responses to Form Letter 3.

Individual 705 (John Dye)

Please refer to the responses to Form Letter 4.

- Indiv-705-A This commenter provides unique comments regarding the purpose and need of the proposed work in Contract 3B and 4. Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-705-B Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Indiv-705-C Please refer to MR 15, which addresses impacts to riparian vegetation.

Individual 706 (Clint Duke)

Indiv-706-1 Project Partners appreciates your concern about the adequacy of analysis performed in this SEIS/SEIR. Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Indiv-706-2 Please refer to MR 4-1 and MR 4-2, which address impacts to recreation and MR 8, which addresses consistency with the WSRA and recreational access to the American River Parkway.

Indiv-706-3 Please refer to Indiv-706-2. Commenter discusses 3 official pedestrian levee access points shown within the American River Parkway Plan. Project Partners assume that this is in reference to the levee access points shown on page 174 of the 2008 American River Parkway Plan. Though the access points to the levee that area included listed on page 174 of the 2008 American River Parkway Plan would be closed during construction, they would be returned to the existing condition after construction.

Indiv-706-4 Please refer to response to Indiv-706-2.

Indiv-706-5 Project Partners agrees that during high flood events, there would be places where areas of planting benches would erode away exposing revetment. Project Partners have considered this (detailed in MR 3-5). Additional designs features put in place to try to minimize erosion of the planting benches include adding tie backs to the planting benches (which will stop erosion from spreading further once it reaches the tie backs) and installation of features (such as coir fabric and burlap bags filled with topsoil) to prevent erosion on the planting benches until vegetation can establish. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed explanation of why sole use of existing vegetation cannot be relied on to protect the levee. High velocities could cause erosion the riverbank without the Proposed Action could remove the riverbank and access areas without the Proposed Action.

Indiv-706-6 through 9 Through implementation of Mitigation Measure FISH-1 and FISH-2 of the Draft SEIS/SEIR, a clear quantification of shade riverine aquatic (SRA) habitat within the project area will be established prior to project work. Following the quantification and delineation of SRA habitat, USACE will consult with NMFS to determine appropriate compensation for SRA habitat lost during project work along the American River at various ratios from 1:1 up to 3:1 depending on

the timing of habitat lost in relation to project phase. As NMFS is a concerned with the long-term conservation of listed-species, compensation for this valuable habitat lost will be required to be ecologically beneficial to the species' affected. In essence, this means habitat for the salmonids the commenter describes will be protected and/or compensated for within the ecological reach of the same populations of salmonids affected by the project. Migratory fish are not reliant on specific reaches or points of SRA within the American River, and instead generally rely on the amount of SRA within their migratory and spawning areas, along with many other life history requirements, to complete their life cycles successfully. Project work along the Lower American River will not eliminate SRA for the California Central Valley (CV) steelhead or fall-run/spring-run/winter-run Chinook salmon, and instead will only result in a temporary loss of habitat in isolated project areas during project work. Salmonids will have the entirety of SRA and other habitat outside the project areas to rely upon during project work and subsequent compensation through plantings. Please refer to Indiv-289-6 for details on anticipated impacts on temperature from the Proposed Project.

Additionally, tree species commonly comprising SRA within the project sites include willows (*Salix* sp.) and Frémont's cottonwood (*Populus fremontii*), among others. While the commenter is correct that maturity of replacement trees within these areas will not occur quickly, these species are known pioneer species and frequently grow quickly and rapidly in disturbed and inundated areas, likely before any planted replacement trees would be successfully integrated. Willows and cottonwoods spread via flooding events and would thus colonize project areas quickly, being large enough to provide shade, provide temperature and predation protection, and reproduce on their own within 5 years. SRA habitat will be improved and increased in size in the project areas in the long term.

The commenter remarks on decreased future “large woody debris,” however, the Draft SEIS/SEIR describes placement of instream woody material (IWM) alongside rock placement in work areas, functioning to replace any large woody debris lost during project work (functionally the same as IWM in terms of habitat diversity and prey/foraging opportunities for resident/migratory fish).

- Indiv-706-10 The commenter mischaracterizes the project improvements, which would not eliminate SRA as asserted by the commenter. Please refer to MR 2, MR 3, MR 15, and Appendix G, “Engineering,” for additional details about the changes that would result from implementing the project.
- Indiv-706-11 The Project is being developed consistent with the requirements of both the Wild and Scenic Rivers Act and the American River Parkway Plan. Please see MR 8 and corresponding Appendix H (Wild and Scenic Rivers Act) for additional discussion.

Indiv-706-12 Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Individual 707 (Peter Hathaway)

Indiv-707-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Indiv-707-2 Please refer to response to Indiv-707 -3.

Indiv-707-3 The proposed ARCF16 project erosion protection improvements on the Lower American River (LAR) have been and are designed in compliance with the American River Parkway Plan. Please refer to Appendix G Section 2.2.1, “Wild and Scenic River Considerations” and MR 8 for more information. The Project Partners have no intention of denuding the Lower American River parkway (please refer to figures 3.5.2-10 and 3.5.2-11 in the SEIS/SEIR). In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the American River Parkway. Please refer to Appendix G, Section 2.5.2.1, “Design Coordination and Collaboration” for more information.

Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Indiv-707-4 Thank you providing details on your personal experience with the American River Parkway. Please refer to response to comment Indiv-707-1.

Individual 708 (Leslie Watts)

Please refer to the responses to Form Letter 5.

Individual 709 (Pamela Hatton)

Please refer to the responses to Form Letter 4.

- Indiv-709-A This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-709-B Please refer to MR 15, which addresses impacts to riparian vegetation.
- Indiv-709-C Please refer to MR 6, which addresses public health and safety impacts from construction.
- Indiv-709-D Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-709-E Please refer to MR 14, which addresses impacts to mental health.

Individual 710 (Judy Thompson)

- Indiv-710-1 Please refer to MR 6, which addresses public health and safety impacts from construction.
- Indiv-710-2 Please refer to MR 15, which addresses impacts to riparian vegetation and wildlife habitat.
- Indiv-710-3 Please see MR 6 and corresponding Appendix J, Health Risk Assessment, for a discussion of public health and safety concerns and mitigation measures to lessen impacts to residents living nearby construction. Thank you for providing personal context as it relates to cumulative effects resulting from multiple years of construction in the greater Sacramento Metropolitan area.

Individual 711 (Ellen Ganz)

- Indiv-711-1 Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 2-4 to understand the purpose of the 2017 Lower American River Streambank Monitoring Report and how its purpose differs from the purpose of the Proposed Action.
- Indiv-711-2 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. MR 3-7 and response to Indiv-336-1 discusses the erosion from Contract 1 and Contract 2.
- Indiv-711-3 Appendix G, “Engineering” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Specifically, Section 1.6, “Levee Erosion Failure Methods” of Appendix G discusses overall how levees fail due to erosion. Sections 2.5.2.3.1, 2.5.2.4.1, and

2.5.2.5.1, all entitled "Identified Risk Drivers," spell out the specific risks for American River Erosion Contract 3B.

- Indiv-711-4 Please refer to MR 6, which addresses air quality and public health.
- Indiv-711-5 Please refer to Sections 3.5.3 and 3.7.3, both entitled "Analysis of Environmental Effects," of Appendix B, "Detailed Analyses," to see mitigation measures implemented to minimize dust, noise, and air emissions.
- Indiv-711-6 Please refer to the response to Form Letter 3-3.
- Indiv-711-7 Please refer to MR 6, which addresses public health and safety including air pollution during construction.
- Indiv-711-8 Please refer to MR 6, which addresses air quality and public health, and MR 4, which addresses recreation.

Individual 712 (Nancy Kniskern)

The Comment Letter from Individual 712 is identical to the comment letter Individual 653. Please reference the responses above.

Individual 713 (Jeff Hamann)

Please refer to the responses to Form Letter 4.

- Indiv-713-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-713-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway.
- Indiv-713-C Please refer to MR 15, which addresses impacts to riparian vegetation and habitat.

Individual 714 (Gretchen Fau)

- Indiv-714-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, "Engineering." This comment does not add to or change the analysis in this document and does not require additional analysis.

Individual 715 (Nancy Kniskern)

- Indiv-715-1 Please refer to the response for comment Indiv-653-20.
- Indiv-715-2 Please refer to response for comment Indiv-653-20.
- Indiv-715-3 Please refer to response for comment Indiv-653-20.
- Indiv-715-4 Please refer to response for comment Indiv-653-23.

Individual 716 (Candice Heinz)

- Indiv-716-1 Thank you for providing comments focused on the American River Erosion Projects, with your personal and professional experience.
- Indiv-716-2 USACE and the non-federal Partners have listened to the community, and in the process of this comment response have attempted to further demonstrate the importance of the flood risk reduction, while balancing multiple objectives of minimizing both human and environmental impacts. Please review response to Comment Indiv-653-27 which describes how substantive comments are addressed in accordance with NEPA Implementing Regulations. Master Responses were developed, in addition to answering each comment personally, as well as Appendix G, "Engineering," was created to answer the technical questions posed by the community.
- Indiv-716-3 Appendix G, "Engineering," has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. MR 2-1 also provides the history of why the project is needed. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Please also refer to SIERRA 1-1.
- Indiv-716-4 Please refer to response to comment Indiv-716-3.
- Indiv-716-5 The Sacramento River Bank Protection Project (SRBPP) is separate from the American River Common Features Project with different purposes. "The SRBPP was authorized to provide bank protection to maintain the integrity of the SRFCP (Sacramento River Flood Control Project) through bank stabilization using stone protection and levee setbacks" (USACE and CVFPB 2020). The ARCF 2016 Project is to protect the levees from possible emergency releases from Folsom Dam. Due to the differing purposes, it is not appropriate to consider public comments from one project to be completely applicable to the other project.
- Appendix G, "Engineering," has been added to clarify the need for the Proposed Action, section 2.1, "Background" and G section 2.3.2, "Hydrology" outlines the history of Folsom Dam and why the project is needed. MR 2-1 also provides details on the background on the need. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G section 2.4.3, "Summary of Site Selection" and 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. In addition, Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," explain the different designs that were considered during the design process.

U.S Army Corps of Engineers (USACE) and Central Valley Flood Protection Board (CVFPB). 2020. Final Sacramento River Bank Protection Project Phase II Supplemental Authorization Environmental Impact Statement and Environmental Impact Report Volume I Report. Available: https://www.spk.usace.army.mil/Portals/12/documents/civil_works/SacBank/PACR-EIS-EIR/FinalEIS-EIR_Report_Mar2020.pdf?ver=2020-04-09-143954-837. Accessed: May 17, 2024.

- Indiv-716-6 Please refer to response to comment Indiv-716- 5.
- Indiv-716-7 Please refer to MR 7 which was developed in response to concerns about the level of public outreach that occurred during the release of the Draft SEIS/SEIR.
- Indiv-716-8 Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to Section 1.8, “Site Evaluations and Selection” and Section 2.4, “Site Evaluations and Selection” for details on how river segments were chosen for needing erosion protection. Please refer to Section 2.5.2, “Contract 3B” for more localized information on why designs were chosen and other considerations (such as heritage oaks and habitat impacts).
- Indiv-716-9 Please refer to response to Indiv-716-8. In addition, MR 3-1 outlines the environmental priorities considered in the designs and steps taken to minimize the project footprint.
- Indiv-716-10 The Project has been carefully designed to avoid and minimize adverse environmental effects, including to Wild and Scenic Rivers Act values, to the maximum extent feasible consistent with achieving the flood risk management objectives of the Congressionally authorized project. Please see MR 8 and Appendix H (Wild and Scenic Rivers Act) for additional discussion.
- Indiv-716-11 USACE engineers and scientists regularly search out and consider engineering solutions that are state-of-the-practice, and which provide opportunities to avoid and minimize adverse environmental effects to the maximum extent feasible consistent with flood risk management objectives. The importance of the Missouri River example was not whether or not the launchable rock trench (or something similar) was implemented within a designated Wild and Scenic River, but rather that it was an innovation that avoided and reduced adverse environmental impacts while accomplishing the erosion protection essential to reducing flood risk and could be implemented under the conditions present along the American and Sacramento Rivers.
- Indiv-716-12 Please refer to response to comment Indiv-716- 8. Specifically refer to Section 1.6, “Levee Erosion Failure Processes,” of Appendix G, “Engineering,” which outlines levee failure modes. Project Partners agree that the Project is not being built to address seepage issues (which would be addressed with activities such as seepage cutoff walls or seepage berms), American River Erosion Contract 3B is being built to address failure due to erosion.

- Indiv-716-13 Please refer to Appendix G, “Engineering,” Section 2.1, "Background," Section 2.3.2, "Hydrology,” and MR 2-1 for a summary of how Folsom Dam relates to the Proposed Action.
- Indiv-716-14 Please refer to response to Indiv-716-13.
- Indiv-716-15 Please refer to response to Indiv-716-13.
- Indiv-716-16 Please refer to response to Indiv-716-13.
- Indiv-716-17 Please refer to response to Indiv-716-13.
- Indiv-716-18 Please refer to MR 4-1 and 4-2.
- Indiv-716-19 Please refer to Appendix B Section 2.2.3, “Analysis of Environmental Effects” for Mitigation Measure Rec-1, which includes mitigation in addition to bike trail mitigation measures.
- Indiv-716-20 The Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act. Please see MR 8 and Appendix H (Wild and Scenic Rivers Act) for additional discussion.
- Indiv-716-21 Project Partners appreciate your concern. Please refer to response to Indiv-716-5 and MR 4.
- Indiv-716-22 Please refer to MR 15-2 and 15-3, which addresses riparian forest and the onsite replanting strategy, and Appendix G, “Engineering.” Also refer to MR 3-3.
- Indiv-716-23 Please refer to MR 15, which addresses impacts to riparian vegetation and habitat.
- Indiv-716-24 Please refer to MR 15, which addresses riparian forest including results from tree surveys conducted onsite, and Appendix G, “Engineering.” Please also refer to response to Indiv-716-5.
- Indiv-716-25 Please refer to MR 15, which addresses riparian forest, MR 5, which addresses habitat and wildlife, and Appendix G, “Engineering.” Tree removal as needed for Project implementation would occur in the winter months when birds are not nesting. The project will be in compliance with the Migratory Bird Treaty Act, as described in Section 6.1.18 “Migratory Bird Treaty Act of 1918” of the Final SEIS/SEIR.
- Indiv-716-26 Please refer to MR 15-9, which addresses riparian forest and impacts to fisheries, MR 5, which addresses mitigation measures for habitat and wildlife impacts, and Appendix G, “Engineering.”
- Indiv-716-27 Please refer to response Indiv-843-3 for details on the petition for listing the northwestern pond turtle, and how USACE has proactively committed to a conference with U.S. Fish and Wildlife Service once the species is listed for federal ESA protection.

- Indiv-716-28 Please see MR 5 for a discussion on impacts to wildlife and habitat. Noise and vibration mitigation measures can be found in Appendix B Section 3.7 Noise and Vibration of the Final SEIS/SEIR.
- Indiv-716-29 Please refer to MR 13 for discussion on mental health and opportunities for enjoying nature during and after construction of the Proposed Action. The need to protect green spaces for the physical and mental health of the community is a recognized goal.
- Indiv-716-30 Please refer to MR 6, which addresses air quality impacts.
- Indiv-716-31 Please refer to MR 6, which addresses air quality impacts resulting from construction, including further details on rock quarries, revetment and serpentine rock (asbestos).
- Indiv-716-32 Please refer to MR 6, which addresses air quality impacts.
- Indiv-716-33 Please refer to MR 6, which addresses air quality impacts.
- Indiv-716-34 Please refer to MR 14 for discussion on Social Impacts to At-Risk Communities.
- Indiv-716-35 Thank you for providing your personal connection to the American River Parkway as you've regained quality of life and mental health by experiencing wildlife and recreating near the Contract 3B Project footprint. Protection of valuable resources in the American River Parkway is an important objective of the flood risk reduction projects. While there will be short-term effects, in the long-term Parkway resources will be protected from catastrophic consequences of flooding up to 20-feet deep in urbanized areas with minimal warning or evacuation time. Please see MR 2-1 Project Objectives and Flooding Risk in Sacramento for a detailed discussion. All substantive comments timely received during the public comment period were addressed in accordance with UASCE Engineer Regulation 200-2-2 "Procedures for Implementing NEPA". USACE and the non-federal Partners have supplemented, improved and modified analysis (3) and made factual corrections (4), and explained why some comments do not warrant further agency response (5) in preparation of the Final SEIS/SEIR.

Individual 717 (John OConnor)

Please refer to the responses to Form Letter 5.

Individual 718 (Mechele Palmer)

- Indiv-718-1 The commenter requests that tree removal be minimized along the American River but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 2 and MR 3, as well as MR 15, which address design considerations, tree removal, and vegetation and wildlife.

Individual 719 (Mary Swisher)

Please refer to the responses to Form Letter 5.

Individual 720 (Linda Kingsley)

Please refer to the responses to Form Letter 5.

Individual 721 (Zilan Chen)

Please refer to the responses to Form Letter 5.

Individual 722 (Edward Harper)

Indiv-722-1 Please refer to MR 1, which addresses the comment period and MR 15, which addresses riparian vegetation and habitat impacts.

Indiv-722-2 Please refer to MR 15, which addresses the riparian vegetation and habitat impacts.

Individual 723 (Nanci Kuzins)

Please refer to the responses to Form Letter 3.

Individual 724 (Alia Shah)

Please refer to the responses to Form Letter 4.

Indiv-724-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 14, which addresses impacts to mental health and MR 5, which addresses impacts to habitat and wildlife.

Individual 725 (Joe Sheffo, Mary Beth Schwehr, Michelle Peattie, Bing Stolzenberg, Susan Mills, Bryann Shim)

Indiv-725-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Additional commenter states that an alternative to avoid the harmful short and long-term impacts to the community's health, structures, property and safety, due to the construction-related activities but does not provide specific examples what exactly should be changed or how to change the project.

Indiv-725-2 Thank you for providing a background to your Townhome Owners Association.

Indiv-725-3 The commenter expresses concern about property damage, dust, and vibration but does not offer comments on the analysis in the SEIS/SEIR document.

Indiv-725-4 Please refer to MR 6, which addresses air quality, noise, and public health effects.

Indiv-725-5 Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the

site. In addition, haul routes were carefully selected to minimize impacts to the neighborhoods as much as feasible. Please refer to Mitigation Measures TRANS-1 (defined in section 2.1.3 of Appendix B), AIR-1 (defined in section 3.5.3 of Appendix B), AIR-2 (defined in section 3.5.3 of Appendix B), and NOI-1 (defined in section 3.7.3 of Appendix B). These measures are implemented to minimize the impacts to sensitive receptors near the project as much as feasible.

- Indiv-725-6 Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes in order to ensure that all possible impacts to the environment were communicated to the public. Project Partners are now more confident with the design's footprints so updated maps with the most up to date information and maps showing tree removal areas and including ramps have been added to section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. In particular ramps were carefully designed to not need to cut down heritage oaks to the extent feasible. Since ramps have a little more flexibility in their locations than the erosion protection features, the ramps were redesigned many times to require as few native trees to be removed as possible.
- Indiv-725-7 The comment does not add or change the analysis in this document and does not require additional analysis. The effects determination to wildlife and vegetation is significant and unavoidable. There are Mitigation Measures in place to avoid direct harm to wildlife.
- Indiv-725-8 Please refer to MR 2, MR 3, MR 5, and MR 15, which address design considerations, tree removal, and vegetation and wildlife.
- Indiv-725-9 Project Partners understand the concern about closing off part of the American River Parkway during construction and making it difficult to access the American River North of the Mayhew drain. Contract Specifications have been updated so that when safe and feasible, pedestrian access will be provided through the Site 4-1 project site to the American River Parkway. It would be very dangerous to allow the public open access through the construction site, as the areas will not be stable or prepped for individuals to walk on the ground and there could be open holes. It is not anticipated that open access will be allowed through haul routes at Site 4-1 since haul access will be needed both on top of the levee and at the toe of the levee in some locations and providing pedestrian access would be very dangerous.
- Indiv-725-10 Please refer to MR 7.
- Indiv-725-11 Please refer to MR 4-1 and 4-2.
- Indiv-725-12 Please refer to section 4.4.1.2.2, "Proposed Action" of the SEIS/SEIR to review a summary of impacts to aesthetics and to section 3.1.3, "Analysis of Environmental Effects" for more details on the impacts to aesthetics.

- Indiv-725-13 Please refer to MR 4-1 and 4-2.
- Indiv-725-14 Appendix G, "Engineering," has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for a detailed description on why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.
- Indiv-725-15 Please refer to Appendix G, "Engineering," Sections 2.1.3, "Folsom Dam Operation Improvements" and 2.3.2, "Hydrology" and MR 2-1 to understand why Folsom Dam updates provide the need to increase erosion protection. Please note that Folsom Dam and the existing levees were not established until the 1950's so though the trees have been around for hundreds of years. The flows have since been restricted to the channel due to the levees.
- Indiv-725-16 Please refer to response to Indiv-725-14. Please refer to MR 2-3, Master Response 3-7 and Indiv-336-1 for more details on previous work near Sacramento State University.
- Indiv-725-17 Please refer to response to Indiv-725-16. Please refer to response to Indiv-725-14 and -15. which explain the need for erosion protection and how it relates to Folsom Dam. The reference to 192,000 cfs has been removed from the Section 3.5.2.1 "Features of the Proposed Action and Construction Details" of the SEIS/SEIR. This language was misrepresenting how the project is designed and has been removed. The features at American River Erosion Contract 3B are designed to protect against erosion at 160,000 cfs flows. During designs Project Partners must ensure that new features being designed do not cause levee overtopping. 192,000 cfs is the Top of Levee Flow where overtopping would be expected, so designs impacts must be checked against the 192,000 cfs flows.
- Indiv-725-18 The proposed ARCF 2016 Project erosion protection improvements on the Lower American River (LAR) have been and are designed in compliance with the American River Parkway Plan. Please refer to Appendix G Section 2.2.1, "Wild and Scenic River Considerations" and MR 8 for more information. The Project Partners have no intention of denuding the American River Parkway, let alone concrete lining the parkway. In alignment with Engineering With Nature principles, the proposed erosion protection improvements have been rigorously developed in coordination with and collaboratively with appropriate regulatory agencies (e.g. NMFS, USFWS, NPS, Sacramento County Regional Parks) to minimize the bank protection footprints to the minimum necessary to meet flood risk reduction objectives and avoid and minimize impacts to vegetation, habitat, and recreation features within the LAR Parkway. Please refer to Appendix G, Section 2.5.2.1, "Design Coordination and Collaboration" for more information.
- Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, section 2.4.3, "Summary of Site Selection" and section 1.7.4, "Erosion Protection Design

Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

- Indiv-725-19 MR 2-1 Project Objectives and Flooding Risk in Sacramento describes that the Sacramento Metropolitan area is one of the most at-risk areas for flooding due to the confluence of the American and Sacramento Rivers, with high probability that flows could stress the levee network to failure point with catastrophic consequences of flooding up to 20-feet deep in urbanized areas with minimal warning or evacuation time. Thank you for providing possible alternatives, however, the Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the array of alternatives in the 2016 GRR Final EIS/EIR. Alternative development for Contract 3B is discussed in Appendix G, "Engineering," Section 1.7.4, "Erosion Protection Design Alternatives," which describes that in the 2016 GRR the following alternatives were evaluated and considered: waterside armoring of the levees, launchable rock trenches, bioengineering solutions, and grade control structures (i.e., a structure which reduce flow velocities). USACE and Project Partners have engaged with the National Park Service throughout project designs to ensure consistency and best practice with Wild and Scenic Rivers Act. Response to Indiv-948-1 describes compliance with Engineering with Nature principles.
- Indiv-725-20 Please refer to Indiv-725-15. Additionally, please refer to Appendix G, "Engineering," Section 1.6, "Levee Erosion Failure Processes," which outlines levee failure modes. Slurry walls are built to address seepage and stability failures. American River Erosion Contract 3B is being built to address failure due to erosion.
- Indiv-725-21 MR 3-2 was developed in response to public comments regarding approaches to flood risk reduction using bioengineering and how these engineering approaches were not feasible for Contract 3B. Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection," contains a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal to the greatest extent. Sections 1.8 and 2.4, both entitled "Site Evaluations and Selections," describe Phase 1 and 2 analysis that included an expert opinion elicitation (EOE). MR 5 was developed in response to concerns on habitat loss, on- and off-site mitigation. MR 9 discusses the American River Mitigation Site (ARMS) in detail.
- Indiv-725-22 See response to Indiv-725-19. The Draft SEIS/SEIR was based upon the authorized project from the ARCF 2016 Project, GRR and Final EIS/EIR. Alternative development for Contract 3B is discussed in Appendix G, "Engineering," Section 1.7.4, "Erosion Protection Design Alternatives," which describes that in the 2016 GRR the following alternatives were evaluated and considered: waterside armoring of the levees, launchable rock trenches,

bioengineering solutions, and grade control structures (i.e., a structure which reduce flow velocities).

Indiv-725-23 The erosion protection features include transition and tie-in design elements at the terminal ends of the feature to minimize flanking concerns with design following USACE Engineering Manuals (e.g. EM 1110-2-1601). Hydraulic modeling was completed to assess and minimize hydraulic stage and local velocity impacts based on the proposed feature. The erosion protection features are designed to be stable for a flow of 160,000-cfs. Launchable toes and buried launchable trench features are provided to arrest the ability of erosion to progress after natural erosion processes (e.g. vertical scour of the riverbed) occur during a high flow event. These erosion protection features are placed to provide stability of the levee foundation and levee embankment with input received by USFWS, NMFS and Sacramento County Regional Parks during the design process to protect amenities situated behind these features. The launchable toe with planting benches also provides the structural foundation to provide an on-site habitat mitigation feature. Please refer to Section 2.2.1, "Wild and Scenic River Considerations" and MR 8 for information on best management practices that were incorporated in the design process. Existing Lower American River bank erosion protection features as a result of past high flood events are displayed in Figure 2-4 of Appendix G, "Engineering," and discussed in Section 2.1.1, "Historical Performance" of Appendix G. The Site Selection process identifying the hazards for warranting erosion protection efforts are discussed in Section 2.4, "Site Evaluation and Selection" of Appendix G.

Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes in order to ensure that all possible impacts to the environment were communicated to the public. Project Partners are now more confident with the design footprints so updated maps with the most up to date information and maps showing tree removal areas, locations of types of erosion protection features, and ramps have been added to section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. Appendix G, "Engineering," Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," discuss all of the alternative designs that had been considered and rejected during the design process. In addition, MR 3-1 and 3-2 explain why alternatives without tree removals could not be considered. Finally, MR 15-1 adds more clarity for vegetation removal at Lower American River Erosion Contract 3B.

This comment states that during the design process there was a decision to use land-based installation instead of considering water-based installation. Project Partners assume this comment is requesting Project Partners to consider a water-based installation method like barges (similar to what is done for the Sacramento River Erosion projects). Use of barges on the American River was rejected as an option very early on for the ARCF 2016 Project and is discussed in the 2016

ARCF GRR Final EIS/EIR on page 226 "Because the American River has many shallow areas, barges cannot be used to transport material to the site; therefore, rock would be transported to the construction site using haul trucks." If barges were to be used on the American River, the entire American River downstream of American River Erosion Contract 3B would need to be dredged. Dredging the American River would create significant fish and recreational impacts. Appendix G, "Engineering," has been added to clarify the need for the project.

- Indiv-725-24 Please refer to response to Form Letter 3-2, 3-3, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-11, 3-12, 3-13, 3-14, 3-15, 3-16 and 3-17. Please refer also to response to Indiv-725-1 and MR 5.
- Indiv-725-25 Please refer to response to Form Letters 3-15, 3-18 and 3-19 and MR 8 (Wild and Scenic Rivers Act).
- Indiv-725-26 This comment expresses general opposition to the project due to removal of riparian forest, construction-related health and safety impacts, and community values of the American River Parkway stated as a "Regional Treasure." Please refer to MR 4, which addresses recreation and commuting including impacts to recreational access of the Parkway, MR 15, which addresses riparian forest, and Appendix G, "Engineering" for an in-depth discussion of the design process.

Individual 726 (Ed Corominas)

Please refer to the responses to Form Letter 3.

Individual 727 (Stan P)

Please refer to the responses to Form Letter 4.

- Indiv-727-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-727-B Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, "Lower American River Erosion Protection," in Appendix G, "Engineering," for an explanation of the design approach for Contracts 3B and 4B.
- Indiv-727-C Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, "Lower American River Erosion Protection," in Appendix G, "Engineering," for an explanation of the design approach for Contracts 3B and 4B and explains the history and anticipated future flow rates from Folsom Dam.
- Indiv-727-D Please refer to MR 7, which addresses documentation.
- Indiv-727-E The public comment period was extended 18 additional days, to a total of 63 days. Additionally, multiple public meetings have been held to provide project information and to record the public's concerns regarding the project design and implementation, primarily focusing on Contract 3B and 4. These meetings

included virtual meetings focused on the SEIS/SEIR on January 10th and January 16th, and a public presentation hosted by U.S. Representative Ami Bera on April 8th. Therefore, USACE and non-federal partners have provided ample time for the public to engage and ask questions about the project. The public meetings were recorded and are available online to the public, alongside the Draft SEIS/SEIR documents, on the USACE website, “Sacramento Levee Upgrades – American River Levees” at <https://www.spk.usace.army.mil/Missions/Civil-Works/Sacramento-Levee-Upgrades/American-River-Levees/>. Please refer to this website for additional resources. Please also refer to MR 7, which addresses public outreach.

- Indiv-727-F Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.
- Indiv-727-G Please refer to MR 4, which addresses impacts to recreational access of the Parkway.
- Indiv-727-H Please refer to MR 5, which addresses impacts to habitat and wildlife.
- Indiv-727-I All known projects under the American River Common Features 2016 project on the Lower American River are either included in this analysis or discussed in previous NEPA/CEQA documentation (see section 2.1.1, “Resources Relied on in Preparation of the SEIS/SEIR” for a list of these documents. Please also refer to Chapter 5, “Cumulative and Growth-Inducing Effects” for a discussion the cumulative impacts of these projects and other projects on the Lower American River known the Project Partners
- Indiv-727-J The commenter mentions there has been extensive planting of elderberry areas that would be destroyed by the proposed project and asks for an explanation for the lack of coordination. The proposed project is needed to reduce flood risk. Please refer to MR 2, which addresses the scope and approach for Contract 3B and Section 2.3, “Background Data and Ancillary Studies,” in Appendix G, “Engineering,” for more explanation of the data models used during the design process of Contract 3B and 4B.
- Indiv-727-K Please refer to MR 15, which addresses impacts to riparian vegetation and habitat and MR 3, which addresses tree removal, plantings, and bioengineering approaches.
- Indiv-727-L Please refer to response to Indiv-727-E.

Individual 728 (Susan Fossum)

Please refer to the responses to Form Letter 4.

- Indiv-728-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-728-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway and MR 8, which addresses consistency with the Wild and Scenic Rivers Act and America River Parkway Plan.

Indiv-728-C This commenter expresses general opposition in this comment but does not identify a specific issue with the analysis in this SEIS/SEIR.

Individual 729 (Ben Eastvold)

Indiv-729-1 Please refer to MR 7.

Indiv-729-2 Please refer to response to Indiv-729-1. Appendix G, “Engineering,” has been added to clarify the need for the project.

Individual 730 (Carey Knecht)

Indiv-730-1 Thank you for submitting comments related to the American River Erosion projects.

Indiv-730-2 USACE understands your concerns about your children attending O.W. Erlewine Elementary School which is located near the construction footprint of American River Erosion Contract 3B, and potential resulting impacts like noise and air pollution. MR 6 was developed to address concerns of public health and safety during construction.

Indiv-730-3 Project Partners appreciate you sharing the daily routine of the school children including recess and lunchtime, as well as describing the time children spend outdoors walking to classes, restrooms, communal areas such as cafeterias, and playgrounds. USACE and the Non-Federal Partners will address your specific concerns 1) more analysis of noise and health impacts; 2) project alternatives; and 3) mitigation measures, in responses to your detailed questions 730-4 through 730-8.

Indiv-730-4 While the construction footprint of Contract 3B is not within a socioeconomically disadvantaged area, there are nearby at-risk communities identified by CEQ’s federal mapping tool; Appendix B Section 2.6 “Socioeconomics” uses census tract data to identify communities that meet thresholds for socioeconomic or environmental burdens. MR 14 was developed to address concerns regarding historically burdened and at-risk communities.

Thank you for your concern with the safety of students at O.W. Erlewine elementary school and recommending Project Partners consider Title 1 schools. The following text has been added to Section 2.6.3, “Analysis of Environmental Effects,” in Appendix B, “Detailed Analyses:”

Additionally, O.W. Erlewine Elementary School and Isadora Cohen Elementary are listed receiving Title 1 funds in the 2023-2024 fiscal year (California Department of Education 2024). ... Additionally, a staging area for Contract 3B South is adjacent to O.W. Erlewine Elementary School. Project Partners have conducted a Health Risk Assessment for the

Contract 3B component as the public was concerned about health impacts to students at O.W. Erlewine Elementary School. The Heath Risk Assessment indicates that there is not a risk with construction and can be viewed in Appendix J. Additionally the staging area will be completely fenced off to prevent students from getting near construction equipment.

Figure 3.5.2-9 in the SEIS/SEIR shows the location of the staging area in relation to O.W. Erlewine School. Project Partners estimate that the corner of the staging area is approximately 175 feet from the school's flagpole. Construction of temporary access ramps is estimated to be about 500 feet from the school's flagpole. Construction of erosion protection features is estimated to be 650 feet from the school's flagpole. Please refer to figure 3.5.2-14 of the SEIS/SEIR. There will be no haul trucks down Whitewater Way.

Indiv-730-5 Please refer to MR 6, which addresses air quality, noise, and public health effects.

Indiv-730-6 Please refer to MR 6 which was developed to address public concern related to health and safety impacts (including air emissions) resulting from construction. Appendix J contains a Health Risk Assessment developed to further address air emission concerns. Appendix B Section 2.6 "Socioeconomics" uses census tract data to identify communities that meet thresholds for at least one category of socioeconomic or environmental burdens. Additional analysis identifying real-world conditions was conducted through demographic analysis, site visits, and public outreach to corroborate impact conclusions. Section 2.6-f did identify impacts to at-risk communities due to haul routes, increased truck traffic, and resulting emissions, for American River Erosion projects that traverse or border at-risk communities. Three mitigation measures will be implemented (AIR 1-3), to reduce this impact to the greatest extent. Mitigation Measure SOCIO-4 Consult with School Districts, Section 2.6-d was an additional step taken to minimize impacts to students with socioeconomic disadvantages. There will be future opportunities to engage construction approaches, such as invitations to participate in construction meetings.

Indiv-730-7 Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G section 2.4.3, "Summary of Site Selection" and 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. In addition, Appendix G, "Engineering," Section 2.4, "Site Evaluation and Selection," and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," outline the alternatives considered.

In addition, alternative staging areas were considered and presented in the Draft SEIS/SEIR (Figure 3.5.2-3) and some of the alternative staging areas have since been removed from the project and can be seen in this SEIS/SEIR (Figure 3.5.2-3). Unfortunately, there are not many options in the area for staging areas as the project itself is adjacent to neighborhoods. Haul routes and staging areas were carefully selected to minimize impacts to the neighborhoods as much as feasible.

Project Partners anticipate that adjustments to the haul route, especially the locations providing access to the levee would create greater impacts as small neighborhood roads would be required to be used.

Indiv-730-8 Please refer to MR 6, which addresses air quality and public health and includes a discussion of emissions requirements for equipment used during construction.

Individual 731 (Joshua Thomas)

Indiv-731-1 USACE appreciates the clarification on the citation used in one of your previous comments (coded Indiv-589).

Indiv-731-2 Please see response to Indiv-731-1.

Indiv-731-3 Please see response to Indiv-731-1.

Indiv-731-4 Please see response to Indiv-731-1.

Indiv-731-5 Please see response to Indiv-731-1.

Individual 732 (Jon Hillegeist)

Indiv-732-1 Please refer to MR 2-3, MR3-7 and response to Indiv-336-1 for success rates of past projects. Please refer to Appendix G Section 2.1, “Background,” Appendix G section 2.3.2, “Hydrology” and MR 2-1 for a summary of how Folsom Dam relates to the Proposed Action.

Indiv-732-2 USACE appreciates your concern with the designs included in the SEIS/SEIR. The SEIS/SEIR evaluates eight different projects, and the comment does not specify which project you are urging USACE to reconsider designs. If by chance you are referring to Contract 3B, please see MR 2 and 3, along with Appendix G, “Engineering,” for more detailed information.

Individual 733 (Naomi Ennis)

Indiv-733-1 USACE appreciates your concern over some surficial erosion that occurred at the previously constructed Contracts 1 and 2. Surficial erosion does not compromise the integrity of the levee improvements (see MR 3-7 and response to Indiv-336-1). Please review response to comment Indiv-884-1. If similar situations occur at future contracts, USACE contractor will also repair the erosion until vegetation has fully established.

Indiv-733-2 Please refer to response to Form Letter 1-1, 1-2 and 1-3.

Individual 734 (Christie Vallance)

Indiv-734-1 Thank you providing details on your personal experience with the American River Parkway. The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR.

Indiv-734-2 Please refer to MR 7. The specific addresses of those who were mailed the post card cannot be provided. Only property owners were mailed the postcards as addressed were received from the property records. Nothing had been posted along the river.

Individual 735 (Alicia Eastvold)

Indiv-735-1 Appendix G, "Engineering," specifically Sections 1.8, "Site Selection and Evaluation" and 2.4, "Site Selection and Evaluation," discuss the Site Selection process and Section 2.3, "Background Data and Ancillary Studies" to determine segments of the LAR requiring erosion protection mitigation. Please also refer to MR 2-4 that discusses the 2017 Monitoring Report.

Individual 736 (Brenda Gustin)

Indiv-736-1 Please refer to MR 7 for information on public outreach.

Indiv-736-2 Project Partners appreciate the commentor's concern about mitigation meeting needs and recommendation to use Wildlife on the Kassis Property and American River, Rancho Cordova, California by K. Shawn Smallwood to understand the need to protect unique habitats. Project Partners have reviewed this document. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Commentor also recommend using the Kassis Property for habitat and flood mitigation. The American River Erosion Contract 3B project is almost 2 miles away from the Kassis project. American River Erosion Contract 3B is being implemented to reduce the risk of erosion associated with possible emergency releases from Folsom Dam. Unfortunately, use of the Kassis Property would not help prevent erosion at the American River Erosion Contract 3B. During habitat mitigation development the Kassis Property was considered for offsite mitigation, but a real estate purchase of that property was not an option at the time. Since that point in time the ARMS property was purchased to use for mitigation.

Indiv-736-3 The commenter does not raise a specific issue related to the analysis in the SEIS/SEIR.

Indiv-736-4 Appendix G, "Engineering," has been added to clarify the need for the project.

Indiv-736-5 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering" Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Indiv-736-6 Appendix G, “Engineering,” Section 2.4, “Site Evaluation and selection,” and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.

Indiv-736-7 Please refer to response to Indiv-736-2.

Indiv-736-8 Please refer to response to Indiv-736-5.

Individual 737 (Naomi Ennis)

Please refer to the responses to Form Letter 3.

Individual 738 (Laura Petty)

Please refer to the responses to Form Letter 5.

Individual 739 (Patricia Prendergast)

Please refer to the responses to Form Letter 5.

Individual 740 (Josh Thomas)

Indiv-740-1 USACE appreciates your concern over comments made to NBC News regarding USACE moving forward with the ARCF projects as fast as possible. The comment states that this approach is not in the spirit of CEQA and NEPA, as the public comment period on the Draft SEIS/SEIR, has not yet ended. USACE would like to point out, that no construction will take place until after the public review period, a Final SEIS/SEIR that incorporates all public comments, and a Record of Decision is signed. This is consistent with NEPA, and proper CEQA certification will be followed. USACE takes the public review period required by NEPA and CEQA very seriously, and USACE extended the public review period for the draft document to allow the public more time to review and comment.

Indiv-740-2 Please refer to Indiv-589-13.

Individual 741 (Lori Ward)

Please refer to the responses to Form Letter 5.

Individual 742 (Leslie Watts)

Please refer to the responses to Form Letter 5.

Individual 743 (Harry Weller)

Indiv-743-1 Thank you for your comment with concerns about erosion control projects on the Lower American River.

Indiv-743-2 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering” which provides an in-depth explanation of the levee erosion failure

process and design process for Contracts 3B and 4. Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Velocities are not the only factor considered when determining erosion risk. A variety of analysis tools from lateral erosion estimates supported by testing of erodibility characteristics of river bed and riverbank soils, geologic data collection and stratigraphic modeling of geologic conditions, vertical scour analysis, slope stability modeling, hydraulic modeling, surveying of riverbank side slope, plotting the levee prism and assessment of the distance from the levee toe to river toe, multiple expert panel elicitations, and a geomorphic assessment. Please note that Folsom Dam and the existing levees were not established until the 1950's so though the trees have been around for hundreds of years. The flows have since been restricted to the channel due to the levees.

- Indiv-743-3 Appendix A.2 of the 2016 ARCF General Reevaluation Report (GRR), Development of Costs and Benefits for the Focused Array of Alternatives, describes the cost estimates for all six alternatives discussed with the benefits of flood risk reduction. Appendix A of the GRR Final EIS/EIR (CE/ICA) demonstrates that alternatives were considered based upon their impacts to habitats. Project Alternatives that provided flood risk benefits with fewest environmental impacts were most cost effective and ultimately carried forward.
- Indiv-743-4 Appendix G, “Engineering,” Section 2.4, “Site Evaluation and selection,” and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered. The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the array of alternatives in the 2016 GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR. Appendix G, “Engineering,” discloses alternative selection for American River Erosion Contract 3B in the Design Alternatives Section which explains the following: 1) launchable buried rock at the levee toe, 2) planting bench and revetment at the bank toe, and 3) excavating the existing in-channel island and placing cut material to widen the existing bench while moving the river further away.

Individual 744 (Pamela Hatton)

Please refer to the responses to Form Letter 5.

Individual 745 (Lisa Howard)

- Indiv-745-1 Thank you for commenting and sharing your concerns about the Contracts 3B, 4A and 4B.
- Indiv-745-2 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, “Engineering,” Section 2.5, “Design Development,” which provides an in-depth explanation of the design process for Contracts 3B and 4.

Indiv-745-3 Please refer to MR 15, which addresses riparian forest.

Indiv-745-4 Please see MR 8 (Wild and Scenic Rivers Act).

Individual 746 (Josh)

Indiv-746-1 In response to comments requesting evidence for the need for American River Erosion Contract 3B, USACE developed Appendix G, “Engineering,” which documents modeling used as well as the need for erosion protection.

Indiv-746-2 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Indiv-746-3 This Draft SEIS/SEIR is supplementing the 2016 General Reevaluation Report and Final EIS/EIR. Therefore, this document does not present the full range of alternatives that were analyzed prior. The Recommended Plan (or Alternative 2) was selected and authorized by Congress after signature of the Record of Decision. The Online Archive at sacleveupgrades.com contains all previous documents. Additionally, a summary of alternative selection can be found in Section 3.3 “Alternatives Considered in Detail in the SEIS/SEIR” of the Final SEIS/SEIR. Appendix G, “Engineering,” discloses alternative selection for American River Erosion Contract 3B in the Design Alternatives Section which explains the following: 1) launchable buried rock at the levee toe, 2) planting bench and revetment at the bank toe, and 3) excavating the existing in-channel island and placing cut material to widen the existing bench while moving the river further away. MRs 2 and 3 also provide additional information. Please refer to MR 7 which address public outreach and request for documentation.

Indiv-746-4 Please see MR 8 (Wild and Scenic Rivers Act).

Indiv-746-5 Commentor cites Project Partner's response to a public comment from the original 2016 ARCF Final EIS/EIR and states that Project Partners do not justify use of less destructive methods. Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Indiv-746-6 Please see response to comment Indiv-289-8.

Indiv-746-7 Please also refer to response to comments Indiv-589-8 and Indiv-746-6.

Indiv-746-8 Please refer to response to letter Indiv-589-9.

Indiv-746-9 Please see the response to Indiv-58, comments #2.

Please also refer to MR 2-4 for a discussion as to why the 2017 Lower American River Streambank Erosion Monitoring Report cited in this comment has a

different purpose than the Proposed Action.Indiv-746-10 Please see Section 2.5.1, "Overview and Process" and 2.5.2, "Contract 3B" in Appendix G "Engineering" on the design development process and alternatives considered by the USACE design team, comprehensive review team and multi-agency Project Partners. Please refer to MR2-2, MR 3-1, MR 3-2, and Appendix G, section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Considering the high flood risk and associated consequences present, design options need to account for those reliability needs reflective of the risks and consequences within the project setting. The iterative design process included a variety of data collection efforts and development of a suite of analytical tools to determine the minimal acceptable design layout. The design does include on-site habitat mitigation features such as inclusion of planting benches, soil filled revetment, topsoil placed above the revetment, planting plan and provisions to protect existing vegetation above the erosion protection feature.

- Indiv-746-11 . Velocities are not the only factor considered when determining erosion risk. A variety of analysis tools from lateral erosion estimates supported by testing of erodibility characteristics of river bed and riverbank soils, geologic data collection and stratigraphic modeling of geologic conditions, vertical scour analysis, slope stability modeling, hydraulic modeling, surveying of riverbank side slope, plotting the levee prism and assessment of the distance from the levee toe to river toe, multiple expert panel elicitations, and a geomorphic assessment. Please refer to MR 2-2, MR 3-2, and Section "Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee. Please also refer to response to Indiv-194-2.
- Indiv-746-12 Please refer to response to Comment Indiv-589-13.
- Indiv-746-13 Please refer to response to Comment Indiv-589-13.
- Indiv-746-14 The design objective flow of this project is 160,000-cfs while the February 10, 2017, event resulted in a peak flow of 82,400-cfs. The 160,000-cfs flow event would result in water surface elevations to be approximately 3-ft below the top of levee. In a constrained levee system like the LAR where the levee capacity is approximately 192,000-cfs, hydrodynamic forces increase until overtopping conditions occur. Additionally, risk drivers are determined on a local level that account for a suite of considerations and analysis tools such as hydraulic modeling, vertical scour assessment, lateral erosion estimates, testing and mapping of geologic conditions along the stream bed and riverbank, slope stability analysis, geomorphic assessment, field surveys, topographic and vegetation cover surveys and expert elicitation panel review. Discussions on the 160,000-cfs flow event for design purposes and risk analysis is discussed in MR 2-5.

Indiv-746-15 Both the older 2004 Ayres hydraulic model referred in the Draft SEIS issued in December 2023, and more recent hydraulic models developed since authorization of the ARCF16 project in 2016 are in agreement that river velocities in certain areas along the levee are low and are not a risk driving factor for erosion. However, the erosion risk analyses performed along the Lower American River (LAR) evaluated the risk of erosion both the levee embankment itself (Probable Failure Mode [PFM] 2) and erosion of the foundation of the levee (PFM 3), please refer to Appendix G, "Engineering," Section 1.6, "Levee Erosion Failure Processes," for more information on these PFMs. While velocities near the levee may be low, there is still the concern specific to PFM 3, which poses a risk to the levee's integrity. Please refer to MR 2-1 and 2-2 for more information.

The designs proposed within LAR Contract 3B, and all ARCF16 LAR erosion protection contracts, are the minimum footprint necessary to adequately reduce the identified risks due to erosion along LAR. In other words, any further reduction in the erosion protection footprints would result in intolerable remaining erosion risks along the LAR levee systems. Through a comprehensive coordination and collaboration process through the entirety of the design cycle for each erosion protection contract, as required by the GRR, original GRR EIS/EIR biological opinions, and American River Parkway Plan, the USACE design teams worked with applicable regulatory agencies such as National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), National Park Service, and Sacramento County Regional Parks, to develop the minimum erosion protection footprint which also avoided and minimized impacts to vegetation, habitat, and recreational features to the greatest extent possible. Please refer to Appendix G, Sections 1.7.3, "Biological Opinions," 1.7.5, "General Design Approach," 2.2.1, "Wild and Scenic River Considerations," and 2.5.2.1, "Design Coordination and Collaboration" for more information.

Bioengineering design alternatives were considered earlier in the design development process for the erosion protection improvements along LAR; however, they were ultimately determined to be infeasible due to concerns about the longevity of such designs and impacts to on-site mitigation plantings required to repair/replace the bioengineering features. Please refer to MR 3-2 and Section 1.7.4, "Erosion Protection Design Alternatives" in Appendix G for more information.

Indiv-746-16 Please refer to responses to Indiv-589-16 and -17. Please refer to response to Indiv-746-2. Project Partners have coordinated with Sacramento County Regional Parks throughout the project design in order to ensure compliance with County policies and regulations.

Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes in order to ensure that all possible impacts to the environment were communicated to the

public. Updated maps included in the Final SEIS/SEIR present the most up to date information. Tree removal and preservation figures have been added to Section 3.5.2.1.1, "Erosion Protection Features," of the SEIS/SEIR. Please note that the purpose of the Lower American River Task Force is to provide updates on the projects. The purpose of the SEIS/SEIR is to provide the public a discussion of the anticipated impacts to the environment. Unfortunately, since the designs have been constantly changing for American River Erosion Contract 3B, this has not provided Project Partners the opportunity to provide specifics on the details of the environmental impacts, but Project Partners have been able to present the public the overall worst environmental impacts that they anticipated could occur provided the information that Project Partners had at the time of writing the SEIS/SEIR. Additionally, the map the commentor shows was a map used by the design team to help staff in the field identify trees that might be able to be saved as the designs were developed and refined and was not made to be released to the public.

The alternative discussed on page 3-5 in the Draft SEIS/SEIR would have removed a significant amount of heritage oaks in the American River Erosion Contract 3B area, the Proposed Action was selected as it would not remove a significant amount of heritage oaks. Section 3.3.3, "Alternatives Considered in Detail in the SEIS/SEIR" discusses in more details the different alternatives considered by the design team. Please also refer to MR 15-1.

American River Erosion Contract 2 is a very different design from American River Erosion Contract 3B. American River Erosion Contract 2 included removal of a substantial volume of soil material from the improvement site, which prevent Project Partners from saving most trees. Please note that there are trees at American River Erosion Contract 2 near the Howe Avenue Bridge that Project Partners were able to save.

Indiv-746-17 Please refer to the response to comment Indiv-589-20.

Indiv-746-18 Please refer to the responses to comments Indiv-589-21 and -22.

Indiv-746-19 Please refer to the response to comment Indiv-589-24.

Indiv-746-20 Please refer to the responses to comments Indiv-589-26 and -28

Indiv-746-21 Please refer to the response to comment Indiv-589-28.

Indiv-746-22 Please refer to the responses to comments Indiv-589-28, -29, -30, and -31.

Indiv-746-23 Please refer to MR 3 and MR 15, which discusses trees removed. Please refer to response to comment Indiv-781-1 for references to past and current performance of the levee systems, along with Folsom Dam historical performance and operation improvements. Section 1.4, "Flood Risk Management System History" in Appendix G, "Engineering," provides context on flows on the Lower American River including the 1986 event in which peak outflow from Folsom Dam reached

134,000 cfs and the 1987 event in which the LAR experienced a peak flow of 117,000 cfs. Please also refer to response to CBD-3-20 for more details.

Indiv-746-24 Please refer to the response to comment Indiv-589-32.

Indiv-746-25 Civil Works projects are jointly funded by the Federal and the Local project partners. The operations and maintenance of the project features (including compensatory mitigation) are the requirement of the local sponsors per the Project Partnership Agreement. WRDA 1996 fully funded the American River Common Features project through its authorization.

Indiv-746-26 The Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. Project Partners recognize the value of the trees to the overall recreational experience along the Parkway. Considerable effort has focused on limiting the project footprint to the minimum necessary to accomplish the needed erosion protection and on avoiding and reducing impact to trees –particularly heritage trees- to the maximum extent feasible consistent with the flood risk management objectives of the Congressionally authorized project. Please see MR 8 (Wild and Scenic Rivers Act) for additional discussion.

Indiv-746-27 Please refer to MR 15, which addresses riparian vegetation and SRA. The response to comment Individual-289-6 provides additional detail related to SRA and vegetation. Please refer also to the analysis of fish habitat, including SRA, in Appendix B, Section 4.2, “Aquatic Resources and Fisheries.”

Indiv-746-28 Chapter 5 of the Draft SEIS/SEIR disclosed cumulative effects. Section 5.1.16 “Aquatic Resources and Fisheries” describes that there are sufficient SRA habitat mitigation sites and planting areas to mitigate the impacts of the ARCF 2016 Project and would not result in cumulatively considerable incremental contribution to adverse effects on salmonids. Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”

Indiv-746-29 Please refer to the response to comment Indiv-589-37.

Indiv-746-30 Please refer to the response to comment Indiv-589-38.

Indiv-746-31 Please refer to the responses to comments Indiv-589-39, -40, -41 and -42.

Individual 747 (Karen Kunstler)

Please refer to the responses to Form Letter 5.

Individual 748 (Beth McClure)

Please refer to the responses to Form Letter 5.

Individual 749 (Christie Vallance)

- Indiv-749-1 Thank you providing details on your personal experience with the American River Parkway. The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR.
- Indiv-749-2 Please see the MR 2-4 on background of the 2017 Monitoring Report as well as Appendix G, "Engineering," Section 2.3.3, "Hydraulic Model Analysis" discusses the advancement of hydraulic model development as well as other products and studies that fed into the Site Selection process (Sections 1.8 and 2.4) and design development process (Section 2.5.2 Contract 3B). Velocities are not the only factor considered when determining erosion risk. Risk drivers are determined on a local level that account for a suite of considerations and analysis tools such as hydraulic modeling, vertical scour assessment, lateral erosion estimates, testing and mapping of geologic conditions along the stream bed and riverbank, slope stability analysis, geomorphic assessment, field surveys, topographic and vegetation cover surveys and expert elicitation panel review.
- Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, section 2.4.3, "Summary of Site Selection" and section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Individual 750 (Kelly Cohen)

- Indiv-750-1 Please refer to MR 9, which comprehensively addresses the design process for the ARMS site and identifies existing wildlife and habitat values in contrast to the proposed project modifications.
- Indiv-750-2 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G section 2.4.3, "Summary of Site Selection" and section 1.7.4 Erosion Protection Design Alternatives for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. A discussion of impacts on wildlife, fish and special status species, including mitigation measures to try to reduce impacts, is summarized in Sections 4.5.1.2.2, 4.5.2.2.2, and 4.5.3.2.2, all entitled "Proposed Action," of the SEIS/SEIR and discussed in more detail in section 4.1.3, "Analysis of Environmental Effects" , 4.2.3, "Analysis of Environmental Effects" and 4.3.3, "Analysis of Environmental Effects" of Appendix B.
- Indiv-750-3 The authorized project allows USACE to spend money on flood risk features and compensatory mitigation resulting from the construction of those flood risk features. The Project Partners did establish a Technical Resource Advisory Committee that communicated with local experts during the planning phase of the project. They also went to the bank protection working group meetings and included Sacramento County Regional Parks on the project development team.

The project is replacing formal trails in the parkway for recreation, providing bike route detours during construction, and at the American River Mitigation Site, which was private property, will be working with Sacramento County Regional Parks to allow public access after the vegetation matures and mitigation requirements are met. For additional information on the design development please see Appendix G, “Engineering,”.

Indiv-750-4 Please refer to response to Indiv-750-2.

Individual 751 (Ron Hall)

Please refer to the responses to Form Letter 5.

Individual 752 (Jamie Hall)

Please refer to the responses to Form Letter 5.

Individual 753 (Billy Langford)

Please refer to the responses to Form Letter 3.

Individual 754 (Lisa Merritt)

Indiv-754-1 Appendix G, “Engineering” has been added to this Final SEIS/SEIR to provide the references for meeting risk objectives associated with the erosion projects, including American River Erosion Contract 3B. Vegetation free zones are described in Proposed Design of Contract 4B. MR 3 contains details of tree removal, riprap or rock revetment, and the erosion risk analysis. MR 3 discusses trees removed and MR 15 contains details of impacts to riparian forest.

Indiv-754-2 Appendix G, “Engineering,” describes “Levee Erosion Failure Processes” in Section 1.6, with probable failure modes including overtopping, erosion, seepage, and under-seepage, as well as the Design Criteria and Standards used to meet public safety objectives to explain the specific erosion concerns at Contract 3B.

Indiv-754-3 Appendix G, “Engineering,” provides “Background Data and Ancillary Studies” in Section 2.3 addressing the hydrology of the Lower American River system with regards to the design flow of 160,000 cubic feet per second (cfs) flow from the Folsom Joint Federal Project with the new auxiliary spillway.

Indiv-754-4 Soil testing is a critical part of ensuring successful establishment of native plantings during the revegetation of sites. Section 2.6.4, “Revegetation of Sites,” in Appendix G, “Engineering” presents further performance metrics. Also refer to MR 5 and MR 15 which provides more details on mitigation success.

Indiv-754-5 See response to comment Indiv-798-2. Mitigation for impacts to species and habitats is an integral part of the Proposed Action.

Indiv-754-6 Hydrologic conditions have been altered upstream resulting in the need for erosion protection throughout the greater Sacramento metropolitan area. Please

refer to Appendix G, “Engineering.” Please also refer to MR 2-2 which explains why Project Partners cannot rely on existing vegetation.

- Indiv-754-7 USACE understands the impacts to special-status species resulting from habitat loss. It is the intent of USACE with the NFP to balance multiple objectives including public life safety risks and minimizing environmental impacts to the American River Parkway. Adverse effects to listed species are mitigated for during formal consultation with USFWS and NMFS under Section 7 under the Endangered Species Act. Additionally, migratory birds are protected by the federal Migratory Bird Treaty Act.
- Indiv-754-8 Please refer to MR 4, which addresses recreation and commuting, and MR 15, which addresses riparian forest. Appendix G, “Engineering,” was prepared to address comments concerned with the need of erosion protection. Heat island effects have been addressed in Indiv-754-18, based upon U.S. EPA literature provided.
- Indiv-754-9 Recreational impacts have been analyzed by USACE and the Project Partners. MR 4 discusses recreational impacts in response to the receipt of public comments. The shoreline of Contract 3B is not entirely impacted by the proposed project.
- Indiv-754-10 MR 6 discusses short-term impacts associated with public health including mental health impacts. Responses to mental health can be found in the responses to the Center for Biological Diversity (CBD), as well as MR 13. A Health Risk Assessment, Appendix J, has been developed to address concerns related to air emissions.
- Indiv-754-11 As described in Appendix G, “Engineering,” Section 1.7.1, “Public Safety Objectives,” USACE holds life safety paramount and responsibility for managing a portfolio of dams and levees across the nation using risk assessments and risk-informed design to ensure risk to public safety is minimized. USACE will fulfill the flood risk management objectives whilst minimizing environmental effects to the greatest extent practicable to avoid disruption to all sensitive community resources. Please refer to MR 4, recreation impacts, and MR 13, green space and mental health, and MR 14, social impacts to at-risk communities.
- Indiv-754-12 Commenter provided 2020 documentation of Endangered Species Act (ESA) consultation. During preparation of the Final SEIS/SEIR, USACE completed supplemental formal consultation under ESA with USFWS and NMFS. These 2025 Biological Opinions are included in Appendix L. USACE appreciates photos provided, including images of wildlife (birds), trails, and large heritage oaks.
- Indiv-754-13a Thank you for bringing this tree removal to the Project Partner’s attention. USACE did not direct removal of any trees on the landside of the levee by Glen Hall Park. The tree removal on the landside levee slope at Glenn Hall Park was done by another entity not associated with USACE. The trees were intact in

November 2023 but removed at some point after. There are contractors working in this same area for other agencies/entities, such as Caltrans for the Business I-80 bridge widening project just downstream of Glenn Hall Park, and the City of Sacramento Two Rivers Trail Phase II bike trail project, but USACE is not aware of who specifically is responsible for the removal of those trees on the landside levee slope.

- Indiv-754-13b Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Please refer also to MR 15, which addresses riparian forest.
- Indiv-754-14 Please refer to Appendix G, "Engineering," Section 2.3.3, "Hydraulic Model Analysis," which discusses the hydraulic methodology used. Sections 2.5.2.1.1, 2.5.2.2.1, and 2.5.2.3.1, all entitled "Identified Risk Drivers," discuss where high velocities were found at the Contract 3B project site. Velocities are not the only factor considered when determining erosion risk. Risk drivers are determined on a local level that account for a suite of considerations and analysis tools such as hydraulic modeling, vertical scour assessment, lateral erosion estimates, testing and mapping of geologic conditions along the stream bed and riverbank, slope stability analysis, geomorphic assessment, field surveys, topographic and vegetation cover surveys and expert elicitation panel review.
- Indiv-754-15 The erosion risk analyses performed along the Lower American River (LAR) evaluated the risk of erosion both of the levee embankment itself (Probable Failure Mode [PFM] 2) and erosion of the foundation of the levee (PFM 3), please refer to Appendix G, "Engineering," Section 1.6, "Levee Erosion Failure Processes," for more information on these PFMs. While velocities near the levee may be low, there is still the concern specific to PFM 3, which poses a risk to the levee's integrity. Please refer to MR 2-1 and MR 2-2 for more information. Within Appendix G, Sections 1.8, "Site Evaluations and Selection" and 2.4, "Site Evaluations and Selection" discuss the Site Selection process, Section 2.3.3, "Hydraulic Model Analysis" discusses Hydraulic Modeling Analysis and Application on the Lower American River, and Section 2.5.2, "Contract 3B" discusses the LAR C3B Design Development Process where alternatives were evaluated. The proposed design on a localized level involved determining the minimum layout and type of feature needed to address levee integrity and protection concerns considering the flood risk and public safety and economic consequences. The design is tailored for site specific attributes from hydraulic conditions, geologic conditions, site geometry and presence of type and density of vegetation. Considering that high flood risk and consequences overlap with high environmental quality within the Lower American River Contract 3B footprint, rigorous means to 1) develop numerous analytical tools to inform design 2) data collection efforts to validate input and outputs of those analytical tools and document field conditions 3) collaboration with local, regional and national

experts in multiple fields in engineering and biological sciences 4) inclusion of a robust review charge including utilizing the Risk Informed Design process 5) field verification and field adjustment for site layout was conducted to date. Relying on the performance of vegetation alone in this system with high flood risk and consequences is not supported. The design also includes on-site habitat mitigation features (e.g. planting benches, soil-filled revetment, topsoil lift above the revetment, planting plan, etc.) to restore temporal habitat impacts. The erosion protection and on-site habitat features build off of past bank protection efforts on the LAR. Vegetation conditions were included in hydraulic model development. Revetment material was also sized to be stable under a 160,000-cfs flow event in the state where vegetation was not established during the early establishment period or if mature vegetation fails during a high flow event.

Indiv-754-16 Commentor asks Project Partners to explain the logic for development of planting benches that fall into launchable toes but that trees will be removed and areas will be replanted. MR 3-1 discusses why trees have to be removed. Project Partners infer that the commentor is asking why planting benches will be installed that could fall into the river if the launchable toes launch. Planting benches were included into the design as they allow much more soil than typical bank protection designs. This extra soil is anticipated to encourage better growth and recruitment than if they were not used at all. Designs of these benches were coordinated with NMFS and USFWS to develop the best mitigation habitat possible at the sites. MR 3-5 discusses how Project Partners are addressing habitat once erosion protection features launch. Please refer to response to comment Indiv-754-18 for a response on heat island effect.

Indiv-754-17 MR 4 describes in detail recreational effects including related to areas where rock revetment would be placed.

Please refer to the response to CBD3-46, which addresses the potential for construction materials to contain asbestos.

MR 5 describes the resulting impacts to wildlife from the Proposed Action, the coordination and consultation history with the USFWS and NMFS under the Endangered Species Act, habitat impacts and how these impacts are minimized and mitigated for. See also MR 15, which addresses riparian vegetation more comprehensively and includes information on fisheries.

Indiv-754-18 The U.S. EPA, 2008 "Urban Heat Island Basics" in "Reducing Urban Heat Islands: Compendium of Strategies, describes urban heat islands developing as buildings, roads, and other infrastructure replace open land and vegetation. Generally, the replacement of permeable and moist features to impermeable and dry, causes warmer temperatures in cities than rural areas. As described in the 2008 Draft, cities with 1 million people or more, may experience a 1.8-to-5.4-degree (Fahrenheit) increase during the day. The heat island effect occurs when the urban area is characterized by 75-100 percent impervious surface. Reduced vegetation, as well as the properties of urban materials contribute to the heat island effect. MR 3 describes the intent to preserve as many large native trees as

possible while still meeting flood risk objectives for the Contract 3B site. While the Proposed Action does require tree removal for the construction of levee improvements including erosion protection, the areas will be revegetated and are not being replaced with infrastructure. During the plant establishment period, less evapotranspiration will occur and the cooling effect of this section of the Parkway may be slightly reduced. This minor effect would be relatively constricted due to the levee topography, and within the confines of the project areas which would have restricted access during construction and during plant establishment. For these reasons, the Proposed Action would have a negligible impact on the heat island effect and is not discussed further in the Final SEIS/SEIR.

Individual 755 (Laurie Weir)

Indiv-755-1 Appendix G, "Engineering" has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to Sections 1.6, "Site Evaluations and Selection" and 2.4, "Site Evaluations and Selection" for details on how river segments were chosen for needing erosion protection. Please refer to Section 2.5.2, "Contract 3B" for more localized information on why designs were chosen and other considerations (such as heritage oaks and habitat impacts).

Individual 756 (Edward Bennet Smith)

Indiv-756-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-756-B Please refer to MR 2-2, MR 3-1, MR3-2, and Appendix G, "Engineering," Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, an explanation of why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and a description of steps that were taken to minimize tree removal as much as possible. In addition, Appendix G Section 2.4, "Site Evaluation and Selection" and Sections 2.5.2.1.2, 2.5.2.2.2, and 2.5.2.3.2, all entitled "Design Alternatives," outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.

Indiv-756-C Please refer to MR 2, which addresses the scope and approach of Contract 3B. Appendix G, "Engineering" has also been added to clarify the need for the project, design approach, and alternatives considered.

Indiv-756-D This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-756-E In response to comments requesting evidence for the need for American River Erosion Contract 3B, please refer to MR 2. Also, USACE developed Appendix G, "Engineering." Please see Section 2.1 "Background", which discusses past and current performance. Chapter 6 in the SEIS/SEIR "Compliance with Federal and

State Laws and Regulations” demonstrates compliance completed or ongoing with preparation of the Final SEIS/SEIR, and includes NEPA, CWA, ESA, and WSRA for example.

Indiv-756-F The commenter states the draft SEIS/SEIR, particularly Contracts 3B, 4A, and 4B, are in violation of the Administrative Procedural Act (APA), NEPA 42 U.S.C. § 4321, CWA Section 404, and ESA Section 7 but offers no evidence of how the SEIS/SEIR is in violation of these laws. Project Partners appreciate your concerns regarding compliance with these laws and policies and encourage your participation in the public comment process. Project Partners would be happy to address any specific concerns relating to compliance.

The commenter also states that Contracts 3B and 4 will have significant negative immediate and cumulative impacts on protected “waters of the U.S.,” as well as on wildlife, recreation, protected public lands, private conservation lands, family farms, and property values. The commenter does not provide any evidence for this assertion or point to a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-756-G Appendix G, “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Specifically, Section 1.6, “Levee Erosion Failure Processes,” outlines levee failure modes. Slurry walls are built to address seepage and stability failures, which are distinct from failures due to erosion that would be addressed by the construction of American River Erosion Contract 3B. Section 2.3.4, “Geology,” of Appendix G clarifies the number of borings collected and how the scour-resistant clay (referred to as either Erosion Resistant Material or Pleistocene Fair Oaks Formation) was considered in the designs. Please refer to response to Indiv-589-13 for a discussion on modeling and trees.

Indiv-756-H Please refer to MR 3, which addresses tree removal, mitigation measures, and bioengineering techniques, and please refer to MR 15, which addresses impacts to riparian vegetation.

Indiv-756-I Consultation with interested Native American Tribes is ongoing and has taken place according to the terms of the Programmatic Agreement and USACE Tribal Policy. The results of identification and evaluation of Historic Properties, approaches to avoid and minimize adverse effects, and plans for treatment of Tribal resources encountered during construction include confidential information regarding the location and details of historic, cultural, and Tribal resources, and are not included in public documents.

Individual 757 (David Ingram)

Please refer to the responses to Form Letter 4.

Indiv-757-A This commenter provided some unique comments regarding their personal experiences in the American River Parkway but did not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 758 (Christie Wallace)

Indiv-758-1 Please refer to response to Indiv-948- 1.

Individual 759 (Brandt Holland)

Please refer to the responses to Form Letter 3.

Individual 760 (Josh Thomas)

Indiv-760-1 Thank you for providing documents and references. USACE will review the material and determine if anything might help support the SEIS/SEIR.

Indiv-760-2 Please see response to comment Indiv-760-1.

Individual 761 (Heidi Mclean)

Please refer to the responses to Form Letter 4.

Indiv-761-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-761-B Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act and MR 3, which addresses tree removal, plantings, and bioengineering approaches. Mitigation Measure TRANS-1 requires that the construction contractor assess, and document pre- and post-construction conditions of access roads and staging area used during construction. Designs and construction plans include measures such as stipulating access routes, ingress and egress locations, Contractor requirement to submittal of a haul route plan to minimize impacts to the maximum extent. The Contractor is required to restore existing pavement and repair damages associated with C3B construction activities to preconstruction conditions. The option of construction via barges is not feasible on this section of the LAR

Indiv-761-C Mitigation Measure TRANS-1 requires that the construction contractor assess pre- and post-construction conditions of roadways used during construction and repair all potholes, fractures, and visual damages associated with project work.

Indiv-761-D Please refer to MR 6, which addresses public health and safety impacts.

Indiv-761-E Please refer to MR 3, which addresses tree removal and plantings and Section 2.5, “Design Development,” in Appendix G, “Engineering,” which addresses the design development and alternatives considered.

Individual 762 (Michelle L Stevens)

Indiv-762-1 Your research and findings at Bushy Lake are very valuable. Project Partners will provide your recommendations to the engineering design teams. Refer to MR 9 on ARMS.

- Indiv-762-2 Thank you for sharing your survey results.
- Indiv-762-3 In regard to wildlife corridors, please see MR 15 and Section 4.4.1, “Vegetation and Wildlife” where the Basis of Significance A is discussed: “Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.” For CEQA the SEIS/SEIR states a Significance Conclusion of “Less than Significant with Mitigation Incorporated” and for NEPA the SEIS/SEIR states a Significance Conclusion of “Short-term Moderate effects that are Less than Significant with Mitigation Incorporated.” There will indeed be short-term impacts from construction, but the construction footprints have been refined and there is adequate habitat retained to allow for continued wildlife movement. In addition, UASCE has worked with USFWS and NMFS to ensure that the project is adequately mitigating any impact to riparian habitat in the long term to ensure that there is sufficient habitat retained, and new habitat planted to continue to support wildlife movement.
- Indiv-762-4 Consultation with Native American Tribes is required for Federal undertakings by the National Historic Preservation Act (54 U.S.C. 300101 et seq.), 15 Oct 1966, as amended, Executive Order 13007, Indian Sacred Sites, 24 May 1996, and Executive Order 131575, Consultation and Coordination with Indian Tribal Governments, 06 November 2000, among others. Implementation of these measures for this undertaking are guided by the U.S. Army Corps of Engineers – Civil Works Tribal Consultation Policy, updated 5 December 2023. Implementation of the National Historic Preservation Act is further guided by the Programmatic Agreement Among the U.S. Army Corps of Engineers and the California State Historic Preservation Officer Regarding the American River Common Features Project, Sacramento, Sacramento and Yolo Counties, California, executed 10 September 2015.
- Consultation with interested Native American Tribes according to the terms of the above policies and agreements is ongoing. Native American Tribes have been and continue to be afforded the opportunity to offer traditional ecological knowledge, guidance, and information regarding culturally and ecologically significant plant species. Culturally significant species of plants will be included in the planting plan at ARMS to the extent practicable.
- Indiv-762-5 USACE and the NFP worked closely with local agencies, including Sacramento County Regional Parks, to ensure consistency with regional plans, including the American River Parkway Plan and the American River Natural Resource Management Plan. Reference MR 9 for ARMS.

Individual 763 (Christie Vallance)

- Indiv-763-1 Please refer to MR 2-3, MR 3-7 and response to Indiv-336-1 for success rates of past projects.

Individual 764 (Thomas Vallance)

Indiv-764-1 Please refer to response to comment Indiv-342-2.

Individual 765 (Theresa Weaver)

Indiv-765-1 In response to comments requesting evidence for the need for erosion protection, USACE developed Appendix G, “Engineering.” Please see response Indiv-781-1 for further information including details of upstream improvements at Folsom Dam. MR 3-1 Need for Tree Removal discusses the balanced approach for achieving flood risk reduction objectives for public safety, as well as environmental priorities such as heritage oaks, riparian habitat, and recreational resources. MR 3-2 discloses why bioengineering approaches were not feasible for Contract 3B.

Indiv-765-2 Please see MR 13 for a discussion of mental health impacts in response to public comments. The need to protect green spaces for the physical and mental health of the community is a recognized goal. MR 13 and MR 14 discuss alternate recreational areas that are accessible for all, including nearby at-risk communities including low-income and minority populations that have been historically encumbered by socioeconomic and environmental burdens.

Individual 766 (John Cameron)

Indiv-766-1 In response to comments requesting evidence for the need for American River Erosion Contract 3B, USACE developed Appendix G, “Engineering.” Please see response Indiv-781-1 for further information including details of upstream improvements at Folsom Dam.

Individual 767 (Jack McKeon)

Please refer to the responses to Form Letter 4.

Indiv-767-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 4, which addresses impacts to recreation.

Indiv-767-B Please refer to MR 6, which addresses public health and safety from construction impacts.

Individual 768 (Karen Kunstler)

Please refer to the responses to Form Letter 3.

Indiv-768-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 769 (Nancy McGee)

Please refer to the responses to Form Letter 4.

Individual 770 (Dan Sendek)

Please refer to the responses to Form Letter 4.

Indiv-770-A This commenter expresses general project opposition but does not raise a specific issue relating to the analysis in this SEIS/SEIR.

Indiv-770-B Please refer to MR 15, which addresses impacts to riparian vegetation.

Indiv-770-C Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-770-D Please refer to MR 3, which addresses tree removal and plantings and MR 15, which addresses impacts to riparian vegetation and habitat.

Individual 771 (Fritz H. Harsch)

Please refer to the responses to Form Letter 4.

Indiv-771-A This commenter expresses general project opposition but does not raise a specific issue relating to the analysis in this SEIS/SEIR.

Individual 772 (Anne Kimmerlein)

Please refer to the responses to Form Letter 3.

Indiv-772-A This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-772-B Please refer to MR 3, which addresses tree removal and MR 15, which addresses impacts to riparian vegetation carbon sequestration, heat island effects, wildlife movement and fisheries.

Individual 773 (Jennifer Banville)

Please refer to the responses to Form Letter 3.

Indiv-773-A The commenter expresses general opposition to the proposed project but does not raise a specific issue relating to the analysis in this SEIS/SEIR.

Individual 774 (Peter Spaulding)

Indiv-774-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Sections 2.4.3, “Summary of Site Selection” and 1.7.4, “Erosion Protection

Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Additionally a discussion of impacts on wildlife, fish, special status species, and recreation including mitigation measures to try to reduce impacts, is summarized in Sections 4.3.1.2.2, 4.4.1.2.2, 4.4.2.2.2, and 4.4.3.2.2, "Proposed Action" of the SEIS/SEIR and discussed in more detail in section 2.2.3 4.1.3, 4.2.3, and 4.3.3, "Analysis of Environmental Effects" of Appendix B. Project Partners worked closely with local agencies, including Sacramento County Regional Parks, to ensure consistency with regional plans, including the American River Parkway Plan and the American River Natural Resource Management Plan.

Indiv-774-2 Please refer to response to Indiv-774-1, MR 15-1 and MR 15-2.

Indiv-774-3 Please refer to the responses to Indiv-706-6 through Indiv-706-9. In addition, implementation of Mitigation Measure FISH-1 will quantify existing SRA that will be impacted by project actions, and implementation of Mitigation Measure FISH-2 will require compensation for habitat lost at a 1:1, 2:2, or 3:1 ratio, depending on timing of compensation actions and consultation with NMFS.

Indiv-774-4 Please refer to response to Indiv-774-1, MR 15-1 and MR 15-2.

Individual 775 (Annde Ewertsen)

Please refer to the responses to Form Letter 4.

Indiv-775-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-775-B Please refer to MR 15, which addresses impacts to riparian forest and habitat, carbon sequestration, heat island effects, wildlife movement and fisheries, MR 6, which addresses public health and safety impacts from construction, and MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Individual 776 (Janet Whitlock)

Indiv-776-1 This letter was updated and replaced by letter DOI-1. Please refer to the responses to DOI-1.

Individual 777 (Amy Pine)

Please refer to the responses to Form Letter 3.

Indiv-777-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 778 (Caitlyn J. Wilson)

Please refer to the responses to Form Letter 4.

Individual 779 (Shulamit Shroder)

Please refer to the responses to Form Letter 3.

Indiv-779-A The commenter expresses general opposition to the proposed project but does not raise a specific issue relating to the analysis in this SEIS/SEIR.

Individual 780 (Leslie Watts)

Indiv-780-1 USACE and the non-federal Partners are aware of the community group American River Trees and their opposing views of the Projects on the Lower American River.

Indiv-780-2 Please review Appendix G “Engineering,” and MR 3-1 for documentation of the multi-year effort during the design phase to coordinate with stakeholders like Sacramento County Regional Parks during design charrettes and TRAC meetings to ensure consistency with the Parkway Plan. USACE appreciates your concern about the public review period (Dec 22nd - Feb 5th) and the fact that it included the Holiday season. As a result, USACE extended the public comment period to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1 for more information.

Indiv-780-3 Please see response to Indiv-653-27 for details on how USACE followed Engineer Regulation 200-2-2 “Procedures for Implementing NEPA” in responding to public comments.

Indiv-780-4 Thank you for providing the flood control policies from the Sacramento County 2008 American River Parkway Plan.

Indiv-780-5 The newly developed Appendix G, “Engineering,” lists the Parkway Plan in Table 15 as a reference which informed project design supplementing USACE criteria. Compliance with the Parkway Plan is also discussed in Section 2.2 “LAR Design Criteria and Standards” of Appendix G, “Engineering”. Please refer to MR 3 for details on tree and vegetation clearing required for project implementation. MR 3-1 describes multiple priorities that were balanced in the designs which include but are not limited to flood risk objectives, heritage oak trees, wildlife habitat, recreational resources, and visual resources.

Indiv-780-6 MR 2-1 Erosion Risks from Aging Infrastructure describes the American River Contract 3B site meets the minimum risk objectives by providing targeted erosion protection to areas with the highest risks of levee failure. While the 2016 GRR was authorized for 11 miles of erosion work, only approximately 6 miles are planned for construction. Please refer to section 2.4.3, “Summary of Site Selection” of Appendix G, “Engineering,” for more information. This project provides a balanced approach prioritizing flood risk reduction while minimizing

impacts to the environment. MR 3-2 Bioengineering Approach not Feasible discusses multiple reasons for why this project could not be designed with biotechnical measures as the Parkway Plan recommends.

- Indiv-780-7 USACE and the non-federal Partners will continue to protect resources within the American River Parkway and comply with the Wild and Scenic Rivers Act. Please see MR 8 for more information on National Park Service coordination.

Individual 781 (Susan Solarz)

- Indiv-781-1 In response to comments requesting evidence for the need for American River Erosion Contract 3B, USACE developed Appendix G, “Engineering.” Please see Section 2.1 “Background” of Appendix G, which discusses past and current performance of the levee system, along with Folsom Dam historical performance and operation improvements. MR 2-1 Erosion Risks from Aging Infrastructure discusses the Congressional authorization of improvements to Folsom Dam to control a 200-year flood events with a peak release of 160,000 cubic feet per second (cfs), and the corresponding need to update the aging downstream levee system for safe conveyance of such an emergency spillway release. Please refer to MR 15, which addresses riparian forest.
- Indiv-781-2 MR 5 and MR 15 was developed in response to public comments on impacts to wildlife and habitat. MR 5 and MR 15 includes discussions on short-term versus long-term impacts, habitat corridors and connectivity, as well as the loss of shaded riverine aquatic habitat (SRA) and riparian habitat. Northwestern pond turtle has been considered in the Draft SEIS/SEIR. Please see response to Indiv-843-2 for further information on northwestern pond turtle. Please refer to MR 15, which addresses impacts to riparian vegetation and habitat.
- Indiv-781-3 Please see MR 13 for a discussion of mental health impacts in response to public comments and lists nearby recreational areas that will be available during construction. The need to protect green spaces for the physical and mental health of the community is a recognized goal. MR 14 discusses alternate recreational areas that are accessible for all, including nearby at-risk communities with low-income and minority populations that have been historically encumbered with socioeconomic and environmental burdens.

Individual 782 (Jasmine Shahbandi)

Please refer to the responses to Form Letter 3.

- Indiv-782-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to MR 13, which addresses green spaces and mental health, and MR 14, which addresses concerns about social impacts to at-risk communities.

Individual 783 (Ed Harper)

- Indiv-783-1 All identified errors and inconsistencies brought to the attention of USACE and the non-federal Partners during the public comment period have been corrected in the Final SEIS/SEIR. As a result of public request, USACE extended the public comment period beyond the required 45-day review period, from an original closure of February 5, 2024, to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1 for more details.
- Indiv-783-2 Please review MR 2-1 Erosion Risks from Aging Infrastructure that describes the purpose and need of erosion protection to meet public safety objectives. USACE will fulfill the flood risk management objectives whilst minimizing environmental effects to the greatest extent practicable to avoid disruption to all sensitive community resources. MR 3 contains resources on tree and vegetation removal, while MR 5 discusses impacts to habitats such as riparian corridors. and the importance of their connectivity. Please also refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering.”
- Indiv-783-3 Please refer to the responses to Indiv-706-6 through Indiv-706-9.

Individual 784 (Jessica Epperson)

Please refer to the responses to Form Letter 5.

Individual 785 (Keri Miner)

Please refer to the responses to Form Letter 5.

Individual 786 (Laurel Larson)

Please refer to the responses to Form Letter 3.

Individual 787 (Max Hall)

Please refer to the responses to Form Letter 5.

Individual 788 (Melina Cacciurri)

Please refer to the responses to Form Letter 4 and the responses to the List of Key Concerns.

Individual 789 (Melina Cacciurri)

Please refer to the responses to Form Letter 5.

Individual 790 (Melina Cacciurri)

Please refer to the responses to Form Letter 4 and the responses to the List of Key Concerns.

Individual 791 (Patrick Corcoran)

Please refer to the responses to Form Letter 5.

Individual 792 (Sarah Strand)

Please refer to the responses to Form Letter 5.

Individual 793 (Sarah Strand)

Please refer to the responses to Form Letter 3.

Individual 794 (Barbara Beeman)

Please refer to the responses to Form Letter 5.

Individual 795 (Brian Agnell)

Please refer to the responses to Form Letter 5.

Individual 796 (Charles Dallas)

Please refer to the responses to Form Letter 5.

Individual 797 (Carla Dillinger)

Please refer to the responses to Form Letter 5.

Individual 798 (Lisa Merritt)

Indiv-798-1 This letter is a duplicate of Individual 754. Please refer to the responses to Indiv-754-1 through -12.

Individual 799 (Elizabeth Ganz)

Indiv-799-1 Please refer to MR 6, which addresses air quality and public safety impacts.

Individual 800 (Kristi Anderson)

Indiv-800-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest, and Appendix G, "Engineering."

Individual 801 (Randi Fisher)

Indiv-801-1 Please refer to MR 7, which addresses public outreach and request for documentation.

Indiv-802-2 Please refer to Appendix G "Engineering" which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Specifically, Section 1.6, "Levee Erosion Failure Processes," outlines levee failure modes. Slurry walls are built to address seepage and

stability failures. American River Erosion Contract 3B is being built to address failure due to erosion.

Indiv-803-3 Please refer to responses to Indiv-801-1.

Individual 802 (Chris Beegan)

Please refer to the responses to Form Letter 4.

Individual 803 (Lisa Souther)

Indiv-803-1 Please refer to MR 4, which addresses recreation and commuting, MR 8, which addresses consistency with the Wild and Scenic Rivers Act, MR 15, which addresses riparian forest, and Appendix G, “Engineering” which has been added to clarify the need for work.

Individual 804 (Dierdre Des Jardins)

Indiv-804-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR. Please refer to Appendix G, “Engineering” which has been added to clarify the need for work.

Individual 805 (Melissa Gates)

Indiv-805-1 Please refer to MR 2-2, MR 3-1, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible. MR 15, which addresses riparian forest.

Individual 806 (Mary Swisher)

Indiv-806-1 Please refer to MR 4, which addresses recreation and commuting, MR 15, which addresses riparian forest and wildlife corridor, and Appendix G, “Engineering.”

Individual 807 (Walt Seifert)

Indiv-807-1 The Proposed Action is being developed consistent with the American River Parkway Plan, which recognizes the importance of flood risk management. Policy 4.9 states: “Flood management agencies should continue to maintain, and improve when required, the reliability of the existing public flood-control system along the lower American River to meet the need to provide a high level of flood protection to the heavily urbanized floodplain along the lower American River consistent with other major urban areas. This effort is expected to include raising and strengthening the levees as necessary to safely contain very high flows in the river (up to 160,000 cubic feet per second) for a sustained period.”

Indiv-807-2 Please refer to MR 4, which addresses impacts to recreation on the Lower American River, and MR 8, which addresses compliance with the Wild and Scenic Rivers Acts.

- Indiv-807-3 The Proposed Action is being developed consistent with the requirements of the American River Parkway Plan. Sacramento County Regional Parks administers the Parkway Plan and would be responsible for any required public notifications regarding consistency with the Parkway Plan.
- Indiv-807-4 Please refer to MR 4, which addresses impacts to recreation on the Lower American River.
- Indiv-807-5 USACE plans to install adequate signage at all future projects. Unfortunately, some of the projects (Contract 3B South) are located in areas with no current paving, and ADA access isn't currently achievable. All bike trails that are rerouted or damaged during construction will be fixed. Localized flooding in areas has previously occurred, however, USACE is looking into resolving these issues as well.
- Indiv-807-6 Rockwork for Contract 2 was done in two phases, therefore the onsite mitigation (aka: greening) has been installed in two phases. Installation of plantings is complete, and establishment maintenance activities are under way. These consist of irrigation, weed control, plant survival counts, replanting to meet contract success criteria. The establishment period for Phase 1 ends January 31, 2028. The establishment period for Phase 2 ends January 31, 2029. After the end of the establishment period, USACE will need to perform monitoring and any adaptive management should monitoring reveal that success criteria are not being met, or are not trending toward being met.
- Indiv-807-7 USACE repaired the bike path to the specified standards for path marking.
- Indiv-807-8 The Lower American River Contract 2 was a multi-year project resulting in detours lasting 2 years.

Individual 808 (Jeri Langham)

- Indiv-808-1 Specifications require that the contractor return staging areas to existing conditions. Project Partners anticipate that the Contractor would regrade, repair irrigation, and place sod to instantaneously fix the fields to meet this specification requirement.
- Indiv-808-2 Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G "Engineering" Section 2.4.3, "Summary of Site Selection" and 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Individual 809 (Julie Gabele)

- Indiv-809-1 The commenter states that analysis and mitigation measures in the SEIS/SEIR are not adequate but does not identify any specific example of inadequate impact analysis or mitigation measures.

- Indiv-809-2 Please refer to Appendix G “Engineering” which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-809-3 Please refer to Appendix G “Engineering” which provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. The SEIS/SEIR Section 2.3, “Community Outreach, Agency Coordination, and Areas of Known Controversy” and MR 7 describe public outreach. Please refer to MR 15, which addresses riparian forest and wildlife corridors.
- Indiv-809-4 The overarching objective of the ARCF 2016 erosion work on the Lower American River is to reduce the probability of a levee breach prior to overtopping for flows up to the discharge of 160,000 cubic feet per second (cfs) from emergency releases from Folsom Dam. Please refer to Appendix G “Engineering” which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please also refer to MR 7-2, which discusses project documentation.
- Indiv-809-5 Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes in order to ensure that all possible impacts to the environment were communicated to the public. Project Partners are now more confident with the design footprints so updated maps with the most up to date information and maps showing tree removal areas have been added to section 3.5.2.2.1, “Erosion Protection Features” of the SEIS/SEIR.
- Indiv-809-6 USACE defines a vegetation variance as a deviation from the standard vegetation guidelines defined in the Engineering Technical Letter 1110-2-538, dated 30 April 2014. The standard vegetation guidelines were developed to ensure that landscape planting and vegetation management provides aesthetic and environmental benefits without compromising the reliability of levees and other flood management features. Since the 2016 ARCF GRR Final EIS/EIR the project designs have changed and shrunk in size, the only contract that is going to need permission for a vegetation variance is Contract 4B on the Lower American River. For additional information on Lower American River contracts 3A and 3B please see MR 2, which addresses the scope and approach of improvements in Contract 3B, MR 3, which addresses the need to remove vegetation, and Appendix G “Engineering.”

- Indiv-809-7 Please refer to MR 7, which addresses public outreach. USACE has made diligent effort in involving the public, by following the UASCE Engineer Regulation 200-2-2 “Procedures for Implementing NEPA”, and maximizing public notification through the NEPA and CEQA process through project-specific mailers, notices, and publications . Neither NEPA or CEQA guidelines require that someone from leadership or someone with technical engineering experience be present at public meetings. Each public meeting was posted to www.sacleveeupgrades.com a week after the public meeting to allow for video and audio editing. Links of both the meeting video and slides are still present on the website. Project Partners did respond to dozens of comments during the comment period from commentors needing answers to clarify their Draft SEIS/SEIR review. Many staging areas were listed in the SEIS/SEIR to provide flexibility for staging area options. Unfortunately, the project website contains information for many projects, so Project Partners must continuously add information for different projects at different stages of development. Project Partners felt that the changes to the projects since the 2016 GRR ARCF EIS/EIR were significant enough that if they were analyzed in separate SEIS/SEIR documents, Project Partners would be segmenting the project and underrepresenting the cumulative impact of all project components combined. Please reach out to spk-pao@usace.army.mil with the specific problems that the commentor has had with signing up for notifications. Construction notifications will be available once construction begins. Project Partners cannot provide lists of addresses of those who have been sent information for privacy concerns. However, MR 7 lists the approximate distance from properties near the construction footprint that postcards were sent.
- Indiv-809-8 This document is supplemental to the 2016 ARCF GRR Final EIS/EIR, therefore, additional alternatives to reduce flooding in the Sacramento area were evaluated in the earlier document. Please refer to Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible. Additionally, Appendix G “Engineering,” Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes and Section 2.5, “Design Development,” describes design methods to address these risks. On-site and off-site mitigation are described in the SEIS/SEIR. Please refer to MR 5 for more detail related to on-site mitigation. Refer to MR 5 for information on mitigation measures to avoid, minimize, reduce, and compensate for impacts to habitat. Refer to MR 9 for information on the American River Mitigation Site.

Individual 810 (Elaine Baden)

Please refer to the responses to Form Letter 4.

- Indiv-810-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 811 (David Solomon)

Please refer to the responses to Form Letter 4.

- Indiv-811-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-811-B Please refer to MR 3, which addresses tree removal and plantings, MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 812 (Jamie Becker)

Please refer to the responses to Form Letter 3.

- Indiv-812-1 The commenter states that analysis in the SEIS/SEIR is not adequate but does not identify any specific example of inadequate impact analysis or mitigation measures.
- Indiv-812-2 MR 13 addressed physical and mental concerns. Please also refer to MR 4, which addresses impacts to recreation on the Lower American River.
- Indiv-812-3 Please refer to MR 3, which addresses tree removal and plantings, MR 15, which addresses the riparian forest. A discussion of impacts on wildlife, fish, and special status species, including mitigation measures to try to reduce impacts, is provided in Appendix B “Detailed Analyses,” Section 4.1, “Vegetation and Wildlife,” Section 4.2, “Aquatic Resources and Fisheries, and Section 4.3, “Special Status Species.”

Individual 813 (Beth S.)

- Indiv-813-18 This comment does not raise a specific issue related to the analysis in this SEIS/SEIR.

Individual 814 (Jacob Fisher)

- Indiv-814-1 This comment states that analysis and mitigation measures in the SEIS/SEIR are not adequate but does not identify any specific example of inadequate impact analysis or mitigation measures.
- Indiv-814-2 USACE has conducted extensive consultation with Native American Tribes in accordance with the Programmatic Agreement and USACE Tribal Policy. Measures to avoid or minimize damages to cultural and Tribal resources and to respond to discoveries during construction have been developed and successfully implemented on previous phases of the ARCF project. Native American Tribes provide highly sensitive resource information to USACE with the condition that such information remain confidential; therefore specific topics and outcomes of Tribal consultation will not be released in a public document.

- Indiv-814-3 As there is no Federally owned land within any ARCF Project area, the applicable laws are California Health and Safety Code, Section 7050.5 and California Public Resources Code 5097.98, and USACE must treat Native American human remains and associated items and materials found within the ARCF Project area in accordance with the requirements of these laws. The CVFPB and SAFCA are non-federal sponsors as defined in the ARCF Project Partnership Agreement. USACE, CVFPB, and SAFCA all share responsibility for both logistical and cost requirements of complying with applicable laws for treatment of Native American human remains and associated items.
- Indiv-814-4 The Archaeological Curation Facility at Sacramento State has not been involved in any phase of the ARCF project. Any necessary recovery and treatment of Native American human remains and associated burial materials is arranged and carried out by the CVFPB, SAFCA, and USACE in close coordination with the Most Likely Descendent. There would not be any cost incurred to the Archaeological Curation Facility at Sacramento State as a result of this undertaking. .
- Indiv-814-5 Please refer to Appendix G “Engineering” which provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. USACE recognizes that trees and other vegetation can reduce risk to bank erosion, however, failure of vegetation during high flow events can expose underlying erodible soils to erosion and the effects of vegetation might not extend below summer water levels. Refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be used to protect the levee, and steps that were taken to minimize tree removal as much as possible.
- Indiv-814-6 Section 4.2, “Human Environment” of the SEIS/SEIR summarizes the environmental consequences of the project on the human environment.
- Indiv-814-7 Please refer to MR 15-8. Additionally, a discussion of impacts on wildlife, fish and special status species, including mitigation measures to try to reduce impacts, is provided in Appendix B “Detailed Analyses,” Section 4.1, “Vegetation and Wildlife,” Section 4.2, “Aquatic Resources and Fisheries, and Section 4.3, “Special Status Species.”
- Indiv-814-8 The 2016 ARCF authorized project accounted for eleven miles of bank protection along the American River and twelve miles on the Sacramento River. Since then, the length of bank protection on both rivers have been reduced to about 6 miles on the American and about 7 miles on the Sacramento. The authorized project accounted for complete removal of vegetation and wildlife habitat within the construction footprints, and this is also no longer the case. The Draft SEIS/SEIR made the effects determination of significant and unavoidable impact to vegetation, wildlife and special status species. The project designs and onsite mitigation is in compliance with the WSRA and the Lower American River Parkway Plan. Landscape Architects with years of experience designing onsite

replanting plans along the American River have been designing the mitigation replanting plans. These Landscape Architects have been using their knowledge of plants growing in the American Parkway at similar sites and elevations at other locations to focus their designs on planting plans on what they have seen to successfully grow currently at similar conditions. Additionally, these Landscape Architects have been utilizing their knowledge on what has been successful at previous erosion protection sites to select plants and planting methods that are most likely to succeed. Project Partners have also seen successful natural recruitment on previous erosion protections sites and are hopeful to utilize existing natural riverine functions to help establish the erosion protection sites.

Indiv-814-9 The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR.

Individual 815 (Diane Fowler)

Indiv-815-1 Please refer to MR which addresses public outreach. The 45-day period for public comment was extended, as requested by the public. Additionally, the presentations were made available at sacleveupgrades.com to allow further examination. Clarification questions were responded to during the public meeting, after the recorded portion of the presentation. Any substantial questions or comments need to be submitted in writing during the comment period.

Indiv-815-2 Please refer to MR 15, which addresses riparian forest, and the Appendix G, "Engineering."

Indiv-815-3 Please refer to Appendix G "Engineering" which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G "Engineering" Section 2.4.3, "Summary of Site Selection" and 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Please also refer to MR 4, which addresses recreation and commuting, MR 8, which addresses consistency with the Wild and Scenic Rivers Act and MR 15, which addresses riparian forest.

Individual 816 (Sherrie Dodson)

Please refer to the responses to Form Letter 3.

Individual 817 (James Nguyen)

Please refer to the responses to Form Letter 3.

Individual 818 (Nancy Kniskern)

Indiv-818-1 Please refer to MR 7, which addresses public outreach. The SEIS/SEIR team apologizes for the difficulties in reaching particular staff by phone. USACE

Public Affairs Office is always available for questions at 916-557-5100 or by email: spk-pao@usace.army.mil.

- Indiv-818-2 USACE Project Management is committed to further public engagement outside the scope of the NEPA and CEQA process. USACE presented at U.S. Representative Ami Bera's Community Conversation on April 8, 2024, as well as the Lower American River Bank Protection Working Group on April 30, 2024, and August 13, 2024.

Individual 819 (Candice Heinz)

Please refer to responses to Individual 716.

Individual 820 (Keith Imler)

Please refer to the responses to Form Letter 3.

Individual 821

Please refer to responses to the National Marine Fisheries Service letter.

Individual 822 (Barbara Dugal)

- Indiv-822-1 Please refer to MR 2-3, MR 3-7 and response to Indiv-336-1 for details on recent work downstream of the project.
- Indiv-822-2 Project Partners work with Sacramento County Regional Parks to develop bike trail detours and these detours may change before construction starts. Based on the most recent designs, Contractors will be providing flaggers at Site 3-1 to allow bike traffic to stay in the American River Parkway, Project Partners are also looking at additionally providing the option for bicyclists to detour across Watt Avenue to the other side of the river if they want to avoid flaggers and construction work at Site 3-1. At Site 4-2, Project Partners are hoping to phase construction so that bicyclists could stay on the bike trail during construction of the downstream portion of Site 4-2, but Project Partners anticipate needing to detour bicyclists to the streets for the upstream portion of Site 4-2.
- Indiv-822-3 Please refer to MR 3-1, which provided further details on tree removal. The USACE Project Delivery team worked together to determine which trees needed to be removed, specifically a team including a Civil Engineer, Landscape Architect and a Biologist worked together to determine tree by tree, which trees could safely survive construction based on the situations outlined in MR 3-1. Please also refer to MR 15, which addresses riparian forest, and the Appendix G, "Engineering."
- Indiv-822-4 California State Lands Commission lease(s) will need to be obtained for construction activities that would occur on land under the Commission's jurisdiction. Lease applications have not been submitted yet but will occur as part of the environmental compliance requirements.

- Indiv-822-5 Commentor asks about stockpiling sites discussed on Page 3-49 and Figure 3.5.2-8. Project Partners assume this in reference to the discussion of staging areas under Site 4-2, which then are referenced to Figure 3.5.2-8. Please note that Figure 3.5.2-8 should have instead said Figure "3.5.2-7," which was on page 3-35 of the Draft SEIS/SEIR. There are two staging areas referenced in this area in the Final SEIS/SEIR, Figure 3.5.2-8. One is within the Wilhaggin drainage basin which is approximately 9 acres. The other staging area is upstream of Rio Americano High School and is approximately 4 acres. Both of these staging areas were designed to avoid cutting down elderberries, elderberries have been mapped about 200 feet from these staging areas.
- Indiv-822-6 The official boat launches at the Watt Avenue Boat Launch will be returned to the existing condition once work is complete. Please refer to MR 4-1 and 4-2 for informal boat access.
- Indiv-822-7 Please refer to comment Indiv-669-8. Please see section 4.3.1.2.2, "Proposed Action" of the SEIS/SEIR and Appendix B "Detailed Analyses," Section 2.2.3, "Analysis of Environmental Effects" for a discussion of the impacts of closures on recreation.
- Indiv-822-8 As stated in Chapter 3, "Description of Project Alternatives," any roads or other access areas damaged by construction activities would be fully repaired and restored to preconstruction condition. All transportation impacts are addressed and mitigated to the extent feasible in Appendix B "Detailed Analyses," Section 2.1, "Transportation and Circulation." However, significant and unavoidable impacts would remain.
- Indiv-822-9 Project Partners have been working with Sacramento County Regional Parks since early in the design process and have been developing detours. During coordination, Sacramento County Regional Parks has been recommending when detours are needed. Please refer to the response to Indiv-822-2 for more details on detours. Please also refer to Mitigation Measure REC-1, defined in Appendix B "Detailed Analyses," Section 2.2.3, "Analysis of Environmental Effects" for a discussion of requirements for sign posting.
- Indiv-822-10 Please refer to Draft SEIS/SEIR Chapter 4, "Affected Environment and Environmental Consequences" for a discussion of impacts to the environment, including the American River Parkway.

Individual 823 (Steve Mills)

- Indiv-832-1 Please refer to MR 3, which addresses tree removal and plantings, MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, "Engineering," Chapter 2, "Lower American River Erosion Protection," for an explanation of the design approach for Contracts 3B and 4B.

Individual 824 (Marlyce Myers)

Please refer to the responses to Form Letter 3.

Individual 825 (Curtis Fossman)

Please refer to the responses to Form Letter 4.

Indiv-825-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 826 (Lucy Haworth)

Please refer to the responses to Form Letter 4.

Indiv-826-A Please refer to MR 6, which addresses impacts to public health and safety during construction, MR 3, which addresses tree removal and plantings, and MR 4, which addresses impacts to recreational access along the Lower American River.

Indiv-826-B Please refer to Appendix B Section 4.3, “Special Status Species.”

Indiv-826-C Please refer to MR 3, which addresses tree removal and plantings and MR 15, which addresses impacts to riparian vegetation.

Indiv-826-D Please refer to MR 3, which addresses tree removal, plantings, and bioengineering approaches.

Individual 827 (Ellen Vigna)

Indiv-827-1 Please refer to MR 12, which addresses property value impacts.

Individual 828 (Kelly Ramsay)

Please refer to the responses to Form Letter 3.

Individual 829 (Glen Korengold)

Indiv-829-1 Please refer to MR 2-3 and MR 3-7 for information on previous work west of Howe Ave and near Paradise Beach/River Park area. Refer to MR 3-3 and 3-4 describing previous revegetation efforts following erosion protection along the American River. Please refer to MR 13 for discussion on mental health and opportunities for enjoying nature during and after construction of the Proposed Action.

Indiv-829-2 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Additionally, MR 13 addresses green space and mental health, and MR 15 provides more information on tree removal, wildlife movement, and heritage oaks.

Indiv-829-3 A discussion of project impacts on wildlife including mitigation measures to reduce impacts to the extent feasible, is summarized in the Draft SIES/SEIR

Sections 4.4.1.2.2 "Proposed Action" and 4.4.3.2.2 "Proposed Action," and discussed in more detail in Appendix B "Detailed Analyses," Sections 4.1.3 and 4.3.3, both entitled "Analysis of Environmental Effects." Please refer to MR 15, which addresses riparian forest.

- Indiv-829-4 Please refer to MR 4-1 and 4-2 for details on impacts to informal trails.
- Indiv-829-5 A discussion of project impacts on traffic and noise including mitigation measures reduce impacts to the extent feasible, is summarized in Draft SEIS/SEIR Sections 4.2.1.2.2 and 4.3.7.2.2, both entitled "Proposed Action," and discussed in more detail in Appendix B "Detailed Analyses" Sections 2.1.3 and 3.7.3, both entitled "Analysis of Environmental Effects."
- Indiv-829-6 Please refer to MR 13 for a discussion on mental and physical health.
- Indiv-829-7 Please refer to MR 14 for a discussion on Social Impacts to At-Risk Communities.
- Indiv-829-8 Please refer to Appendix G "Engineering" which has been added to clarify the need for the project. In addition, MR 3-1 outlines the need and steps taken to minimize impacts to trees.

Individual 830 (Marsha Erickson)

- Indiv-830-1 USACE reviewed the impact analysis for Contracts 3B, 4A and 4B, and none of the analysis concluded any "long-term loss of beneficial uses that were significant and unavoidable."
- Indiv-830-2 Water temperatures can be affected by a number of factors, including air temperatures, elevation, flow and velocity, and presence of riparian vegetation. For the American River, the major factor that impacts water temperature are the operations of Folsom Dam. The releases from Folsom are heavily studied and modeled in several recent Central Valley Project/State Water Project Biological Assessments from the Bureau of Reclamation, as well as the responsive Biological Opinions from NMFS (2009, 2019, pending 2024/2025). While the removal of bank vegetation in several areas may seem extensive, the removal is a temporary occurrence that will be vegetated upon completion. Adjacent habitat upstream and downstream will provide interim cover for fish during the construction timeframe. Temporary removal of the amount of vegetation on the proposed sections of the Lower American River is not expected to cause a measurable increase to water temperatures in the Lower American River due to the small shaded area relative to the surface area of the river and the fact that the volume and temperature of water released from Folsom Dam drive the temperature of the water in the lower American River, overwhelming other influences. Water management data for the American River can be found here:
- <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/california-central-valley-water-operations-biological>

- This site contains peer review of the most recent BOR data, and the peer review done by scientists, Appendix M is centered around the American River temperatures and Folsom Operations
<https://deltacouncil.ca.gov/delta-science-program/long-term-operations-for-the-central-valley-project-and-state-water-project-fish-and-aquatic-effects-analysis-review-panel>

Indiv-830-3 Please refer to MR 6, which addresses air quality, public health, and safety, and Appendix J, “Health Risk Assessment.” USACE would not obtain a Stationary Source Permit as the project would not result in any new stationary sources. See SMAQMD Rule 202 Section 111, “Exemption: Temporary Source.” Construction equipment would not be used at the staging areas, except for operating the equipment to allow movement of the equipment to the nearby construction sites.

Individual 831 (Brian Schmid)

Please refer to the responses to Form Letter 3.

Indiv-831-A Project Partners assume this comment is referring the to a small parcel along Crondall Drive between Wilhaggin Dr and Claydon Way. This parcel has been removed from consideration for staging at American River Erosion Contract 3B.

Indiv-831-B All project components were still undergoing design changes leading to the Final or 100 percent design, during development of the Draft SEIS/SEIR. Any changes to the project components, such as construction footprint, staging or access areas, construction schedule, have been updated in the Final SEIS/SEIR Chapter 3, “Description of Project Alternatives.” No significant impacts to human or natural resources resulted from any design updates from the Draft to Final SEIS/SEIR.

Individual 832 (Mary Beth Schwehr)

Indiv-832-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B, and MR 3, which addresses tree removal and planting in Contract 3B and 4.

Individual 833 (Millie Baird)

Please refer to the responses to Form Letter 4.

Indiv-833-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-833-B Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B and MR 3 for further explanation of tree removal and planting. Additionally, refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.

Individual 834 (Amy Gusman)

Indiv-834-1 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act. Please refer to Appendix G “Engineering” provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Please refer to MR 2-2, MR 3-1, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible. Refer to MR 2-3 for information on previous work near CSUS. Refer to MR 3-3 and 3-4 which describing previous revegetation efforts following erosion protection along the American River. Lastly, please refer to MR 15, which addresses information on wildlife corridor and heritage oaks.

Individual 835 (Giovanni Passanante)

Please refer to the responses to Form Letter 3.

Individual 836 (Teri Jamison)

Please refer to the responses to Form Letter 3.

Individual 837 (Carolyn Jensen)

Indiv-837-1 Please refer to MR 2, which addresses the scope and approach of improvements in Contract 3B and MR 3 for further explanation of tree removal and planting. Additionally, refer to Appendix G, “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.

Indiv-837-2 Please see MR 4, which addresses impacts to recreation along the Lower American River.

Individual 838 (Glenn Olson)

Indiv-838-1 Please refer to the responses to Form Letter 1.

Individual 839 (Christine Weinstein)

Indiv-839-1 The Draft SEIS/SEIR is a supplemental document, meaning that decisions were already made based upon the array of alternatives in the 2016 ARCF GRR Final EIS/EIR. This SEIS/SEIR analyzed new environmental effects that were not disclosed in the 2016 EIS/EIR. The project was designed to meet the public safety objectives while minimizing environmental impacts to the greatest extent.

Individual 840 (Sevim Larsen)

Please refer to responses to Form Letter 3.

Indiv-840-1 Please refer to MR 1, which addresses the extended public comment period, and MR 7, which addresses public outreach. Through this public comment process,

USACE and the non-federal Partners have answered all comments received with the extent of information available.

- Indiv-840-2 The details of tree removal including inventories are available in MR 3, including the purpose and need for tree removal in MR 3-1 and establishment of plantings as on-site mitigation in MR 3-4. Also, refer to MR 15, which addresses riparian forest, and the Appendix G, “Engineering.”
- Indiv-840-3 Please see MR 4, which addresses impacts to recreation along the Lower American River, and response to Indiv-194-5 for discussion of large angular revetment use for erosion protection. MR 13 addresses mental and physical health, as well as the long-term benefits to public health resulting from flood risk reduction.

Individual 841 (Susan Siragus)

- Indiv-841-1 Please refer to MR 3-3 and 3-4 for details on the success of previous projects. Please also refer to MR 15-2 and 15-3 for anticipated success.

Individual 842 (Kerry Glamsch)

- Indiv-842-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

Individual 843 (Theodore Halidy)

- Indiv-843-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-843-2 Effects on NWPT are analyzed in Appendix B Section 4.3, “Special-status Species.” USACE reinitiated consultation with USFWS on May 15, 2024, which included the ARMS at Urrutia Property and a BO is expected to also be reissued February 2025. USACE will continue to actively coordinate with USFWS regarding effects on federally protected species.
- Indiv-843-3 Mitigation Measure TURTLE-1 has been modified in response to additional information provided in this comment and others submitted during the public comment period for the SEIS/SEIR.
- Indiv-843-4 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-843-5 Mitigation Measure TURTLE-1 has been modified. Post-construction upland and riparian habitat conditions on the ARMS would be improved in a manner beneficial to sustaining healthy, viable populations of pond turtle. Removal of asphalt, debris, and compacted soils; combined with the control of target nonnative, invasive vegetation and establishment/recruitment of native,

pollinator-friendly herbaceous species would enhance upland habitats that may be utilized by pond turtles for nesting. The addition of 80-90 pieces of IWM would increase basking site availability significantly over the existing condition, in which basking sites are limited due to the narrow littoral shelf. Please refer to MR 9-11 for additional information regarding the existing and proposed habitat values at the ARMS.

- Indiv-843-6 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

- Indiv-843-7 The ARMS site complies with the 2008 Lower American River Parkway Plan and the Natural Resources Management Plan. These documents are the governing policy for the Wild and Scenic Rivers Act and compliance is further discussed in MR 8. Additional information on the American River Mitigation Site can be found in MR 9.

- Indiv-843-8 Please refer to MR 9-11 for a detailed analysis of the existing and proposed habitat values, including lacustrine habitats, on the ARMS; along with MR 15-8 and the updated Appendix 4.1 Vegetation and Wildlife for an analysis of wildlife movement.

Individual 844 (Kerry O’Keefe)

Please refer to the responses to Form Letter 3.

Individual 845 (Larry Carr)

- Indiv-845-1 Appendix G “Engineering” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Appendix G, “Engineering” Section 2.4, "Site Evaluation," and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.

- Indiv-845-2 Please refer to Appendix G “Engineering” which provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering” Section 2.4.3, "Summary of Site Selection," and Section 1.7.4, "Erosion Protection Design Alternatives," for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible. Appendix G, “Engineering,” Section 1.6, "Levee Erosion Failure Processes," provides details on specific levee erosion failure processes and Section 2.5, "Design Development," describes design methods to address these risks.

- Indiv-845-3 Please refer to response to Indiv-845-1. Please refer to MR 3-3 and 3-4 for details on habitat success seen on past projects. Please also please refer to MR 15-2 and 15-3 for details on site maintenance and management for details on how sites are monitored and managed overtime to ensure mitigation sites are successful.

Additional Instream Woody Material is being added to planting benches at American River Erosion Contract 3B to mitigate loss of Shaded Riparian Habitat.

- Indiv-845-4 USACE is attempting to meet the minimum flood risk criteria to meet public safety objectives, while minimizing the environmental effects to the greatest extent. This includes human and social impacts, such as recreation and aesthetics. Appendix G “Engineering” explains the design process development from the 10 percent to the 100 percent plans with input from local, State and Federal stakeholders, as well as alternative selection and development.

Individual 846 (Lahre Shiflet)

- Indiv-846-1 Please see response to Indiv-754-11, which describes the responsibility of USACE to reduce risks to public safety on the Lower American River.

Individual 847 (Anne Richmond)

- Indiv-847-1 As described in MR 2-1, the 2016 GRR included 11 miles of erosion work on the LAR, design refinements have reduced the construction impacts to approximately 6 miles, which includes Contract 3B. The Contract 3B specific areas are of the highest risk were identified for erosion protection. Details and maps for specific sites for Contract 3B are included in Appendix G “Engineering” Section 2.5, “Design Development” provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Refer to MR 2-3 for information on previous work near J Street. Refer to MR 3-3 and 3-4 describing previous revegetation efforts following erosion protection along the American River. Lastly, MR 15 discusses the wildlife corridor, heritage oaks and the steps taken to reduce tree removal.

Individual 848 (Monique Medina)

Please refer to the responses to Form Letter 4.

- Indiv-848-A Please refer to MR 3, including the purpose and need for tree removal and replanting. Additionally, please refer to MR 15, which addresses riparian forest, and the Appendix G, “Engineering.”

- Indiv-848-B See response to Indiv-848-A.

Individual 849 (Cass Mowatt)

- Indiv-849-1 Please refer to MR 6, which addresses public health and safety impacts from construction. Additionally, please refer to Draft SEIS/SEIR Chapter 4, “Affected Environmental and Environmental Consequences” for the analysis of impacts on noise, air quality and habitat impacts.

Individual 850 (Avery Kunstler)

Please refer to the response to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-850-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-850-B Please refer to MR 2, which addresses the scope and approach of Contract 3B, Appendix G, “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 851 (Diedre Wilson)

Please refer to the responses to Form Letter 3.

Individual 852 (Teri Rie)

Indiv-852-1 The project team coordinates with the National Park Service throughout the design development phase. As each river segment (“contract”) reaches 95 percent level of design USACE submits a Consistency Analysis to the National Park Service for their consideration as they conduct their consistency review. The Lower American River Contract 3B will be submitted to the National Park Service for their review. As with each of the Lower American River contracts, construction of Lower American River Contract 3B will not proceed until the National Park Service completes its consistency review and provides a Consistency Determination if it concludes this is appropriate. Appendix H contains WSRA compliance.

Indiv-852-2 Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act. Refer to MR 3-1, MR 15 and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal and steps that were taken to minimize tree removal to the extent feasible.

Individual 853 (Kevin Peters)

Please refer to the responses to Form Letter 3.

Indiv-853-A This commenter provides unique comments regarding their personal experiences in the American River Parkway and expressed general opposition to the proposed project but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 854 (Mark Andrews)

Indiv-854-1 Please refer to Appendix G “Engineering” which has been added to clarify the need for the Proposed Action. Specifically, refer to Appendix G “Engineering”

Section 2.1.3, "Folsom Dam Operations Improvements" which outlines why the levees are being improved to address additional flows.

- Indiv-854-2 Please refer to the response to DOI-1-55. Please also refer to Appendix G "Engineering" Section 2.5.2.5 Contract 3B Site 4-2 for more information on identified risk drivers and the need for erosion protection within Site 4-2.
- Indiv-854-3 Please refer to response to Indiv-854-1 and 854-2. The flow levels requiring levee improvements are due to Folsom Dam operations, so there would be more factors than just precipitation in a season directing when the flow event would occur. Folsom Dam operation is based on current and forecast precipitation and inflow conditions. Appendix G "Engineering" Section 2.1.1, "Historical Performance" gives example storm events of when high flood levels were experienced in the past.

Currently, under pre-ARCF 2016 Project conditions, the Lower American River Levees cannot safely pass the 160,000 cfs flood flow event. Based on the engineering analysis performed, there is a very high risk that the levees will fail due to the existing erosion risk during a 160,000 cfs flood event. Once the ARCF 2016 Project erosion protection improvements are fully constructed, the Lower American River will be able to safely pass the 160,000 cfs design flow. Regular Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R, or O&M for short) is required following completion of the ARCF 2016 improvements to ensure the ability to safely pass the 160,000 cfs flood event is maintained into the future. OMRR&R is the responsibility of the State of California and its designated Local Maintaining Agencies.

- Indiv-854-4 Please refer to response to Indiv-854-2.

Individual 855 (Dan Ward)

- Indiv-855-1 Please refer to MR 7 for information on public outreach.
- Indiv-855-2 Please refer to MR 15, which addresses riparian forest, MR 3-1 and Appendix G "Engineering" Section 2.4.3, "Summary of Site Selection" for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible.

Individual 856 (Claudine Cloude)

- Indiv-856-1 Appendix G "Engineering" has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Individual 857 (Tanya Von Awe)

Please refer to the responses to Form Letter 3.

- Indiv-857-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 858 (Josh Thomas)

Indiv-858-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 859 (Greg Meyer)

Indiv-859-1 Please refer to MR 2-2, MR 3-1, MR 3-2 and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. The loss of habitat due to construction of the project will be replaced with on-site mitigation and off-site at the American River Mitigation Site, see MR 15 for more details. Refer to MR 3-3 and 3-4 which describes previous revegetation efforts following erosion protection along the American River.

Indiv-859-2 Appendix G “Engineering” has been added to clarify the need for the project. Please refer to MR 12 for property value impacts.

Individual 860 (Candince Heinz)

Please refer to responses to Individual 716.

Individual 861 (Katie Bellotti Porter)

Please refer to the responses to Form Letter 4.

Indiv-861-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 862 (James Morgan)

Indiv-862-1 This comment does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-862-2 To provide adequate flood control, there are environmental impacts such as vegetation removal. However, USACE is required to mitigate for this loss at a 2:1 ratio and are confident, that the sites will regrow along with the mitigation sites and will continue to support the Wild and Scenic River that the American River represents. Additionally, please refer to MR 1, which addresses public outreach and requests for documentation.

Indiv-862-3 The comment requests that this SEIS/SEIR compares Contract 3B to Contracts 1 and 2 that occurred downstream. If you would like more information on Contracts 1 and 2 environmental documents, please visit www.sacleveeupgrades.com.

Indiv-862-4 Please refer to MR 2 and 3, and the Appendix G “Engineering” for more detailed explanations on the designs for these contracts.

- Indiv-862-5 Please also refer to Appendix G “Engineering” Section 2.3.3, “Hydraulic Model Analysis” for information on the hydraulic modeling tools utilized and the basis for their selection.
- Indiv-862-6 Please also refer to Appendix G “Engineering” Section 2.3.3, “Hydraulic Model Analysis” for information on the hydraulic modeling tools utilized and the basis for their selection.
- Indiv-862-7 Please also refer to Appendix G “Engineering” Section 2.3.3, “Hydraulic Model Analysis” for information on the hydraulic modeling tools utilized and the basis for their selection.
- Indiv-862-8 A 2-dimensional hydraulic model account for and reflect the impacts vegetation has on the river flow dynamics. Please also refer to Appendix G “Engineering” Section 2.3.3, “Hydraulic Model Analysis” for information on the hydraulic modeling tools utilized and the basis for their selection.
- Indiv-862-9 Trees and vegetation were incorporated and accounted for in the hydraulic models developed and utilized in the engineering analyses for assessing the erosion risk along the Lower American River. Trees and vegetation are accounted for by adjusting the Mannings Roughness Coefficient to the appropriate value which reflects the presence of trees and vegetation. The Mannings Roughness Coefficient value selected at a given location within the model is based on evaluation of the corresponding real-world location along the river and volume/density of trees and vegetation present at that real-world location. Please also refer to Appendix G “Engineering” Section 2.3.3, “Hydraulic Model Analysis” for information on the hydraulic modeling tools utilized, their development, and their application.
- Indiv-862-10 Use of a 3-dimensional hydraulic model is unnecessary to evaluate the risk of erosion along the Lower American River. For more information on why 3-dimensional models are unnecessary and why 2-dimensional hydraulic models are appropriate and were selected for use in the erosion risk analyses, please refer to Appendix G “Engineering” Section 2.3.3, “Hydraulic Model Analysis.”
- Indiv-862-11 Please refer to MR 7, which addresses public outreach and request for documentation.
- Indiv-862-12 Please see response to Indiv-862-4.
- Indiv-862-13 Please see response to Indiv-862-5.
- Indiv-862-14 Please refer to MR 2, 3, and 5, along with Appendix G “Engineering” for more information on the effects to vegetation removal and modeling techniques that helped inform the designs for these contracts.
- Indiv-862-15 Please see response to Indiv-862-13.

- Indiv-862-16 Designs have been substantially refined as USACE seeks to minimize impacts to trees while still meeting flood risk objectives. At the time of writing the Draft SEIS/SEIR the designs were at 65 percent, and the Project Partners chose to buffer the footprint to account for anticipated upcoming changes in order to ensure that all possible impacts to the environment were communicated to the public. Project Partners are now more confident with the design's footprints so updated maps with the most up-to-date information and maps showing tree removal areas have been added to the Final SEIS/SEIR Section 3.5.2.1.1, "Erosion Protection Features." Additionally, please also refer to MR 15-1.
- Indiv-862-17 Please see response to Indiv-514-15. This particular location would not make an ideal staging area as it is far from the project footprint. This area would only be used for staging if real estate negotiations fall through for Larchmont Park and would need approval from the property owner for use.
- Indiv-862-18 Please refer to Figure 3.5.2-11 of the Final SEIS/SEIR. Please note any tree removal would require approval of the property owner.
- Indiv-862-19 As designs progress for Contract 4B, USACE and its partners may need to conduct further environmental documentation, in which the public will have a chance to provide comments. Additional information on Contract 4B can be found in MR 10 and Appendix G "Engineering."
- Indiv-862-20 USACE understands that two figures were missing from the Draft SEIS/SEIR and have since been added to the Final document. Please note that these two same figures were provided in the public meetings and added to sacleveupgrades.com.
- Indiv-862-21 Please refer to response to Indiv-862-20.
- Indiv-862-22 The purpose of Contract 4B is to save trees. With that said, as designs progress for Contract 4B, USACE and its partners may need to conduct further environmental documentation, in which the public will have a chance to provide comments. Additional information on Contract 4B can be found in MR 10 and Appendix G "Engineering."
- Indiv-862-23 Please refer to response to Indiv-862-2 through Indiv-862-18.
- Indiv-862-24 Please refer to MR 15, which addresses riparian forest, and Appendix G, "Engineering."
- Indiv-862-25 This table is referring to the impacts of the Proposed Action within the SEIS/SEIR not the 2016 ARCF GRR Final EIS/EIS. "ARCF GRR SEIS" has been deleted for clarification purposes.
- Indiv-862-26 The responsibility for Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R, or O&M for short), is ultimately the responsibility of the State of California. However, the State has delegated that responsibility to Local Maintaining Agencies (LMA) for each levee system throughout the Sacramento Valley. Along the Lower American River, the designated LMA is the

American River Flood Control District (ARFCD). ARFCD O&Ms the levees and channel in accordance with the Sacramento River Flood Control Project's Standard O&M Manual, and the Supplemental O&M Manual applicable to ARFCD's area of responsibilities (i.e., levee reaches they must O&M).

That said, the intent of launchable rock is to fill a scour/erosion hole which forms at the toe of the launchable rock section, thus armoring and protecting the bank line from future scour. Since this is the intended function, there should not be a need to replace/repair the launch rock understand standard O&M practices.

Launchable rock features began being implemented by USACE Sacramento District in the early 2000s. Since then, the flood risk management system has not experienced any floods which have caused the launchable rock features to "launch" to be able to provide evidence of how it has performed. However, there were studies and experiments performed by the USACE Engineering Research and Development Center (ERDC) which helped form and develop the guidance used in design of these launchable rock features. One such report is Technical Report HL-95-11 - "Toe Scour and Bank Protection Using Launchable Stone."

- Indiv-862-27 Consultation with interested Native American Tribes is ongoing and has taken place according to the terms of the Programmatic Agreement and USACE Tribal Policy. The results of identification and evaluation of Historic Properties, approaches to avoid and minimize adverse effects, and plans for treatment of Tribal resources encountered during construction include confidential information regarding the location and details of historic, cultural, and Tribal resources, and are not included in public documents. Native American Tribes provide highly sensitive resource information to USACE with the condition that such information remain confidential; therefore, specific topics and outcomes of Tribal consultation will not be released in a public document.
- Indiv-862-28 The team has corrected this during the preparation of the Final SEIS/SEIR as recommended.
- Indiv-862-29 The combination of Appendix B "Detailed Analyses" was a CEQA requirement. However, for the Final SEIS/SEIR, Project Partners will provide the Appendix in both formats for easier access (with the main report and separate with other appendices).
- Indiv-862-30 Please refer to Response to Indiv-86- 7 through -10.
- Indiv-862-31 The Lower American River Bank Protection Working Group has been continuing sessions. A session occurred on April 30, and August 13, 2024, and the recordings are available on sacleveeupgrades.com. Ongoing public outreach outside of the NEPA/CEQA process is intended. Appendix G "Engineering" describes and justifies the erosion protection needed on the Lower American River. Additionally, MR 8 describes the commitments made for Wild and Scenic River Act requirements.

Individual 863 (Lloyd Levine)

Please refer to responses to Indiv-415.

Individual 864 (Sandra Julee Starkey)

Please refer to the responses to Form Letter 3.

Individual 865 (Barbara Domek)

Indiv-865-1 Please refer to response to Indiv-421-1.

Indiv-865-2 Thank you for providing the information. Project Partners will review it and incorporate it if determined to need to be incorporated into the Final SEIS/SEIR.

Individual 866 (Sevim Larsen)

Indiv-866-1 This is a duplicate letter. Please refer to responses to Indiv-463.

Indiv-866-2 Please refer to response to comment Indiv-866-1.

Indiv-866-3 Please refer to response to comment Indiv-866-1.

Indiv-866-4 Please refer to response to comment Indiv-866-1.

Indiv-866-5 Please refer to response to comment Indiv-866-1.

Indiv-866-6 Please refer to response to comment Indiv-866-1.

Indiv-866-7 Please refer to response to comment Indiv-866-1.

Individual 867 (Barbara Domek)

Indiv-867-1 This is a duplicate of Individual 666. Please refer to responses to comment Indiv-666-1 through -4.

Individual 868 (Josh Thomas)

Please refer to responses to Indiv-589.

Individual 869 (Mary Berliner Cabral)

Indiv-869-1 Please refer to Appendix G “Engineering” which provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. Refer to MR 2-3 for information on previous work near River Park/Paradise Beach area.

Indiv-869-2 See response to comment Indiv-869-1. Refer to MR 6 for information on public health and safety from construction. Refer to Appendix G “Engineering,” Section 1.6, “Levee Erosion Failure Processes,” and Section 2.5, “Design Development.” Refer to MR 15 for information on impacts to riparian forest and wildlife corridors.

Individual 870 (Janice Chung)

Please refer to the responses to Form Letter 4.

Indiv-870-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-870-B Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-870-C Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 871 (Jessica Pluat)

Please refer to the responses to Form Letter 5.

Individual 872 (Tanya Von Awe)

Please refer to the responses to Form Letter 5.

Individual 873 (Lucia C Becerra)

Please refer to the responses to Form Letter 5.

Individual 874 (Adele Kruger)

Indiv-874-1 Please refer to MR 7 for information regarding public outreach.

Individual 875 (Steven Kempster)

Please refer to the responses to Form Letter 5.

Individual 876 (Naomi Ennis)

Please refer to the responses to Form Letter 3.

Indiv-876-A This comment does not raise a specific issue relating to the analysis of this SEIS/SEIR.

Individual 877 (Jamie Hall)

Please refer to the responses to Form Letter 5.

Individual 878 (Candice Heinz)

Please refer to the responses to Form Letter 5.

Individual 879 (Keith Imler)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-879-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-879-B Please refer to MR 15, which addresses impacts to riparian vegetation and wildlife corridor.

Individual 880 (Lisa D.)

Please refer to the responses to Form Letter 5.

Individual 881 (Paul McClure)

Indiv-881-1 Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G, “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B.

Indiv-881-2 Please refer to MR 15, which addresses wildlife corridors and fisheries.

Indiv-881-3 This comment does not raise a specific issue relating to the analysis in this SEIS/SEIR.

Individual 882 (Kim Karen McKean)

Please refer to the responses to Form Letter 5.

Individual 883 (Joshua Thomas)

Indiv-883-1 USACE will review the material and determine if anything might help support the SEIS/SEIR.

Individual 884 (Naomi Ennis)

Indiv-884-1 Surface erosion within the construction footprint is not considered a design failure; once vegetation has regrown on the topsoil these features will stop occurring. The construction team and engineers are aware of and working to address the surface erosion before the site is determined to be functionally complete. Please refer to MR 2-3, MR 3-7 for information on previous work near River Park/Paradise Beach area. See responses to Indiv-462 and Indiv-631 for information on best management practices and temporary measures. See responses to attached comments in Indiv-762 and Indiv-868.

Individual 885 (Max Hall)

Please refer to the responses to Form Letter 3.

Individual 886 (Suzy Campbell)

Please refer to the responses to Form Letter 3.

Indiv-886-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 887 (Jodie Ross)

Indiv-887-1 USACE extended the public comment period out to February 23, 2024, to allow for more time to review the document and provide comments. Please refer to MR 1, which addresses the extended comment period.

Indiv-887-2 Appendix G “Engineering” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to Appendix G “Engineering” Section 2.1, “Background” and Section 2.3.2, “Hydrology” and MR 2-1 for a summary of how Folsom Dam relates to the Proposed Action. Please also refer to response to comment Indiv-289-13 for details on modeling and vegetation.

Indiv-887-3 Please refer to MR 2-2, MR 3-1, MR 3-2, MR 15, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible. In addition, Appendix G “Engineering” Section 2.4, “Site Evaluation and Selection” and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled “Design Alternatives” outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.

Indiv-887-4 Please see MR 3, which addresses tree removal and replanting, and MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Indiv-887-5 Please refer to response to Indiv-887-3. A discussion of impacts to wildlife, fish and special status species, including mitigation measures to try to reduce impacts is detailed in Appendix B “Detailed Analyses,” Sections 4.2.3 and 4.3.3, both entitled “Analysis of Environmental Effects.” Please also refer to MR 2-8.

Indiv-887-6 Please refer to response to Indiv-887-3. Please refer to MR 2-3, MR 3-7 and response to Indiv-336-1 for information on the recent previous work Project Partners have completed on the Lower American River.

Indiv-887-7 Please refer to response to comment Indiv-887-2 and -3.

Individual 888 (Chris Papouchis)

Please refer to the responses to Form Letter 4.

Indiv-888-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 889 (Peggy Cranston)

Please refer to the responses to Form Letter 3.

Indiv-889-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 890 (Alexis Jai Wieser)

Please refer to the responses to Form Letter 3.

Indiv-890-A Please refer to response to comment Indiv-843-2 and -3.

Individual 891 (Noah Spickelmier)

Please refer to the responses to Form Letter 4.

Indiv-891-A This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-891-B Please refer to MR 15, which addresses impacts to riparian forest and wildlife corridors.

Individual 892 (Jennefer Asperheim)

Please refer to the responses to Form Letter 4. Please also refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-892-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 893 (Marsha Arnold)

Indiv-893-1 The commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 894 (Julie Hanf)

Please refer to the responses to Form Letter 3.

Individual 895 (Tom Scarvie)

Indiv-895-1 Please refer to MR 6, which addresses public health during construction; MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest.

Indiv-895-2 Please refer to MR 12 for a discussion on property values. Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site.

Indiv-895-3 Please refer to response to comment Indiv-895-1 and -2.

Individual 896 (Chris Enright)

Please refer to the responses to Form Letter 3.

Individual 897 (Charles Kohler)

Please refer to the responses to Form Letter 3.

Individual 898 (Scott Hackney)

Indiv-898-1 A discussion of impacts of wildlife, fish and special status species, including mitigation measures to try to reduce impacts, is summarized in Sections 4.4.1.2.2 "Proposed Action," 4.4.2.2.2 "Proposed Action" and 4.4.3.2.2 "Proposed Action" of the SEIS/SEIR and discussed in more detail in Sections 4.1.3, “Analysis of Environmental Effects” , 4.2.3, “Analysis of Environmental Effects” and 4.3.3, “Analysis of Environmental Effects” of Appendix B. Please also refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to wildlife and habitat and riparian forest.

Indiv-898-2 See response to comment Indiv-898-1.

Indiv-898-3 See response to comment Indiv-898-1.

Individual 899 (Linda Bailey)

Indiv-899-1 Please refer to MR 2, MR 3, and Appendix G “Engineering,” for a detailed description on the need for tree removal and steps that were taken to minimize tree removal as much as possible. Please also refer to MR 15, which addresses impacts to habitat and wildlife and riparian vegetation. Please refer to the responses to Central Valley Bird Club (CVBC) -1 and CVBC-91 in the CVBC comment letter.

Individual 900 (Joan Toomire)

Indiv-900-1 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering,” which has been added to clarify the need for the project.

Individual 901 (Linette Mansberger)

Indiv-901-1 Please refer to MR 15, which addresses riparian forest, and Appendix G, “Engineering,” which has been added to clarify the need for the project.

Individual 902 (Cindy Elliot)

Please refer to the responses to Form Letter 3.

Indiv-902-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 903 (Trysh)

Indiv-903-1 Please refer to MR 2-2, MR 3-1, MR 3-2, MR 15, which addresses riparian forest, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Individual 904 (Randy Fisher)

Indiv-904-1 Please refer to response to comment Indiv-801-1.

Indiv-904-2 Please refer to response to comment Indiv-801-2.

Indiv-904-3 Please refer to response to comment Indiv-801-1.

Individual 905 (Paul Lukkarila)

Indiv-905-1 This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-905-2 Appendix G “Engineering,” has been added to clarify the need for the project.

Indiv-905-3 Please refer to response to comment Indiv-905-2. Also refer to MR 7 for information on the public outreach.

Indiv-905-4 Please refer to response Indiv-905-2. Additionally, Chapter 4 of the SEIS/SEIR discusses the environmental impacts of the project.

Indiv-905-5 Please refer to response to Indiv-905-2. Appendix G “Engineering,” Section 2.4, “Site Evaluation and Selection,” and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled “Design Alternatives,” outline the steps that were taken to look at a

segment-by-segment approach at design and alternatives considered. Please refer to Appendix G Section 2.1, "Background," and Section 2.3.2, "Hydrology" to understand how Folsom Dam updates relate to the need to increase erosion protection.

Individual 906 (Shannon Wilson)

- Indiv-906-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G "Engineering," Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible. Additionally, please refer to MR 4, which addresses recreation and commuting; and MR 15, which addresses riparian forest.
- Indiv-906-2 Appendix G "Engineering," has been added to clarify the need for the project. Please refer to MR 12 for details on property values.

Individual 907 (John Lee)

Please refer to the responses to Form Letter 4.

- Indiv-907-A This commenter expresses general opposition to the proposed work and is concerned about tree removal in the American River Parkway and the impacts to the community. Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Appendix G "Engineering," Chapter 2, "Lower American River Erosion Protection," for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal and plantings.

Individual 908 (Scott Clark)

Please refer to the responses to Form Letter 3.

Individual 909 (Brian Agnell)

Please refer to the responses to Form Letter 3.

Individual 910 (Patrick Cocoran)

Please refer to the responses to Form Letter 3.

- Indiv-910-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 911 (Lori Ward)

Please refer to the responses to Form Letter 3.

Indiv-911-A Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to wildlife habitat and riparian vegetation.

Individual 912 (Paula Sugarman)

Indiv-912-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Please also refer to MR 4, which addresses recreation; and MR 13, which addresses green space and physical and mental health.

Indiv-912-2 Please refer to MR 7, which addresses public outreach.

Individual 913 (Richard Hamilton)

Please refer to the responses to Form Letter 4.

Indiv-913-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 914 (Jennifer Alkoum)

Please refer to the responses to Form Letter 4

Indiv-914-A This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-914-B Please refer to MR 4, which addresses impacts to recreational access of the Parkway.

Indiv-914-C Please refer to MR 6, which addresses public health and safety impacts from construction.

Indiv-914-D Please refer to MR 15, which addresses impacts to wildlife habitat and riparian vegetation.

Individual 915 (Theresa De Crescenzo)

Indiv-915-1 Please refer to MR 4-1 and 4-2 for a discussion on river access points and MR 15, which addresses riparian forest. Commentor incorrectly states that impact would be minimally mitigated downstream. There will be onsite mitigation. Maps showing onsite mitigation for American River Erosion Contract 3B has been added to Section 3.5.2.1.1, "Erosion Protection Features" of the SEIS/SEIR. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on why USACE cannot rely on

existing vegetation or bioengineering. In addition, Appendix G Section 2.4, "Site Evaluation and Selection," and Sections 2.5.2.3.2, 2.5.2.4.2, and 2.5.2.5.2, all entitled "Design Alternatives," outline the steps that were taken to look at a segment-by-segment approach at design and alternatives considered.

- Indiv-915-2 Please refer to Appendix G "Engineering," for a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Section 1.6, "Levee Erosion Failure Processes," provides details on specific levee erosion failure processes and Section 2.5, "Design Development," describes design methods to address these risks. Appendix G also includes descriptions of existing revetments near project sites including the revetment near Larchmont Park, Segment 4-2 (or 10.6L) installed in 2011.
- Indiv-915-3 Please refer to MR 4, which addresses impacts to recreation on the Lower American River from Contract 3B.
- Indiv-915-4 Heat island effects have been addressed in MR 15-7. Specific impacts to Shaded Riparian Habitat (habitat for fish), including mitigation measures to try to reduce impacts, is summarized in section 4.4.2.2.2, "Proposed Action" of the SEIS/SEIR and discussed in more detail in Section 4.2.3, "Analysis of Environmental Effects" of Appendix B.
- Indiv-915-5 Appendix G "Engineering," has been added to clarify the need for the project. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, Section 2.4.3, "Summary of Site Selection" and Section 1.7.4, "Erosion Protection Design Alternatives" for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. In addition, please refer to Appendix G, Section 2.1, "Background," and Section 2.3.2, "Hydrology," to understand why Folsom Dam updates provide the need to increase erosion protection.

Individual 916 (Dale T. Steele)

- Indiv-916-1 This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-916-2 The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR.
- Indiv-916-3 Please refer to MR 2, which addresses the scope and approach to improvements for Contract 3B; MR 3, which addresses tree removal and plantings; MR 4, which addresses recreational access to the Parkway; MR 5, which addresses mitigation; MR 10, which addresses the purpose and goal for Contract 4B, including preserving heritage oaks; MR 15, which addresses riparian forest. Also, additional language and figures (including maps of tree removal areas) have been added to Section 3.5.2.1.1, "Erosion Protection Features," of the SEIS/SEIR to show the most up to date information. Both Sacramento County Regional Parks and the

National Parks Service have been included in contract design and mitigation development in order to ensure all project components are in compliance with the Wild and Scenic Rivers Act. Please also refer to Appendix G, "Engineering," for more detailed information.

- Indiv-916-4 There will be onsite mitigation. Habitat impacts are mitigated at a 2:1 or 3:1 mitigation ratio. Consequently, it would not be feasible to do all onsite mitigation so offsite mitigation is needed in tandem with onsite mitigation. As discussed in Indiv-916-3, additional maps have been added to clarify impacts based on the most up to date information. Maps showing onsite mitigation for American River Erosion Contract 3B has been added to Section 3.5.2.1.1, "Erosion Protection Features." Chapter 5 of the SEIS/SEIR addresses cumulative impacts.
- Indiv-916-5 Number omitted.
- Indiv-916-6 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G "Engineering," Section 2.4.3, "Summary of Site Selection," for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation, bioengineering, or Engineering With Nature; and steps that were taken to minimize tree removal as much as possible. Appendix G provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Section 1.6, "Levee Erosion Failure Processes," provides details on specific levee erosion failure processes and Section 2.5, "Design Development," describes design methods to address these risks. Refer to MR 3-3 and 3-4 for details on previous revegetation efforts along the American River following erosion protection work. Refer to MR 5 for more details on on-site mitigation.
- Indiv-916-7 All identified errors and inconsistencies brought to attention during the public comment period have been corrected in the Final SEIS/SEIR. Additionally, this Final SEIS/SEIR has undergone additional review including Project Delivery Team, Non-Federal Partner, Supervisory, District Quality Control, Legal, Agency Technical Review, Environmental Resources Branch, Planning Division, and Executive Level to ensure the highest quality deliverable.
- Indiv-916-8 Please refer to MR 7, which addresses public outreach; MR 9, which comprehensively addresses the design process for the ARMS site and identifies existing wildlife and habitat values in contrast to the proposed project modifications; and MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 917 (Deborah Dodd)

- Indiv-917-1 This commenter provides some unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-917-2 As described in MR 2-1, the 2016 GRR included 11 miles of erosion work on the LAR; design refinements have reduced the construction impacts to approximately

6 miles, which includes Contract 3B. The Contract 3B specific areas are of the highest risk were identified for erosion protection. Details and maps for specific sites for Contract 3B are included in Appendix G “Engineering,” Section 2.5. Appendix G provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Refer to MR 2-3 for information on previous work near River Park/Paradise Beach area and MR 3-3 and 3-4 describing previous revegetation efforts along the American River. Section 3.5.2.1.4 in the SEIS/SEIR describes operations and maintenance once habitat is successfully established for American River Erosion Contracts 3B North, 3B South, and 4B. Please also refer to MR 15, which addresses wildlife habitat and riparian forest.

Individual 918 (Anthony Lucio)

Please refer to the responses to Form Letter 4.

Indiv-918-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-918-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations.”

Indiv-918-C The commenter provides suggestions for USACE to consider but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 919 (Coby Field)

Please refer to the responses to Form Letter 4.

Indiv-919-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-919-B Please refer to the responses to the List of Key Concerns at the beginning of Section 1.8, “Responses to Comments from Individuals and Organizations;” MR 8, which addresses consistency with the Wild and Scenic Rivers Act; and MR 15, which addresses impacts to wildlife habitat and riparian forest.

Individual 920 (Liliana Ferrer)

Please refer to the responses to Form Letter 4.

Individual 921 (Melina Cacciurri)

Please refer to the responses to Form Letter 3.

Indiv-921-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 922 (Charles Dallas)

Please refer to the responses to Form Letter 3.

Individual 923 (Kirsten Talley)

Please refer to the responses to Form Letter 4.

- Indiv-923-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-923-B Please refer to the responses to MR 15, which addresses impacts to habitat and wildlife and riparian forest; and MR 3, which addresses tree removal and riprap.
- Indiv-923-C Please refer to MR 2, which addresses the scope and approach to improvements for Contract 3B; MR 3, which addresses tree removal and plantings; and Appendix G “Engineering,” which has been added to clarify the need for the project.
- Indiv-923-D Please refer to MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 924 (Eric Domek)

Please refer to the responses to Form Letter 4.

- Indiv-924-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 925 (Samira Al-Qazzaz)

- Indiv-925-1 Please refer to SEIS/SEIR Section 4.4.1.2.2, “Proposed Action,” which summarizes the impact of tree removal on the aesthetics of American River Parkway. Please refer to MR 4, which addresses recreation and commuting, and MR 15, which addresses riparian forest, and Appendix G “Engineering,” for more details on the need for the project.

Individual 926 (Doug Arnold)

- Indiv-926-1 This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-926-2 USACE appreciates your concern for the construction projects downstream of Contracts 3B and 4B. These contracts that occurred between Glenn Hall Park, and Howe Avenue Bridge were Contracts 1 and 2. For more information on the environmental effects and the great amount of mitigation required for these projects, please go to www.sacleveeupgrades.com.

Individual 927 (Sarah Strand)

Please refer to the responses to Form Letter 3.

- Indiv-927-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 928 (Wayne Monson)

- Indiv-928-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Please also refer to MR 4, which addresses impacts to recreational access to the Parkway.

Individual 929 (Steve Thoreson)

Please refer to the responses to Form Letter 4.

- Indiv-929-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 930 (Mary E. Tappel)

- Indiv-930-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Please refer to MR 4, which addresses recreation and commuting, and MR 15, which addresses wildlife habitat and riparian forest.
- Indiv-930-2 The ARCF16 Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. For additional discussion, please see MR 8 (Wild and Scenic Rivers Act). Please also refer to MR 4, which address recreational access to the Parkway.
- Indiv-930-3 Project Partners worked closely with local agencies, including Sacramento County Regional Parks, to ensure consistency with regional plans, including the American River Parkway Plan. Specific impacts to Shaded Riparian Habitat (habitat for fish), including mitigation measures to try to reduce impacts, is summarized in Section 4.4.2.2.2, “Proposed Action” of the SEIS/SEIR and discussed in more detail in Section 4.2.3, “Analysis of Environmental Effects” of Appendix B.
- Indiv-930-4 The comments states that the SEIR does not adequately disclose, analyze, or mitigation the projects significant adverse impacts to recreation, biological,

visual, air quality, or social impacts to at-risk communities, but does not raise a specific issue relating to the analysis in the Draft SEIS/SEIR. Please refer to Appendix B “Detailed Analyses” for detailed discussions regarding recreation, biological resources, aesthetics, air quality, and social impacts to at-risk communities.

- Indiv-930-5 The 2016 EIS/EIR reviewed additional alternatives for reducing the flood risk in the Sacramento area. As this document is a supplement, many alternatives were screened out and are no longer considered feasible.

Refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or nature-based approaches (bioengineering), and steps that were taken to minimize tree removal as much as possible. Refer to MR 2-3 for information on previous work near Paradise Beach/River Park area.

As described in Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection,” USACE recognizes that trees and other vegetation can reduce risk to bank erosion. However, failure of vegetation during high flow events can expose underlying erodible soils to erosion and the effects of vegetation might not extend below summer water levels. Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes and Section 2.5, “Design Development,” describes design methods to address these risks. Appendix G provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Flora and Khosronejad 2021 and 2023 have been reviewed by USACE; please refer to the responses to CBD-3-7 and CBD-3-16 for additional discussion of these studies.

Individual 931 (Gretchen Smurr)

- Indiv-931-1 This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

- Indiv-931-2 Impacts to wildlife is summarized in Section 4.4.1.2.2, "Proposed Action," of the SEIS/SEIR and discussed in more details in Section 4.1.3, "Analysis of Environmental Effects" of Appendix B. Please refer to MR 3-7 for a discussion on the work near Sacramento State University.

Water temperatures can be affected by a number of factors, including air temperatures, elevation, flow and velocity, and presence of riparian vegetation. For the American River, the major factor that impacts water temperature are the operations of Folsom Dam. The releases from Folsom are heavily studied and modeled in several recent Central Valley Project/State Water Project Biological Assessments from the Bureau of Reclamation, as well as the responsive Biological Opinions from NMFS (2009, 2019, pending 2024/2025). While the

removal of bank vegetation in several areas may seem extensive, the removal is a temporary occurrence that will be vegetated upon completion. Adjacent habitat upstream and downstream will provide interim cover for fish during the construction timeframe. Temporary removal of the amount of vegetation on the proposed sections of the Lower American River is not expected to cause a measurable increase to water temperatures in the Lower American River due to the small shaded area relative to the surface area of the river and the fact that the volume and temperature of water released from Folsom Dam drive the temperature of the water in the lower American River, overwhelming other influences. Water management data for the American River can be found here:

- <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/california-central-valley-water-operations-biological>
- This site contains peer review of the most recent BOR data, and the peer review done by scientists, Appendix M is centered around the American River temperatures and Folsom Operations
<https://deltacouncil.ca.gov/delta-science-program/long-term-operations-for-the-central-valley-project-and-state-water-project-fish-and-aquatic-effects-analysis-review-panel>

Indiv-931-3 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Individual 932 (Richard Jones)

Indiv-932-1 Please refer to MR 2, which addresses the scope and approach of improvements for Contract 3B; and Appendix G “Engineering,” Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes and Section 2.5, “Design Development,” describes design methods to address these risks. Appendix G provides a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR.

Indiv-932-2 Please refer to MR 3-1 and Appendix G “Engineering,” for information on the need for tree removal and steps that were taken to minimize tree removal as much as possible. Refer to MR 2-3, 3-3, and 3-4 describing previous erosion control and revegetation efforts along the American River. Please refer to MR 3-7 for a discussion on the work near Sacramento State University.

Indiv-932-3 Please refer to Appendix G “Engineering,” Section 1.7, “Design Criteria and Standards,” and Section 1.8, “Site Evaluation and Selection.” Please also refer to Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes and Section 2.5, “Design Development,” describes design methods to address these risks.

Indiv-932-4 As described in Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection,” USACE recognizes that trees and other vegetation can reduce risk to bank erosion. However, failure of vegetation during high flow events can expose underlying erodible soils to erosion and the effects of vegetation might not extend below summer water levels. Refer to MR 2-2, MR 3-1, MR 3-2, MR 15, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible.

Individual 933 (Jennifer Dunmire)

Indiv-933-1 Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses riparian forest, and Appendix G, “Engineering” for more detailed information on restoration.

Individual 934 (Cindy Elliot)

Indiv-943-1 Please refer to MR 2-2, MR 3-1, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation, and steps that were taken to minimize tree removal as much as possible.

Indiv-934-2 Please see MR 8, which addresses consistency with the Wild and Scenic Rivers Act.

Individual 935 (Edward J. Schmit)

Indiv-935-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible. Shaded Riverine Aquatic (SRA) habitat is described in Section 4.4 “Ecological and Biological Resources” of the SEIS/SEIR. Measures to avoid, minimize, and compensate for effects to SRA habitat are included in Section 4.4 of the SEIS/SEIR and was included in the Endangered Species Act Section 7 consultation Biological Opinions. MR 15 includes additional information on wildlife habitat and riparian vegetation within the Parkway.

Individual 936 (Barbara Beeman)

Please refer to the responses to Form Letter 4.

Indiv-936-A Please refer to MR 2, which addresses the scope and approach of Contract 3B; and Chapter 2, “Lower American River Erosion Protection,” in Appendix G, “Engineering,” for an explanation of the design approach for Contracts 3B and 4B.

Individual 937 (Linda Shroeder)

Please refer to the responses to Form Letter 3.

Indiv-937-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 938 (Kennth Spaulding Jr.)

Please refer to the responses to Form Letter 3.

Indiv-938-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Indiv-938-B Please refer to MR 2, which addresses the scope and approach of Contract 3B; and Appendix G “Engineering,” Chapter 2, “Lower American River Erosion Protection,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 15, which addresses impacts to riparian vegetation, carbon sequestration, heat island effects, wildlife movement and fisheries.

Indiv-938-C Please refer to MR 15, which addresses impacts to habitat and wildlife; and MR 4, which addresses impacts to recreation.

Individual 939 (Barbara Domek)

Indiv-939-1 Appendix G “Engineering” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. MR 3-4, MR 15-2 and MR 15-3 outlines the expected establishment time of new plantings based on previous work.

Indiv-939-2 Please refer to MR 2-2, MR 3-2, and the added Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Please also refer to MR 15, which addresses riparian forest.

Indiv-939-3 Please refer to Appendix G “Engineering,” Section 2.1, “Background,” Section 2.3.2, “Hydrology,” and MR 2-1 for a summary of how Folsom Dam relates to the Proposed Action.

Indiv-939-4 Please refer to Appendix G “Engineering,” for a summary of engineering investigations, analyses and design efforts completed to-date to support project components in the SEIS/SEIR. Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes and Section 2.5, “Design Development,” describes design methods to address these risks. Please refer to MR 15 for additional information on riparian forest and restoration.

Individual 940 (Lisa Sanchez)

Please refer to the responses to Form Letter 3.

Indiv-940-A This commenter expresses general opposition to the proposed project but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 941 (Vicki Meyer)

Indiv-941-1 Please refer to MR 2, which addresses the scope and approach of the improvements for Contract 3B; MR 3, which addresses tree removal and plantings; MR 15, which addresses wildlife habitat and riparian forest; and Appendix G “Engineering,” which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Specifically, Section 1.6, “Levee Erosion Failure Processes,” provides details on specific levee erosion failure processes and Section 2.5, “Design Development,” describes design methods to address these risks. Slurry walls are built to address seepage and stability failures. American River Erosion Contract 3B is being built to address failure due to erosion.

Indiv-941-2 Please refer to Appendix G “Engineering,” Section 2.1, “Background,” Appendix G Section 2.3.2, “Hydrology,” and MR 2-1 for a summary of Folsom Dam and a history previously experienced flow levels. Section 1.6, “Levee Erosion Failure Processes,” of Appendix G outlines levee failure modes. Slurry walls are built to address seepage and stability failures. American River Erosion Contract 3B is being built to address failure due to erosion. Flood insurance is decided by FEMA. The commentor is likely outside the FEMA Special Flood Hazard area also know 100-year flood plain as National Flood Insurance is required by leaders who finance homes in that zone. However, if levee improvements are not undertaken FEMA could change that designation. Just like how Project Partners identified special areas of risk, FEMA may also reassess site conditions and change the flood zone according to best understanding of risk at that time they evaluate that area.

Indiv-941-3 Please refer to MR 2-2, MR 3-1, MR 3-2, MR 15, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection,” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible.

Indiv-941-4 The ARCF16 Project is being developed consistent with the requirements of the Wild and Scenic Rivers Act and the American River Parkway Plan. For additional discussion, please see MR 8 (Wild and Scenic Rivers Act).

Indiv-941-5 Please refer to Appendix G “Engineering,” Section 2.1, “Background,” Section 2.3.2, “Hydrology,” and MR 2-1 for a summary of how Folsom Dam relates to the Proposed Action.

Individual 942 (Melissa Gates)

- Indiv-942-1 Please refer to MR 2, which addresses the scope and approach of the improvements for Contract 3B; MR 3, which addresses tree removal and plantings; MR 15, which addresses wildlife habitat and riparian forest; and Appendix G “Engineering,” which has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Please refer to Sections 4.5.1 and 4.5.3 of the SEIS/SEIR for a summary of expected impacts to birds and wildlife. Please refer to Section 4.1 and 4.3 of appendix B for a detailed discussion of impacts to birds and wildlife and the mitigation measures implemented to try to minimize impacts.

Individual 943 (Polly Murphy-Jones)

Please refer to the responses to Form Letter 3.

- Indiv-943-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-943-B Please refer to MR 2, which addresses the scope and approach of Contract 3B, and Chapter 2, “Lower American River Erosion Protection,” in Appendix G “Engineering,” for an explanation of the design approach for Contracts 3B and 4B. Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses wildlife habitat and riparian forest.

Individual 944 (Ronald Hall)

- Indiv-944-1 Please refer to MR 2-2, MR 3-1, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, and steps that were taken to minimize tree removal as much as possible, including the area upstream of Watt Ave. Please refer to MR 15, which addresses riparian forest.

Individual 945 (Keri Miner)

- Indiv-945-1 Please see response from Indiv-916-7 for procedure on corrections made for this Final SEIS/SEIR. The Draft SEIS/SEIR is organized based upon NEPA Implementing Regulations. Please see response Indiv-653-12 and Indiv-653-27 for further information on document organization. MR 7 contains information on public outreach and how the outreach conducted met NEPA and CEQA requirements. Furthermore, the public comment period was extended beyond the 45-day requirement, in response to public and agency request.
- Indiv-945-2 This Draft SEIS/SEIR is supplementing the 2016 General Reevaluation Report and Final EIS/EIR. Therefore, this document does not present the full range of alternatives that were analyzed prior. The Recommended Plan (or Alternative 2) was selected and authorized by Congress after signature of the Record of Decision. The Online Archive at sacleveeupgrades.com contains all previous

documents. Additionally, a summary of alternative selection can be found in Section 3.3 “Alternatives Development and Screening” of the Final SEIS/SEIR. Appendix G “Engineering,” discloses alternative selection for American River Erosion Contract 3B in the Design Alternatives Section which explains the following: 1) launchable buried rock at the levee toe, 2) planting bench and revetment at the bank toe, and 3) excavating the existing in-channel island and placing cut material to widen the existing bench while moving the river further away.

MR 5 addresses public comments on habitat impacts and mitigation. MR 9 addresses public comments with specific concern to the American River Mitigation Site (ARMS), as for site selection, coordination with the resource agencies and agencies such as Sacramento County Regional Parks Department.

Individual 946 (Alicia Eastvold)

Indiv-946-1 Project Partners agree that trees and vegetation provide the benefits listed in the comment. They are benefits identified by USACE's ERDC research project. The benefits provided by vegetation were considered when evaluating the erosion risks along the Lower American River (LAR) in addition to other factors such as hydraulic forces, soil characteristics, erosion resistivity of soils, etc. The benefits provided by vegetation are also why revegetation of the proposed erosion protection improvements is a critical component of the ARCF 2016 project; the planted vegetation will better protect the erosion protection sites from surface erosion into the future. However, the erosion protection benefits provided by vegetation do not adequately mitigate the erosion risk posed by a 115,000 cfs and 160,000 cfs flood along LAR.

Tree roots cannot grow any significant depth below the summer low water surface levels of the river. The main weakness of relying solely on vegetation to arrest/prevent erosion is clear when evaluating the risk posed by Probable Failure Mode (PFM) 3, or failure of the levee foundation due to erosion at the riverbank or bank toe. For more information, please refer to MR 2-2, and refer to Appendix G “Engineering,” Section 1.6, “Levee Erosion Failure Processes.”

Indiv-946-2 The comment states “The revetment work downriver in Contract 1 & 2 needs more time to prove itself before being implemented upstream.” In addition, the comment states that, “Observations of the soil-covered revetments and planting benches show how they have washed out after recent rains.” USACE appreciates your concern with Contract 1 & 2. Some areas at C1 & C2 did experience some minor erosion during large rain events and these areas have since been repaired and stabilized (refer to MR 3-7 for more details). For more information on the Final EA, and EIS/EIR for Contracts 1 & 2, please visit www.sacleveeupgrades.com.

Indiv-946-3 Please refer to Appendix G “Engineering,” Section 2.1, “Background,” Section 2.3.2, “Hydrology,” and MR 2-1 for a summary of how Folsom Dam relates to the Proposed Action.

Indiv-946-4 Please refer to responses to comments Indiv-949-1 and Indiv-949-3.

Individual 947 (Carla Dilinger)

Indiv-947-1 Please refer to MR 2, which addresses the scope and approach for Contract 3B, MR 3, which addresses tree removal and plantings; MR 4, which addresses recreational access to the Parkway; MR 15, which addresses wildlife habitat and riparian forest; and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-947-2 Please refer to responses to Indiv-947-1.

Individual 948 (Benjamin Grau)

Indiv-948-1 Project Partners appreciate the commentor's concern about using nature-based solutions.

For principal 1, please refer to Appendix G “Engineering,” Section 2.1, “Background” and Section 2.3.2, “Hydrology” to understand why Folsom Dam updates provide the need to increase erosion protection. Additionally, please refer to Section 2.3.3.4, “Cumulative Impact Analysis” which discusses how Project Partners incorporate multiple projects when doing modeling.

For principal 2, please refer to MR 3-1 for a discussion of the process Project Partners went through to minimize the project footprint and impacts to habitat as much as feasible. This included coordinating early with stakeholders such as Sacramento County Regional Parks, NPS, USFWS, and NMFS. In addition, Section 1.4, “Site Evaluations and Selection” and 2.4, “Site Evaluations and Selection” discusses the steps taken and how local experts were used in selecting locations needing erosion protection. The SEIS/SEIR only analyzes the ARCF 2016 Project the Folsom Dam Water Control Manual update is described in Chapter 5. Cumulative and Growth-Inducing Effects as a separate proposed action. Maps showing tree preservation and removal at the Contract 3B project site, have been added to Appendix B, Section 4.1, “Vegetation and Wildlife” in the Final SEIS/SEIR as Figures 4.1-9 and 4.1-10. Tree data, including maps and tables of preservation and removal are also addressed in detail in MR 15-1.

For principal 3, please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section 1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

For principal 4, Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Also please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4,

“Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why sole use of existing vegetation or bioengineering cannot be relied on to protect the levee, and steps that were taken to minimize tree removal as much as possible.

For principal 5, Appendix G “Engineering,” has been added to clarify the need for work, including data and reports used to determine the erosion protection methods at the site. Also please refer to Appendix G 2.1, “Background” and Appendix G Section 2.3.2, “Hydrology” to understand why Folsom Dam updates provide the need to increase erosion protection. Please refer to Section 2.3.3.4, “Cumulative Impact Analysis” which discusses how Project Partners incorporate multiple projects when doing modeling. Refer to MR 2-3, MR 3-7 for a discussion on past project, including the work near Sacramento State University. Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G, “Engineering,” Section 2.4.3, “Summary of Site Selection,” and Section 1.7.4, “Erosion Protection Design Alternatives,” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible.

Indiv-948-2 Project Partners appreciates your concern over the loss of the visual features of the American River Parkway. The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR.

Individual 949 (Alicia Eastvold)

Please refer to the responses to Form Letter 5.

Individual 950 (Cindy Box)

Indiv-950-1 Please refer to the responses to Form Letter 3.

Individual 951 (Elton Grau)

Indiv-951-1 Please refer to the responses to Form Letter 4.

Indiv-951-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 952 (Scarlett Grau)

Indiv-952-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible. The loss of habitat due to construction of the project will be replaced with on-site mitigation and off-site at the American River Mitigation Site, see MR 9 for more details. See response to SIERRA-1-3 for information on carbon emissions and tree removal in the Parkway. Please refer to MR 15, which addresses riparian forest.

Individual 953 (Tommy Grau)

- Indiv-953-1 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering,” Section 2.4.3, “Summary of Site Selection” and Section “1.7.4, “Erosion Protection Design Alternatives” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering and steps that were taken to minimize tree removal as much as possible. Please refer to MR 15, which addresses wildlife habitat and riparian forest.

Individual 954 (Paul Selsky)

- Indiv-954-1 Project Partners appreciates your concern over the loss of the visual features of the American River Parkway. The commenter does not raise a specific issue related to the analysis in this SEIS/SEIR. Please refer to MR 4, which addresses recreational access to the Parkway.

Individual 955 (Karen Jacques)

Please refer to the responses to Form Letter 3.

- Indiv-955-A Please refer to MR 3, which addresses tree removal and plantings; and MR 15, which addresses impacts to habitat and wildlife and riparian forest.
- Indiv-955-B Please refer to MR 3, which addresses tree removal, plantings; and MR 15, which addresses impacts to riparian vegetation.
- Indiv-955-C Please refer to MR 2, which addresses the scope and approach for Contract 3B; MR 15, which addresses riparian forest; and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Individual 956 (Blythe Romo)

- Indiv-956-1 Please refer to the responses to Form Letter 3.

Individual 957 (Greta Lacin)

Please refer to the responses to Form Letter 4.

- Indiv-957-A This commenter provides unique comments regarding their personal experiences in the American River Parkway but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-957-B Please refer to MR 2 and MR 3 for further explanation of tree removal and plantings. Please refer to Appendix G “Engineering,” for a more in-depth explanation of the design process, data used, and alternatives considered.
- Indiv-957-C Please refer to MR 2, which addresses the scope and approach for Contract 3B and Appendix G “Engineering,” Section 2.3, “Background Data and Ancillary

Studies,” for more explanation of the data models used during the design process of Contract 3B and 4B.

Indiv-957-D Please refer to MR 3, which addresses tree removal and plantings; MR 8, which addresses consistency with the Wild and Scenic River; and MR 15, which addresses impacts to wildlife habitat and riparian vegetation.

Individual 958 (Dr. Michelle Stevens, Lexi von Ehrenkrook, and Emily Turner)

Indiv-958-1 This letter is a duplicate of Individual 843. Please refer to the responses to comments Indiv-843-1 through -8.

Individual 959 (Kent Lacin)

Indiv-959-1 Please refer to MR 4, which addresses recreation and commuting; MR 13, which addresses green space and physical and mental health; MR 15, which addresses riparian forest; and the Appendix G “Engineering.” The loss of habitat due to construction of the project will be replaced with on-site mitigation and off-site at the American River Mitigation Site, see MR 9 and MR 15 for more details. There will be short-term impacts associated with the loss of recreation. USACE and non-federal Partners are trying to meet minimum flood risk criteria to meet public safety objectives while limiting environmental and human impacts to the greatest extent.

Indiv-959-2 Please see MR 7 for details on public outreach and visit sacleveeupgrades.com for regular status updates.

Individual 960 (Laura Mills)

Please refer to the responses to Form Letter 3.

Indiv-960-A This commenter provides unique comments regarding their personal experiences in the American River Parkway and expressed general opposition for the proposed project but does not raise a specific issue relating to the analysis in the SEIS/SEIR.

Individual 961 (Joseph O’Connor)

Indiv-961-1 Please refer to MR 1, which addresses the extended public comment period, and MR 7, which addresses public outreach.

Individual 962 (Joseph O’Connor)

Indiv-962-1 This comment does not raise a specific issue related to the analysis in the SEIS/SEIR. Please refer to Appendix G, “Engineering” which has been added to clarify the need for work, provides a summary of engineering investigations, and analyses and design efforts complete to-date to support project components in the SEIS/SEIR.

- Indiv-962-2 This commentor expresses general opposition for the proposed project but does not raise a specific issue relating to the analysis in the SEIS/SEIR.
- Indiv-962-3 Please refer to MR 2 and MR 3 for a general discussion and approach to proposed bank protection and tree removal (combined habitat removal referred to within the comment), as well as prior erosion control techniques and efficacy.
- Indiv-962-4 Please refer to MR 9-11 for existing and proposed habitat values for fish, including salmon and steelhead, as well as a general discussion of wildlife movement. For a more detailed description of impacts to wildlife corridors and movement, please see MR 15-8, and refer to MR 15-9 which explains that the proposed design was developed in collaboration with NMFS.
- Indiv-962-5 Please refer to MR 2-2, MR 3-1, MR 3-2, and Appendix G “Engineering” Section 2.4.3, “Summary of Site Selection” for a detailed description on the need for tree removal, why USACE cannot rely on existing vegetation or bioengineering, and steps that were taken to minimize tree removal as much as possible.
- Indiv-962-6 The SEIS/SEIR Section 2.3, “Community Outreach, Agency Coordination, and Areas of Known Controversy” and MR 7 describes public outreach. Further, MR 1 describes how the public comment period was already extended.
- Indiv-962-7 This comment does not raise a specific issue related to the analysis in the SEIS/SEIR. Please refer to Appendix G, “Engineering” which has been added to clarify the need for work, provides a summary of engineering investigations, and analyses and design efforts complete to-date to support project components in the SEIS/SEIR.

Individual 963 (Daniela Schmidt)

- Indiv-963-1 Please refer to Appendix G, “Engineering” which has been added to clarify the need for work, provides a summary of engineering investigations, and analyses and design efforts complete to-date to support project components in the SEIS/SEIR. See MR 10 for specific discussion of the purpose of the Lower American River Erosion Contract 4B. MR 4 addresses impacts to recreation, and a more detailed discussion regarding safety for recreationalists is included in MR 8-6.
- Indiv-963-2 Please refer to response to comment CBD-3-51.
- Indiv-963-3 Please refer to MR 15, which provides a comprehensive evaluation of the anticipated riparian habitat impacts from implementation of Lower American River Contract 3B.
- Indiv-963-4 The Lower American River Contracts 3B and 4B were originally analyzed in the ARCF GRR FEIS/EIR. As discussed on page 3-3, the ARCF SEIS/SEIR states that in 2019, the designs along the American River were refined to incorporate alternative erosion protection measures to minimize impacts to heritage oaks, riparian habitat, and to create higher-quality onsite mitigation. Please refer to MR

2 and MR 3 with regards to improvements under Contracts 3B and 4B for additional information on the scope and approach of improvements and tree removal and plantings under both contracts. Further, the SEIS/SEIR considered and analyzed potential impacts from implementation of Contracts 3B North, 3B South, and 4B on all resources within the American River Parkway in Chapter 4, “Affected Environment and Environmental Consequences,” and in Appendix B, “Detailed Analyses.”

Individual-964 (Matt Carr)

ART-1 Commenter requested draft design plans, tree inventories and removal plans, along with plans for onsite mitigation on February 14, 2024. USACE responded on February 17, 2024, the following:

Mr. Carr,

Thank you for your interest and sharing your concerns. The USACE is tasked with providing critical flood protection for your community while also providing a viable and thriving habitat in the parkway. We have been working with local, state, and federal stakeholders since 2019 to meet this shared goal. We believe that our designs are approaching an optimal balance of competing factors.

The SEIS/SEIR has provided a comprehensive description of all potential impacts due to the Contract 3B flood protection work based upon the best information we had at the time of writing. Designs are continuing to develop, and we intend to include information from these refinements and a response to public comments in the final document.

As mentioned previously, we are limited in what additional documentation we can provide. The ongoing nature of design and the need to protect procurement integrity (FAR 14.211, Release of Acquisition Information) preclude us from providing Plans and Specifications for our planned vegetation, construction, and onsite mitigation contracts. We are able to provide the requested tree inventories. They will be posted on the www.sacleveeupgrades.com website beneath the links to the SEIS/SEIR. Please note that these inventories specify all trees within the footprint, but they will NOT all be removed.

The SEIS/SEIR is still in the public comment period, and we encourage you to submit your Comments before the comment period ends on February 23, 2024. Comments may be submitted to ARCF_SEIS@usace.army.mil and PublicCommentARCF16@water.ca.gov. Receiving your comments before the deadline gives us opportunity to provide input to the design team and allows the SEIS/SEIR team to add those design refinements into the document. Response to comments received by USACE and the State of California Central Valley Flood Protection Board will be published in the Final Supplemental document.

C3B has undergone and continues to undergo design refinements to address many of the concerns expressed by the public. Design footprints generally determine which trees and other vegetation must be removed. The design footprint is carefully selected to balance and minimize impacts to stage (water rise), in-water impacts (fish), riparian & upland habitat impacts, as well as aesthetic & recreational impacts (total trees). It has been one of the design team's top goals to save as many trees (in particular heritage oaks) at the Contract 3B project site as possible while still meeting flood risk reduction objectives. We have made significant progress, and we strive to make more. Ultimately it is our responsibility to assure levee integrity and public safety during high water events.

The erosion protection measures are designed to work in conjunction with Folsom Dam and the new auxiliary spillway and allow for the American River channel to safely convey emergency releases of 160,000 cubic feet per second (cfs). Unfortunately, erosion protection measures being evaluated in this environmental document cannot be implemented without impacts to vegetation located in the project footprint. Through consultation with resource and wildlife agencies, the USACE has identified mitigation measures to be implemented on-site (i.e. replanting work areas) and at designated off-site locations within the American River Parkway. Through considerable planning efforts, USACE has reduced the original 11 miles of American River erosion work originally proposed in 2016 down to about 6 miles.

Public outreach will continue in various forms after the public comment period ends. Please pay close attention to www.sacleveeupgrades.com for announcements on future public outreach associated with the SEIS/SEIR and American River Erosion Contract 3B.

Once again, thank you for your interest and sharing your concerns. In the future, please direct all correspondence to our Public Affairs Office (PAO).