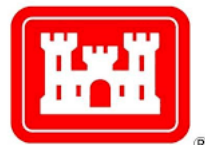


Draft Supplemental Environmental Assessment

Napa River/Napa Creek Flood Protection Project
– Increment 2, Floodwalls North of the Bypass

May 2025



U.S. Army Corps
of Engineers®
Sacramento District



**DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
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DRAFT FINDING OF NO SIGNIFICANT IMPACT

**Napa River/Napa Creek Flood Protection Project –
Increment 2, Floodwalls North of the Bypass
Supplemental Environmental Assessment
City and County of Napa, California**

The U.S. Army Corps of Engineers, Sacramento District (USACE) in coordination with the non-Federal sponsor, Napa County Flood Control and Water Conservation District (Sponsor) has conducted a supplemental environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The Supplemental Environmental Assessment (SEA) dated May 22, 2025, for the Napa River/Napa Creek Flood Protection Project – Increment 2, Floodwalls North of the Bypass provides an economically feasible and environmentally sensitive method to protect the City and County of Napa from periodic flooding. The Proposed Action is needed to provide protection from the anticipated 100-year flood event in the City and County of Napa, California.

The USACE Authorized Project, the Napa River/Napa Creek Flood Protection Project, formerly known as the Napa River Flood Control Project, was authorized by Congress through the Flood Control Act of 1965. A General Design Memorandum (GDM) for project design was issued in 1970 but met public resistance. A revised GDM was issued in 1975, and an EIS prepared for the project based on the revised GDM was completed the same year. However, after being defeated in two County referenda, the project was placed on inactive status. In 1987, after the devastating flood of 1986, the Sponsor petitioned USACE and Congress to reactivate the USACE Authorized Project. This effort culminated in the preparation of a first Draft Supplemental General Design Memorandum (SGDM), and a Draft SEIS/EIR was released in 1995. After numerous comments from both citizens and resource protection agencies, a revised SGDM was prepared in 1998, and a Final SEIS/EIR was approved in 1999.

Construction of the USACE Authorized Project began in 2000 but, due to shortfalls in federal appropriations, construction has been intermittent. In 2011, USACE determined that construction of Increment 2, Floodwalls North of Bypass and along Riverside Drive, south of downtown Napa were not economically justifiable. The Sponsor completed the VEIA in 2017, and through that effort the Sponsor found additional economically justifiable project increments. Following USACE review of the VEIA, USACE produced a Federal Interest Determination, which concurred with the VEIA's findings and confirmed federal interest in these two remaining increments. USACE received funding for Increment 2, Floodwalls North of Bypass and Increment 3, Riverside Drive - Imola Avenue to the Hatt Building Floodwalls in 2021.

The current SEA, which addresses the USACE Authorized Project – Increment 2, Floodwalls North of the Bypass (the Proposed Action), is a supplement to the 1999 Final SEIS/EIR. The SEA, incorporated herein by reference, evaluated two alternatives, the Proposed Action Alternative and the No Action Alternative. The No Action Alternative consists of the construction of portions of the flood damage reduction and recreation elements included in the USACE Authorized Project that were identified in the 1998 SGDM Preferred Alternative and analyzed in the 1999 Final SEIS/EIR for the area along the west bank of the Napa River, north of the Bypass to the Elks Lodge (the area equivalent to Increment 2 of the USACE Authorized Project). The Proposed Action Alternative would achieve 100-year level of flood protection; achieve flood damage reduction benefits that exceed project costs when calculated according to official USACE benefit-to-cost methodologies; mitigate impacts to fish and

wildlife from the project; and provide recreational facilities in the project area. The Proposed Action Alternative includes four major elements: floodwalls south of Lincoln Avenue, floodwalls north of Lincoln Avenue, scour protection under the Lincoln Avenue Bridge, and two short floodwall closures at the Dry Bypass.

The floodwalls south of Lincoln Avenue include 2,375 linear feet of Sheet pile “I” wall transitioning to a concrete “T” wall with a below-ground foundation, a new 10-foot-wide recreational trail, a 15-foot-wide stop log pedestrian and emergency access gate, and two, roughly 20-foot-wide swing gates and signage installed in the floodwall at two existing driveway locations on Lincoln Avenue. The floodwall would tie into and terminate at the south side of the western parapet wall of the Lincoln Avenue Bridge. North of Lincoln Avenue, 4,110 linear feet of floodwall (set back from the riverbank because of active scour along this section) would tie into the north side of the western parapet wall at the Lincoln Avenue Bridge and continue north, following the existing recreational trail. A 15-foot-wide access gate would be installed at the existing Napa River Trail access point. The eastern row of trailer vacation rental units closest to the river would be removed, and Burrows Court potentially realigned. In this area, the floodwall would be approximately 3 to 10 feet high. Existing levee berm would be partially excavated and reconstructed as an O&M road. North of the Lake Park subdivision, the floodwall would transition from a concrete “T” wall to a sheet pile “I” wall with sheet pile depths up to 22 feet.

Under the Lincoln Avenue Bridge, temporary ramps would be constructed using approximately 300 tons of rock in each ramp and would facilitate rock scour protection. Best Management Practices (BMPs) would be installed at the temporary access points and native vegetation would be installed post-construction. Water management in the Napa River would be required to place the rock scour and to control turbidity. Work within the river would be from temporary platforms above the water level and conducted pursuant to the Waste Discharge Requirements (WDR) Order #99-074. With previously constructed floodwalls, drainage areas previously facilitating overland flow to reenter the Dry Bypass and river would be closed off by completing the Dry Bypass floodwalls. The proposed floodwalls would include 230 linear feet of concrete “T” walls that would be approximately 4-7 feet tall. Several City of Napa utilities are located between the Soscol Avenue Bridge and the Napa Valley Wine Train, and would be realigned and relocated. All surface overflow in the area would also be redirected as necessary to reduce impacts to the proposed floodwalls.

In addition to a “no action” alternative, which is consistent with the 1998 SGDM and 1999 Final SEIS/EIR preferred alternative for Increment 2, no other alternatives were evaluated under NEPA for this supplemental analysis.

SUMMARY OF POTENTIAL EFFECTS

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed. The potential effects of the Proposed Action are catalogued in Table 1, below. Mitigation measures detailed in the SEA will be implemented, as appropriate, to offset anticipated impacts.

Table 1: Summary of Potential Effects of the Proposed Action Alternative

| | No effect | Less than significant effect | Less than significant effect as a result of mitigation | No new effect to resource beyond what is described in the 1999 Final SEIS/EIR |
|--|-------------------------------------|-------------------------------------|--|---|
| Aesthetics/Visual Resources | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Agriculture and Forestry | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Air Quality | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Cultural Resources | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Fisheries and Aquatic Biological Resources | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Geology and Soils | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hazards and Hazardous Materials | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Hydrology and Water Quality | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Land Use and Planning | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mineral Resources | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Noise and Vibration | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Population and Housing | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Public Services | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Recreation | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Socioeconomics | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Terrestrial Biological Resources | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Traffic/Transportation | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Utilities and Service Systems | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wildfire | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the Proposed Action and SEA.BMPs as detailed in the SEA will be implemented, if appropriate, to minimize impacts.

USACE has determined that the Proposed Action Alternative would likely affect the following seven resources: Air Quality, Cultural Resources, Hazardous Materials, Noise, Transportation, Vegetation and Wildlife, Federal Special Status Species and Fisheries. The effects of the Proposed Action Alternative would be less than significant as a result of mitigation for the above-listed affected resources. For Cultural Resources and Noise and Vibration, after the implementation of mitigation, the effects would remain significant, but the Proposed Action Alternative impacts would not be greater in scope or intensity than was evaluated and determined in the 1999 SEIS/EIR. These effects are discussed in further detail in Chapter 3 of the SEA. The previous mitigation measures from the 1999 Final SEIS/EIR are listed below that are still applicable to the Proposed Action Alternative. Additional best management practices and mitigation measures included in the SEA are listed below:

1999 Final SEIS/EIR Mitigation Measures:

- Air Quality
 - AIR-1a: Construction Area Watering
 - AIR-1b: Cover Haul Trucks

- AIR-1c: Dust-control on Access Roads
 - AIR-1d: Clean Access Roads
 - AIR-1e: Dust-control for Stockpiles
 - AIR-1f: Construction Traffic Speed
 - AIR-1g: Erosion Control Measures
- Biological Resources
 - BIO-6a: Avoid Spawning Season for In-Water Construction Activities
 - BIO-6b: Avoid Submergent and Emergent Aquatic Vegetation
 - BIO-6c: Silt Curtains for Suspended Materials
 - BIO-6d: Design of Proposed Grade Control Structures to Allow Fish Passage
 - BIO-9: Rootwads and Lunkers
- Cultural Resources
 - CULTURAL-7: CA-NAP-261 Section 106 Compliance
- Hazardous Substances
 - HAZ-1: Hazardous Substances Clean-up
 - HAZ-4a: ACM/Lead Survey and Remediation
- Hydrology
 - HYDRO-1a: Performance Maintenance Program
 - HYDRO-1b: Bank Stability Measures
 - HYDRO-1c: Bed Aggradation
- Noise
 - NOISE-1a: Construction Equipment Muffling
 - NOISE-1b: Stationary Construction Equipment
 - NOISE-1c: Shut down equipment when not in use
 - NOISE-1d: Disturbance Coordinator
 - NOISE-1e: Pile Driving
- Water Quality
 - WQ-1: Turbidity Monitoring
 - WQ-3a: Construction Materials
 - WQ-3b: Water Pollution Material Storage
 - WQ-3c: Required RWQCB Permits

Current SEA BMPs

- BMP-1: Minimize Footprint
- BMP-2: Worker Environmental Awareness Training
- BMP-3: Restoration of Temporarily Disturbed Areas
- BMP-4: Construction Best Management Practices
- BMP-5: Clean Construction Area

Current SEA Mitigation Measures

- Air Quality
 - MM-AQ-1: Implement Fugitive Dust Control Measures
 - MM-AQ-2: Implement Enhanced Fugitive Dust Control Measures
- Cultural Resources
 - MM-CUL-1: Implement 1999 Programmatic Agreement
- Fisheries and Aquatic Biological Resources
 - MM-BIO-A-1: Implement Measures to Avoid and Minimize Effects from Acoustic Disturbance

- MM-BIO-A-2: Implement Fisheries Salvage Plan
- Hazards and Hazardous Materials
 - MM-HAZ-1: Water Quality effects in the Napa River
 - MM-HAZ-2: Soil Management Plan
 - MM-HAZ-3: Asbestos Containing Materials
- Noise and Vibration
 - MM-NOISE-1: Construction Noise Reduction
 - MM-NOISE-2: Vibration Screening Assessment
- Terrestrial Biological Resources
 - MM-BIO-T-1a: Implement Measures to Avoid and Minimize Effects on Monarch Butterfly
 - MM-BIO-T-1b: Implement Measures to Avoid and Minimize Effects to northwestern pond turtle
 - MM-BIO-T-1c: Preconstruction Nesting Bird Surveys
 - MM-BIO-T-1d: Preconstruction Rare Plant Surveys
 - MM-BIO-T-1e: Conduct Preliminary Field Assessment for Bats
 - MM-BIO-T-1g: Bat Mitigation Plan Development of Temporal and Physical Buffer Areas
 - MM-BIO-T-1h: Minimization of Light
 - MM-BIO-T-2: Sensitive Community Fencing
- Traffic/Transportation
 - MM-TRA-1: Establish detours, signage, and a notification system for the Napa River Trail closure between Lincoln Avenue and Trancas Street and the northern paved trail in the dry bypass
 - MM-TRA-2: Prepare and Implement a Traffic Control Plan

The USACE Authorized Project resulted in unavoidable adverse impacts to special status species and their habitats. To mitigate for these unavoidable adverse impacts, USACE and Sponsor implemented required environmental compensatory mitigation according to the Mitigation and Monitoring Plan (MMP) developed in 2000. All compensatory mitigation has been implemented for the USACE Authorized Project, which included the compensatory mitigation requirements for Increment 2, Floodwalls North of the Bypass (Proposed Action Area). The Sponsor started monitoring in 2000 and has carried out monitoring and reporting commitments according to the MMP. The Sponsor will continue monitoring and reporting for the USACE Authorized Project until 2040. Therefore, no additional compensatory mitigation is included as part of the Proposed Action.

ENDANGERED SPECIES ACT

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers reinitiated consultation with the U.S. Fish and Wildlife Service (USFWS) for the Proposed Action's effects to special status species. The USFWS issued a response to the reinitiation request on November 26, 2024, that determined that the Proposed Action will not jeopardize the continued existence of the federally listed delta smelt and longfin smelt or adversely modify designated critical habitat for these two species. All terms and conditions, conservation measures, and reasonable and prudent alternatives and measures resulting from this reinitiated consultation as well as the previous 1999 biological opinion and 2000 supplemental biological opinion for the USACE Authorized Project shall be implemented in order to minimize take of endangered species and avoid jeopardizing the species.

The U.S. Army Corps of Engineers determined that reinitiation of formal or informal consultation with National Marine Fisheries Services would not be necessary for the Proposed Action, since the 1999 biological opinion and 2000 supplemental biological opinion for the USACE Authorized Project are still valid and the Proposed Action effects to central California coast steelhead and the southern distinct population segment of green sturgeon would be less than what was originally determined in both of those respective biological opinions. NMFS confirmed that reinitiation of consultation was not necessary on October 16, 2024.

NATIONAL HISTORIC PRESERVATION ACT

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined in the 1999 SEIS/EIR that historic properties may be adversely affected by the USACE Authorized Project (including the Proposed Action). USACE, Federal Highway Administration, State Historic Preservation Officer, City of Napa, Napa County Flood Control and Water Conservation District, and California Department of Transportation entered into a Section 106 Programmatic Agreement (PA), dated December 20, 1999, to govern Section 106 compliance for the undertaking. Adverse effects on historic properties resulting from the undertaking in the Proposed Action Area will be resolved through implementation of the terms and conditions of the PA.

CLEAN WATER ACT

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the Proposed Action was addressed with the USACE Authorized Project. All mitigation for effects to waters of the U.S was implemented for the USACE Authorized Project, which included the mitigation requirements for the Increment 2, Floodwalls North of the Bypass (Proposed Action Area). Pursuant to Section 204 of the WRDA of 1986 the non-federal sponsor is undertaking construction of the Proposed Action. Through coordination with USACE Regulatory Branch, it was determined that the Proposed Action would not need to obtain additional permit coverage nor is additional mitigation needed under Section 404 of the Clean Water Act. USACE reviewed the 1997 Napa River Section 404(b)(1) Analysis prepared for the USACE Authorized Project and concluded that the analysis remains relevant and sufficient for Increment 2 (see Appendix H of Draft SEA).

Water and water quality management during construction in the Napa River would be conducted pursuant to the Waste Discharge Requirements (WDR) Order #99-074 issued by the California Regional Water Quality Control Board, San Francisco Bay on September 15, 1999, for the USACE Authorized Project, which is still valid. The Regional Water Quality Control Board continues to be consulted and coordinated with for the Proposed Action and determined that the Proposed Action would not need to obtain additional permit coverage and that a 401 Water Quality Certification is not necessary for the Proposed Action.

FISH AND WILDLIFE COORDINATION ACT

Pursuant to the Fish and Wildlife Coordination Act of 1958, as amended, federal agencies must consult with the USFWS and the head of the agency exercising administration over the wildlife resources of the particular state, "whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever" (16 U.S.C. 662). USACE requested consultation with the USFWS for compliance with the Fish and Wildlife Coordination Act. The USFWS issued a Supplemental Coordination Act Report for the Proposed Action on December 12, 2024.

All other applicable environmental laws and executive orders have been considered and coordination with appropriate agencies and officials has been completed.

FINDING

Public review of the Draft SEA and FONSI will be completed on June 21, 2025. All comments submitted during the 30-day public review period will be responded to in the Final SEA and FONSI. Based on the evaluation of the effects from the Proposed Action as described in the Supplemental EA, the reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, I find that the Proposed Action will cause no significant environmental impacts not already disclosed in the 1999 Final SEIS/EIR. Accordingly, preparation of an Environmental Impact Statement is not required.

Date

Chad W. Caldwell, P.E.
Colonel, U.S. Army Corps of Engineers
District Commander

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Abbreviations

| | |
|-------------------|---|
| µg/m ³ | micrograms per cubic meter |
| AB | Assembly Bill |
| ACM | Asbestos-Containing Materials |
| BAAQMD | Bay Area Air Quality Management District |
| Basin Plan | San Francisco Bay RWQCB's Water Quality Control Plan |
| Bay Area | San Francisco Bay Area |
| BER | business environmental risk |
| BO | Biological Opinion |
| BP | before present |
| BMP | Best Management Practices |
| CAL FIRE | California Department of Forestry and Fire Protection |
| CalEEMod | California Emissions Estimator Model |
| Caltrans | California Department of Transportation |
| CAP | Climate Action Plan |
| CARB | California Air Resources Board |
| CCC | Central California Coast |
| CCR | California Code of Regulations |
| CDFW | California Department of Fish and Wildlife |
| CEQ | Council on Environmental Quality |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFR | Code of Federal Regulations |
| CH ₄ | methane |
| CHMIRS | California Hazardous Material Incident Report System |
| City | City of Napa |
| CNDDDB | California Natural Diversity Database |
| CO | Carbon Monoxide |
| CO ₂ | carbon dioxide |
| CO ₂ e | carbon dioxide equivalent |
| CR | Conservation Recommendations |
| CREC | Controlled Recognized Environmental Condition |
| CRHR | California Register of Historical Resources |
| dB | decibel |
| dBA | A-weighted decibel |
| DCV | Double Check Valve |
| DOC | Department of Conservation |
| DPM | diesel particulate matter |
| DPS | Distinct Population Segment |
| DTSC | Department of Toxic Substances Control |
| EFH | Essential Fish Habitat |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| ERNS | Emergency Response Notification System |
| ESA | Endangered Species Act |
| ESA | Environmental Site Assessment |
| ESU | Evolutionarily Significant Unit |
| FC | Federal Candidate for Listing |
| FE | Federally Endangered |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FID | federal interest determination |
| FONSI | finding of no significant impact |
| FT | Federally Threatened |
| FTA | Federal Transit Administration |

| | |
|--------------------------------|---|
| GDM | General Design Memorandum |
| GIS | Geographic Information System |
| Gpm | gallons per minute |
| GSP | Groundwater Sustainability Plan |
| GWP | Global Warming Potential |
| HAPCs | Habitat Areas of Particular Concern |
| HIST TANK | Historical Hazardous Substance Storage Container Information – Facility Summary |
| in/sec | inch per second |
| IPaC | Information for Planning and Consulting |
| L _{dn} | Day-Night Average Sound Level |
| L _{eq} | Equivalent Sound Level |
| L _{max} | Maximum Sound Level |
| LOS | Level of Service |
| LUST | Leaking Underground Fuel Tank Reports |
| L _v | Vibration Velocity Level |
| MCE | Marin Clean Energy |
| MLD | Most Likely Descendent |
| MMT | million metric tons |
| MSA | Magnuson-Stevens Fishery Conservation and Management Act |
| MT | metric tons |
| MTC | Metropolitan Transportation Commission |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| NCDEM | Napa County Division of Environmental Management |
| NCGSA | Napa County Groundwater Sustainability Agency |
| NCRWS | Napa County Recycling and Waste Services |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NO ₂ | Nitrogen Dioxide |
| NOAA | National Oceanic and Atmospheric Administration |
| NO _x | nitrogen oxides |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NapaSan | Napa Sanitation District |
| NTU | Nephelometric Turbidity Unit |
| NVTA | Napa Valley Transportation Authority |
| O&M | Operations and maintenance |
| O ₃ | Ozone |
| OHP | California Office of Historic Preservation |
| OPR | Office of Planning and Research |
| Pb | Lead |
| PCB | polychlorinated biphenyls |
| PFAS | per- and polyfluoroalkyl substances |
| PG&E | Pacific Gas & Electric |
| PM ₁₀ | particulate matter 10 micrometers and smaller |
| PM _{2.5} | particulate matter 2.5 micrometers and smaller |
| Ppb | parts per billion |
| Ppm | parts per million |
| Ppt | parts per thousand |
| PPV | Peak Particle Velocity |
| PRC | Public Resources Code |
| Proposed Action Alternative | Napa River/Napa Creek Flood Protection Project – Increment 2, Floodwalls North of the Bypass |
| RCP | Reinforced Concrete Pipe |
| REC | Recognized Environmental Condition |

| | |
|--------------------------|---|
| Region | San Francisco Bay Hydrologic Region |
| RMS | Root Mean Square |
| ROGs | reactive organic gases |
| RPM | Reasonable and Prudent Measures |
| RWQCB | Regional Water Quality Control Board |
| SE | State Endangered |
| SEA | Supplemental Environmental Assessment |
| SEIR | Subsequent Environmental Impact Report |
| SEIS | Supplemental Environmental Impact Statement |
| SFBAAB | San Francisco Bay Area Air Basin |
| SGDM | Supplemental General Design Memorandum |
| SGMA | Sustainable Groundwater Management Act |
| SLF | Sacred Lands File |
| SO ₂ | Sulfur Dioxide |
| Sponsor | Napa County Flood Control and Water Conservation District |
| SR | State Route |
| SRA | shaded riverine aquatic |
| SSC | State Species of Special Concern |
| ST | State Threatened |
| SWP | State Water Project |
| SWPPP | Stormwater Pollution Prevention Plan |
| TAC | toxic air contaminant |
| TC | Terms and Conditions |
| TCR | tribal cultural resource |
| TMDL | Total Maximum Daily Load |
| USACE | United States Army Corps of Engineers |
| USACE Authorized Project | Napa River/Napa Creek Flood Protection Project |
| USC | United States Code |
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| UST SWEEPS | Statewide Environmental Evaluation and Planning System |
| UVWMA | Upper Valley Waste Management Agency |
| VdB | vibration decibel |
| VEIA | Value Engineering and Incremental Analysis |
| VMT | Vehicle Miles Traveled |
| WDR | Waste Discharge Requirements |
| WTP | Water Treatment Plant |
| N ₂ O | nitrous oxide |

1 Introduction

The Napa River/Napa Creek Flood Protection Project was authorized for construction by Section 204 of the Flood Control Act of 1965 (Pub. L. No. 89-298, 79 Stat. 1073, 1084 (October 27, 1965)) for the purposes of flood control and recreation substantially in accordance with the 1965 Chief of Engineers Report for the Napa River Basin (H. Doc. 89-222), and modified by Section 136 of the Water Resources Development Act of 1976 (Pub. L. No. 94-587, 90 Stat. 2917, 2929 (October 22, 1976)) (collectively, U.S. Army Corps of Engineers (USACE) Authorized Project). Designs for the USACE Authorized Project were further refined in the Supplemental General Design Memorandum, dated October 1998 (1998 SGDM), and the Napa River/Napa Creek Flood Protection Project Final Supplemental Environmental Impact Statement/Environmental Impact Report, dated March 1999 (1999 Final SEIS/EIR), approved by the USACE Deputy Director of Civil Works on May 24, 1999.

The USACE Authorized Project includes improvements to meet 100-year level flood protection for 6.9 miles along the Napa River from State Route (SR) 29 at the Butler Bridge/Southern Crossing to near Trancas Street, and Napa Creek from its outfall to the Napa River for about 1 mile upstream. The USACE Authorized Project was split into four main contract areas for flood damage reduction and recreation activities: Contract 1 - Kennedy Park to Imola Avenue; Contract 2 – Imola Avenue to Third Street; Contract 3 – Third Street to Trancas Street; Contract 4 – Napa Creek. Flood damage reduction and recreational elements of the USACE Authorized Project include bank terracing, bridge replacements, bypass channels, culverts, floodwalls, levees, and wetland and riparian habitat restoration.

As described in Appendix A, *Project Background*, several components of the USACE Authorized Project were constructed between 2000 to 2013. In 2011, the USACE determined that the remaining USACE Authorized Project elements left to be constructed at that time could not be considered economically justifiable. An incremental economic analysis of one element, the dry bypass, was subsequently determined to be justifiable, but all remaining elements (portions of Contracts 2 and 3) of the USACE Authorized Project failed to meet federal cost-benefit criteria. While the Dry Bypass element was being constructed in 2014-2015, the USACE Authorized Project's non-Federal sponsor, the Napa County Flood Control and Water Conservation District (Sponsor), conducted a Value Engineering and Incremental Analysis (VEIA) and demonstrated that, with value engineering modifications, some of the remaining elements of the USACE Authorized Project could be made economically viable pending subsequent confirmation by the USACE. The USACE concurred with the Sponsor's VEIA determination and value engineering modifications with some exceptions, issued a Federal Interest Determination (FID), and the Sponsor lobbied Congress for additional funds. The Sponsor's efforts lead to the appropriation of a \$48,300,000 cap on federal funding to complete the USACE Authorized Project which ultimately led to the Proposed Action Alternative as presented in this Draft Supplemental Environmental Assessment (SEA).

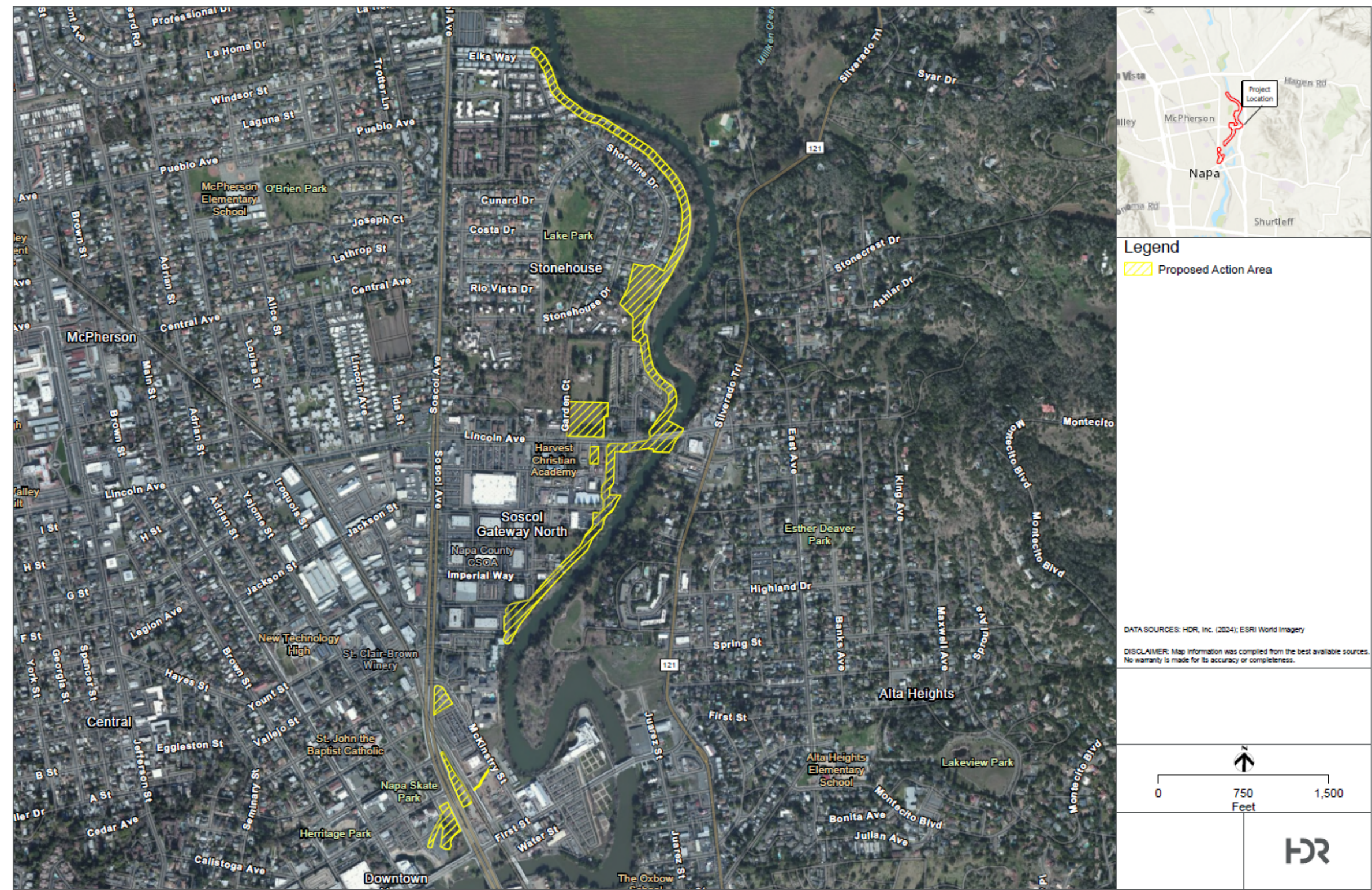
For the purposes of this SEA, the Sponsor, as constructing agent, proposes to construct one of the two remaining federally justified increments of the USACE Authorized Project – Increment 2, Floodwalls North of the Bypass (Proposed Action Alternative) – pursuant to Section 204 of the Water Resources Development Act of WRDA 1986, as amended (33 U.S.C. 2232) (Section 204). Accordingly, the USACE and the Sponsor prepared this SEA in support of proposed scope/design changes and additions resulting in the Proposed Action Alternative, which are part of the USACE Authorized Project (i.e., a portion of Contract 3), as well as the changed regulatory conditions that

have transpired since the 1999 Final SEIS/EIR was completed. USACE is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, *et seq.* USACE and the Sponsor are proposing to implement the Proposed Action Alternative to provide 100-year level flood protection in the northwest area of the City of Napa. The Proposed Action Alternative primarily involves constructing concrete or sheet pile floodwalls along the west bank of the Napa River in the City of Napa from approximately the Napa River Terrace Inn to the Elks Lodge and drainage improvements to the Dry Bypass (see **Figure 1.1-1**). The Sponsor is the lead agency under the California Environmental Quality Act (CEQA) and prepared a separate Draft Subsequent Environmental Impact Report (SEIR) (January 2025) to meet its requirements under CEQA.

1.1 Project Location

Figure 1.1-1 shows the Proposed Action Area associated with this SEA. The Proposed Action Area would be accessed from multiple streets including: Soscol Avenue, Elks Way, River Glen Drive, Trout Way, Pike Drive, Stonehouse Drive, Imperial Way, Jordan Lane, North Bay Drive, Wall Street, and Lincoln Avenue.

Figure 1.1-1. Proposed Action Area



1.2 Background

Following project authorization in 1965, a General Design Memorandum (GDM) for project design was issued in 1970, but it was met with public resistance. A revised GDM was issued in 1975, and an EIS prepared for the project based on the revised GDM was completed the same year. However, after being defeated in two County referenda, the USACE Authorized Project was placed on inactive status. In 1987, after the devastating flood of 1986, the Sponsor petitioned USACE and Congress to reactivate the USACE Authorized Project in accordance with its post-authorization processes in place at the time which culminated in the 1998 SGDM, the 1999 Final SEIS/EIR, and subsequent construction referenced in Chapter 1, *Introduction*, above. This SEA is a supplement to the 1999 Final SEIS/EIR.

As described in Appendix A, *Project Background*, and in Chapter 1, *Introduction*, above, the Sponsor conducted a value engineering and incremental analysis (VEIA) in 2017 to reevaluate the remaining USACE Authorized Project elements. The VEIA, detailed in Appendix A, *Project Background*, consisted of several analyses including Sponsor-prepared hydraulic analysis to identify discrete increments of the remaining elements of the USACE Authorized Project. Four discrete increments were identified and are also shown in **Figure 1.2-1**:

- Increment 1: Oxbow East Bank and Oxbow West Bank Floodwalls;
- Increment 2: Lincoln Avenue Floodwalls;
- Increment 3: Riverside Drive - Imola Avenue to the Hatt Building Floodwalls; and,
- Increment 4: Tulocay Floodwalls

The VEIA identified design modifications to Increments 2 and 3 that, if implemented, would meet federal economic criteria, assuming subsequent confirmation by the USACE during pre-construction, engineering, and design. The design modification among those proposed by the Sponsor that most significantly reduced the cost of the USACE Authorized Project to document federal interests was eliminating pump stations within Increments 2 and 3.

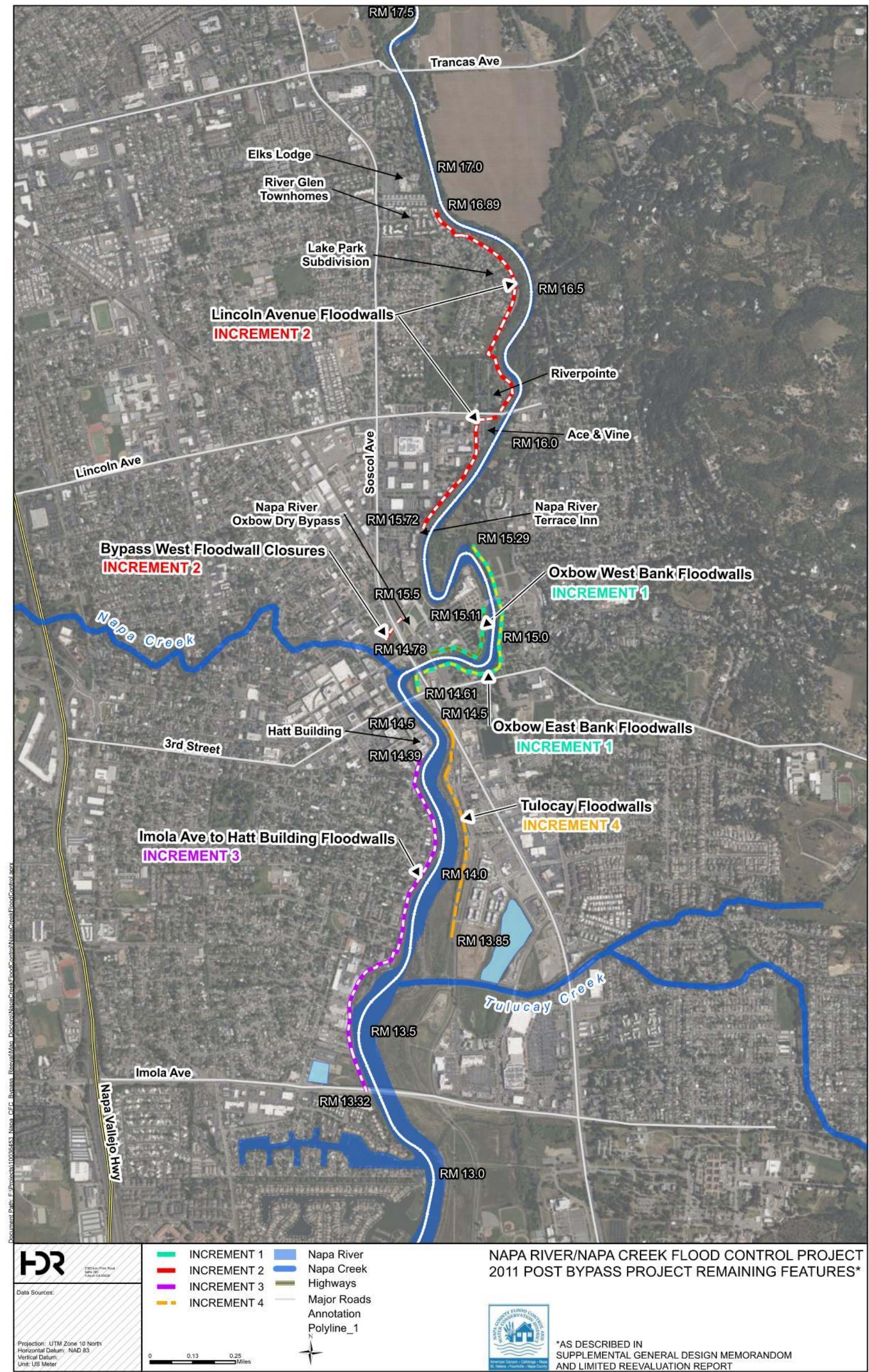
In 2019, USACE concurred with the Sponsor's assessment, with some exceptions, and issued a Federal Interest Determination (FID) validating remaining federal interest in the design and construction of Increments 2 and 3, as those increments were modified by the VEIA, thereby superseding the 1998 SGDM Preferred Alternative design for remaining elements of the USACE Authorized Project. In 2021, Congress authorized additional funding to complete the USACE Authorized Project. Documentation of authority for the proposed design changes/modifications consistent with the FID and related findings, including the validity of hydraulic modeling to assess the potential for induced flooding in accordance with USACE law and policy, is the subject of the Design Recommendation Report prepared by USACE and the Sponsor in accordance with 33 U.S.C. § 2232 (Section 204) to which this SEA relates.

Although USACE determined Increments 1 and 4 of the USACE Authorized Project are not economically justified and are ineligible for federal funding at this time, there are no present plans to deauthorize Increments 1 and 4 of the USACE Authorized Project. Accordingly, this SEA supplements the 1999 Final SEIS/EIR by disclosing and evaluating the reasonably foreseeable environmental effects of design modifications associated with Increment 2 initially presented in the VEIA and completed in 2025. A subsequent NEPA document will be prepared to disclose and evaluate the reasonably foreseeable environmental effects of design modifications associated with Increment 3, Riverside Drive – Imola Avenue to the Hatt Building Floodwalls when those

modifications become available. Presently, there is no additional information about the remaining increments (Increments 1 and 4) relative to design or timeline for implementation. Any future decisions regarding Increments 1 and 4 will be in accordance with the 1999 Final SEIS/EIR.

For a more detailed background of the USACE Authorized Project and the previous environmental reviews conducted, see Appendix A, *Project Background*.

Figure 1.2-1. USACE Authorized Project Remaining Increments from the Sponsor's VEIA



1.3 Project Purpose and Need

The primary purpose of the USACE Authorized Project as identified in the 1999 Final SEIS/EIR is to provide an economically feasible and environmentally sensitive method to protect the City and County of Napa from periodic flooding. The existing natural drainage system provided by the Napa River is not sufficient to adequately prevent extensive flooding and associated property damage in the Proposed Action Area. Therefore, the Proposed Action Alternative is needed to provide protection from the anticipated 100-year flood event. The original purposes and need for the USACE Authorized Project are still valid and have not changed. Project Purposes and Need are outlined in **Table 1.3-1** below.

Table 1.3-1. Project Purposes and Need

| Agency | Purposes and Need |
|---------|--|
| USACE | <ul style="list-style-type: none"> • To achieve 100-year level of flood protection; • To achieve flood damage reduction benefits that exceed project costs when calculated according to official USACE benefit-to-cost methodologies; • To mitigate impacts and effects to fish and wildlife from the project; and • To provide recreational facilities in the project area. |
| Sponsor | <p>The Sponsor concurs with the above purposes and need and worked with the Community Coalition on additional needs at the local level also mentioned in the 1999 Final SEIS/EIR:</p> <ul style="list-style-type: none"> • To attain an environmentally restored Napa River; • To approach aesthetic and environmental excellence; • To enhance opportunities for economic development; • To secure a local financing plan that the community can support; and • To comply with current or modified federal guidelines. |

1.4 Purpose and Reason for this SEA

This SEA describes the existing environmental conditions in the Proposed Action Area, evaluates the reasonably foreseeable environmental effects of the alternatives, including the Proposed Action Alternative, and identifies mitigation measures developed and previously completed to avoid or reduce any significant adverse environmental effects to a less-than-significant level where practicable. This SEA has been prepared in accordance with NEPA, and *Procedures for Implementing NEPA* for the Civil Works Program of the U.S. Army Corps of Engineers, 33 Code of Federal Regulations (CFR) Part 230 which supplements Council on Environmental Quality (CEQ) regulations 40 CFR parts 1500 through 1508, November 29, 1978, in accordance with 40 CFR 1507.3, and is intended to be used only in conjunction with the CEQ regulations. USACE has elected to follow the 2020 version of the 1500-1508 NEPA regulations (40 CFR 1500-1508) for preparation of this SEA. Whenever the guidance in 33 CFR Part 230 “is unclear or not specific the reader is referred to the CEQ regulations.” See 33 CFR § 230.1. This SEA has also been prepared in combination with the 1999 Final SEIS/EIR, which it supplements. This SEA fully discloses the reasonably foreseeable environmental effects of the Proposed Action Alternative to the public and provides an opportunity for the public to review and comment.

In accordance with the NEPA, this SEA also analyzes the new information which was not known at the time the 1999 Final SEIS/EIR was certified and analyzes additional design refinements since the 1999 Final SEIS/EIR. The basis for preparing a supplemental document is provided in **Table 1.4-1** below.

Table 1.4-1. Basis for Supplemental Documentation

| Environmental Guidance | SEA Compliance Approach |
|---|---|
| NEPA and USACE Regulations for Supplemental Documentation | <p>NEPA provides an interdisciplinary framework for federal agencies to develop information that will help them to take environmental factors into account in their decision-making. To comply with NEPA, an EIS or EA is required whenever a proposed major federal action (e.g., a proposal for legislation or an activity financed, assisted, conducted, or approved by a federal agency) would result in potential significant effects on the quality of the natural and human environment (See, 42 United States Code (U.S.C.) §§ 4332(C), 4336(b), and 4336e(10); 33 CFR Part 230, et seq. and 40 CFR § 1508.1(w). In addition, 33 CFR §§ 230.11 and 230.13 contain guidance on Draft, Final, and Supplemental documents and provides that agencies preparing a supplemental environmental document shall:</p> <ol style="list-style-type: none"> 1. Prepare supplements to either draft or final environmental impact statements or environmental assessments if a major federal action is incomplete or ongoing; and 2. The agency makes substantial changes to the proposed action that are relevant to environmental concerns; or 3. There are significant new circumstances or information about the significance of adverse effects that bear on the analysis. |

1.4.1 Proposed Supplemental Environmental Documentation

In accordance with 42 U.S.C. § 4336(b)(2), 33 CFR § 230.7(b), and the NEPA guidance mentioned in **Table 1.4-1** above, USACE has determined that a supplemental environmental assessment is the appropriate level of documentation for the Proposed Action Alternative and meets the requirements under NEPA. This SEA supplements the previously certified 1999 Final SEIS/EIR and addresses project modifications, changed circumstances, and new information that could not have been known with the exercise of reasonable diligence at the time the prior document was certified (40 CFR § 1502.9). Pursuant to NEPA and USACE NEPA regulations, the SEA contains only the information necessary to analyze project changes/modifications within the scope of the USACE Chief of Engineers' discretionary authority, changed circumstances, and new information that triggered the need for additional environmental review.

Additionally, since the 1999 Final SEIS/EIR was certified, changes in the regulatory environment have also triggered the need for additional environmental review. Changes in federal special-status species listings also require additional analysis. Additionally, changes in the federal regulatory environment such as revised federal air quality standards and new executive orders relating to NEPA review require additional environmental review. These regulatory changes are listed in **Table 1.4-2** below and addressed in this Draft SEA.

Table 1.4-2. Regulatory Changes in Resource Analysis

| Regulatory Status | Environmental Resources |
|---|---|
| Environmental resources not considered in 1999 Final SEIS/EIR (not required by existing regulations at the time) but are analyzed in this Draft SEA for the Proposed Action Alternative | Agriculture and forestry (Appendix E) Minerals (Appendix E) Vibration effects to residences Recreation Transportation Utilities Wildfire (Appendix E) |
| Environmental resources that require further environmental review due to changes in the Proposed Action Area | Aesthetics/Visual Resources Air Quality Cultural resources Hydrology and water quality Noise and Vibrations Socioeconomics (Appendix E) |

1.5 Document Overview

The format of this SEA is outlined in **Table 1.5-1** below to assist the reader's review of the document.

Table 1.5-1. Document Overview

| Section/ Chapter | Description of Section/Chapter |
|------------------|--|
| Chapter 1 | Introduction to the SEA. This chapter describes the project location, a background of environmental review completed for the project to date, a description of the purpose and need of the Proposed Action, a description of the purpose of this environmental document under NEPA and USACE NEPA regulations, and outlines contents and organization of this environmental document. |
| Chapter 2 | Contains the description of the Proposed Action Alternative as well as the No Action Alternative under consideration. |
| Chapter 3 | Consists of the environmental resource sections and analyses that are required under NEPA and other federal laws. Some environmental resource sections are not discussed in detail and those are included in Chapter 3, <i>Environmental Setting, Effects, and Mitigation Measures</i> , Section 3.2. The environmental resource sections that are discussed in detail are organized according to the following framework. <ul style="list-style-type: none"> Existing Conditions: Environmental Setting Environmental Consequences: Methods of Analysis Effects for the Proposed Action Alternative and No Action Alternative Mitigation Measures for the Proposed Action Alternative and the No Action Alternative (from the 1999 Final SEIS/EIR) |
| Chapter 4 | Contains discussions of additional topics required by NEPA, specifically, past, present, and reasonably foreseeable future projects. |
| Chapter 5 | Contains compliance with federal laws and regulations as required by NEPA and other federal laws, summarizing how laws and regulations apply to the Proposed Action Alternative and describes the approach to compliance. |
| Chapter 6 | Lists the SEA preparers. |
| Chapter 7 | Lists the references used during preparation of the SEA. |

2 Project Description

This SEA and chapter focus on the specific components of the proposed flood protection improvements in the Proposed Action Area on the west side of the Napa River north of the Dry Bypass channel that have evolved and been refined since the 1999 Final SEIS/EIR was completed. This chapter describes and compares the alternatives evaluated in detail in this SEA, including the Proposed Action Alternative and the required No Action Alternative.

The Proposed Action Alternative is to construct Increment 2, Floodwalls North of the Bypass, which consists of four major elements: floodwalls south of Lincoln Avenue to the River Terrace Inn, floodwalls north of Lincoln Avenue to Elks Way, scour protection under the Lincoln Avenue Bridge, and two short floodwall closures at the Dry Bypass to complete the existing floodwall at that location. These elements are described in detail below. The No Action Alternative is also described in detail below.

NEPA requires that a reasonable range of alternatives, including the Proposed Action, be evaluated in detail so reviewers may evaluate their comparative merits (42 U.S.C. § 4332(C)(iii); see also, Title 40, CFR Part 1502.14(b)). Similarly, the CEQ regulations for implementing NEPA (Title 40, CFR §§ 1502.14 and 1501.5(c)(i)), which the Agency has chosen to voluntarily rely on, require the range of reasonable alternatives in an EIS and an EA be rigorously explored and objectively evaluated at an equal level of detail. Alternatives that cannot reasonably meet the project purpose and need do not require detailed analysis and may be considered and rejected provided that an explanation for elimination from detailed study is briefly discussed (Title 40, CFR § 1502.14(a)). Consideration of the expected future condition under the No Action Alternative, as a basis of comparison with the Action Alternatives and historic development of alternatives for the USACE Authorize Project are discussed in Appendix B.

2.1 No Action Alternative

For this SEA, the No Action Alternative consists of the construction of portions of the flood damage reduction and recreation elements included in the USACE Authorized Project that were identified in the 1998 SGDM Preferred Alternative and analyzed in the 1999 Final SEIS/EIR for the area along the west bank of the Napa River, north of the Bypass to the Elks Lodge (the area equivalent to Increment 2 of the USACE Authorized Project). The No Action Alternative is presented here as a baseline to compare with the Proposed Action Alternative. However, as described above in the Introduction and Background sections, this portion of the USACE Authorized Project, included in this SEA as the No Action Alternative, is no longer economically justifiable and can no longer be constructed with federal participation. The flood damage reduction and recreation elements proposed in this area include the construction of floodwalls south of Lincoln Avenue, rock scour protection under Lincoln Avenue Bridge, floodwalls north of Lincoln Avenue adjacent to the RiverPointe property, pump station at the Dry Bypass, and a raised levee berm north of RiverPointe around the Lake Park Subdivision to the Elks Lodge property. See Chapter 2 of the 1999 Final SEIS/EIR for more information and description regarding the proposed flood damage reduction and recreation elements in this area. **Figure 2.1-1** and **Figure 2.1-2** from the 1999 Final SEIS/EIR show the No Action Alternative flood damage reduction and recreation elements in the Action Area.

Figure 2.1-1. No Action Alternative (Features as Authorized in the 1998 SGDM Preferred Alternative and Evaluated in the 1999 Final SEIS/EIR) (1 of 2)

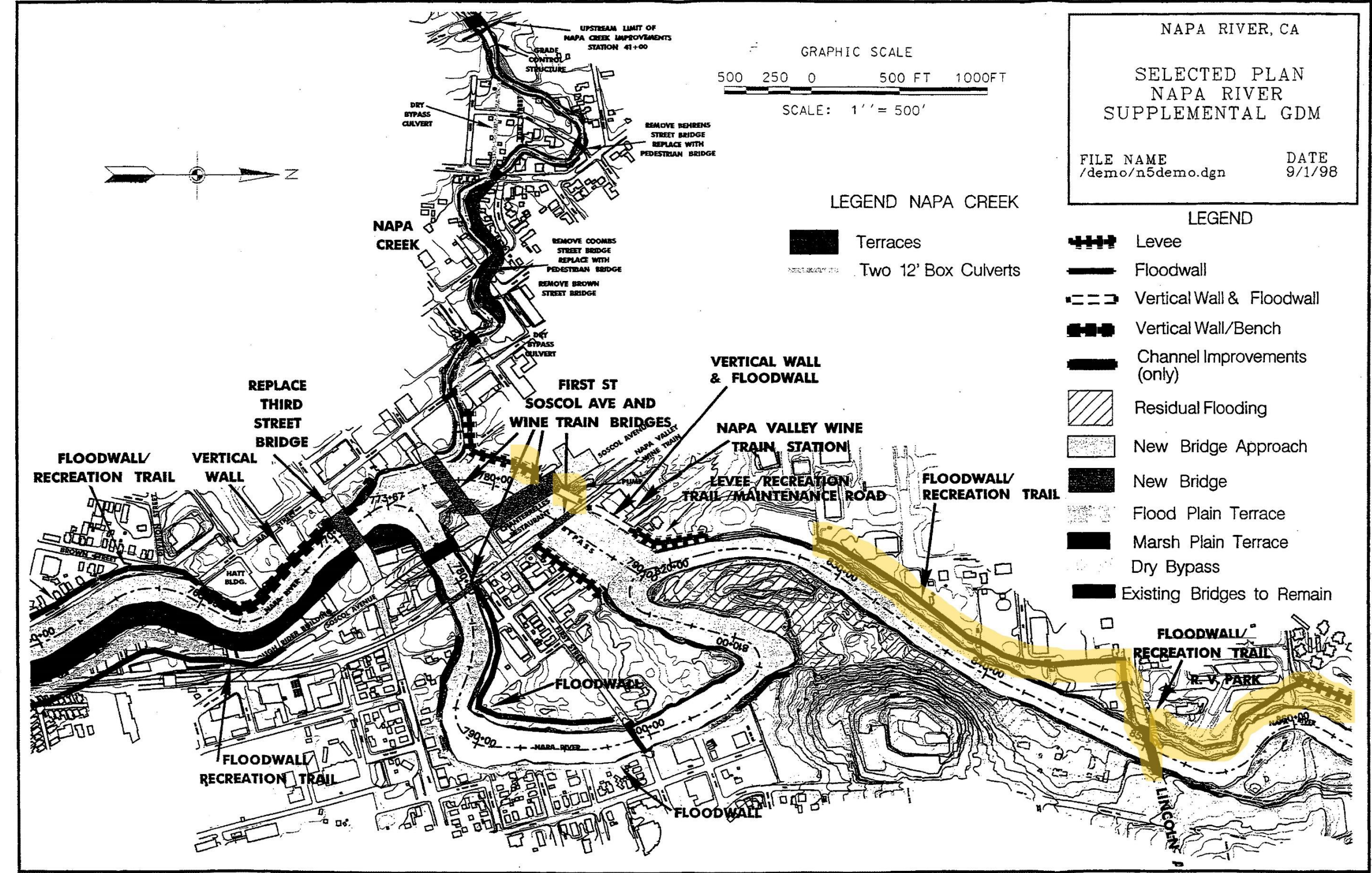


FIGURE 2-4

Figure 2.1-2. No Action Alternative (Features as Authorized in the 1998 SGDM Preferred Alternative and Evaluated in the 1999 Final SEIS/EIR) (2 of 2)

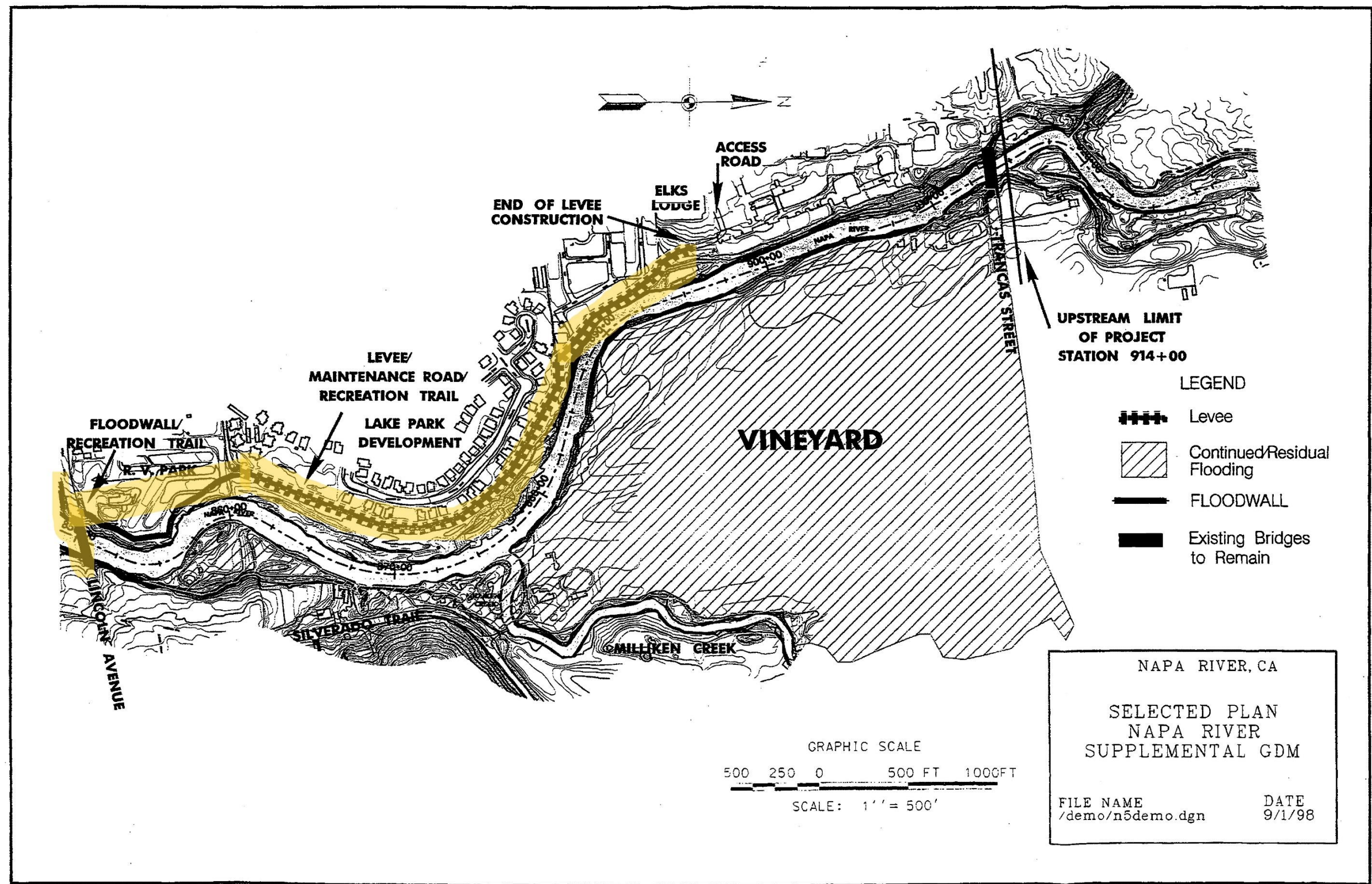


FIGURE 2-5

The No Action Alternative consists of constructing a setback floodwall on the west bank of the Napa River from Randean Way to Lincoln Avenue bridge. There would be 1,400 feet of setback floodwalls that would be 3 to 7 feet in height. The floodwall would go around the Ace and Vine and Veterinary Hospital properties, leaving these in the floodplain, and tie into the Lincoln Avenue embankment. A closure structure would be provided in the floodwall to allow access to these properties. The closure structure would need to be closed during high flows. Where opportunities exist along the west bank, biotechnical measures would be used to help stabilize the banks and to improve riparian habitat. The floodwalls would be set back a minimum of 50 feet in this reach to avoid impacts to riparian vegetation and to avoid the need for hard bank stabilization measures. A maintenance road/recreation trail would follow the floodwall on the west bank and would join North Bay Drive just south of the Ace and Vine property. No channel modifications are proposed south of Lincoln Avenue. North of the Lincoln Avenue Bridge a setback floodwall would be constructed on the west bank of the Napa River, would go around the RiverPointe property and then tie into existing levees north of the RiverPointe property. The floodwall in this area would be 1,100 feet in length and would vary in height from 9 to 11 feet. A submerged rock structure would be located in the river under Lincoln Avenue bridge to protect the bridge foundations. The 150-foot wide structure would be located across the invert of the channel and would consist of 18-inch rock over 9-inch bed material. The structure would provide erosion protection to the bridge abutments and footings.

A significant erosion problem exists at Station 858+00 adjacent to the RiverPointe property. The west bank of the Napa River is near vertical at this location and all riparian vegetation has been eroded away. Under the No Action Alternative, biotechnical measures would be used to stabilize the bank. The channel bottom would be modified by excavation to redirect flows away from the west bank and across a point bar on the east side of the river. An existing levee which starts just north of the RiverPointe property and extends to the north end of the Lake Park Subdivision would be raised. The levee ties into high ground at this point. About 3,400 feet of existing levee around Lake Park Subdivision would be raised an average of 3 feet to a height that would range from 10 to 12 feet. After the levees are constructed, they would be seeded with native grasses. Existing rock slope protection would be removed and replaced on the newly raised levees. The construction of levees or other means of flood protection would end at the north end of the Lake Park Subdivision, since the top of existing bank is higher than the 100-year water surface elevation between Lake Park Subdivision and Trancas Street. A maintenance road would be located on the levee and would tie into higher ground north of Lake Park Subdivision.

From the Bypass to Lincoln Avenue, a trail would be constructed on the west bank of the river only. The trail would be incorporated into the design and construction of the floodwall and its associated maintenance road. The trail would pass under the Lincoln Street bridge where an informal walkway already exists, if possible, although the abutment would not be modified. If the walkway under the Lincoln Avenue Bridge proves to be inadequate for a formal recreational trail, travelers would have to cross Lincoln Avenue at grade level to continue the trail on the other side. The existing Napa River trail would then continue along the floodwall upstream of Lincoln Avenue Bridge to the north end of the Lake Park Subdivision. The Napa River trail would be located along the landside of the floodwall and would ramp over the raised levee and proceed on the waterside of the modified levee. The Napa River trail would connect with the existing City trail at the north end of the Lake Park Subdivision. Vegetation would be planted to visually connect the trail with the river environment.

The No Action Alternative also includes a pump station, which would be built between Soscol Avenue and the Napa Valley Wine Train north of the Bypass floodwall (Station 784+00). The pump station would consist of a one-story building with dimensions of approximately 40 feet by 50 feet. The buildings would hold three to four individual pumps, which would be powered electrically with diesel generator back-ups. The pumps would be sized to meet the needs for internal drainage in this specific location.

Without the No Action Alternative, which cannot be constructed in the Increment 2 Action Area with federal participation due to the absence of federal economic interest in the construction of Increment 2 features as originally authorized, portions of the City of Napa, specifically the northern downtown area to Trancas Street, would be left vulnerable to flooding of the Napa River. **Figure 2.1-3** below depicts the modeled area of potential flooding along the west bank of the Napa River in the event of a 100-year flood without flood protection constructed in the Increment 2 Action Area. **Figure 2.1-4** below depicts the modeled area of potential flooding along the west bank of the Napa River in the event of a 100-year flood with the No Action Alternative (floodwalls and raised berm, with pump station) constructed. **Figure 2.1-5** below depicts the modeled area of potential flooding along the west bank of the Napa River in the event of a 100-year flood with the Proposed Action Alternative (floodwalls) constructed. The modeled hydraulic simulations provide a comparison of the current conditions to future conditions with flood protection constructed under either the No Action Alternative or the Proposed Action Alternative. In this modeled scenario, and as shown in **Figure 2.1-3**, there would be substantial flooding without flood protection in place, approximately 4-5 ft in the residential areas north of Lincoln Avenue on the west side of the Napa River in the City of Napa. The difference between the simulations presented in **Figure 2.1-4** and **Figure 2.1-5** is neither substantial nor significant.

Figure 2.1-3. 100-year Flood Simulation With No Flood Protection North of the Bypass along the west bank of the Napa River

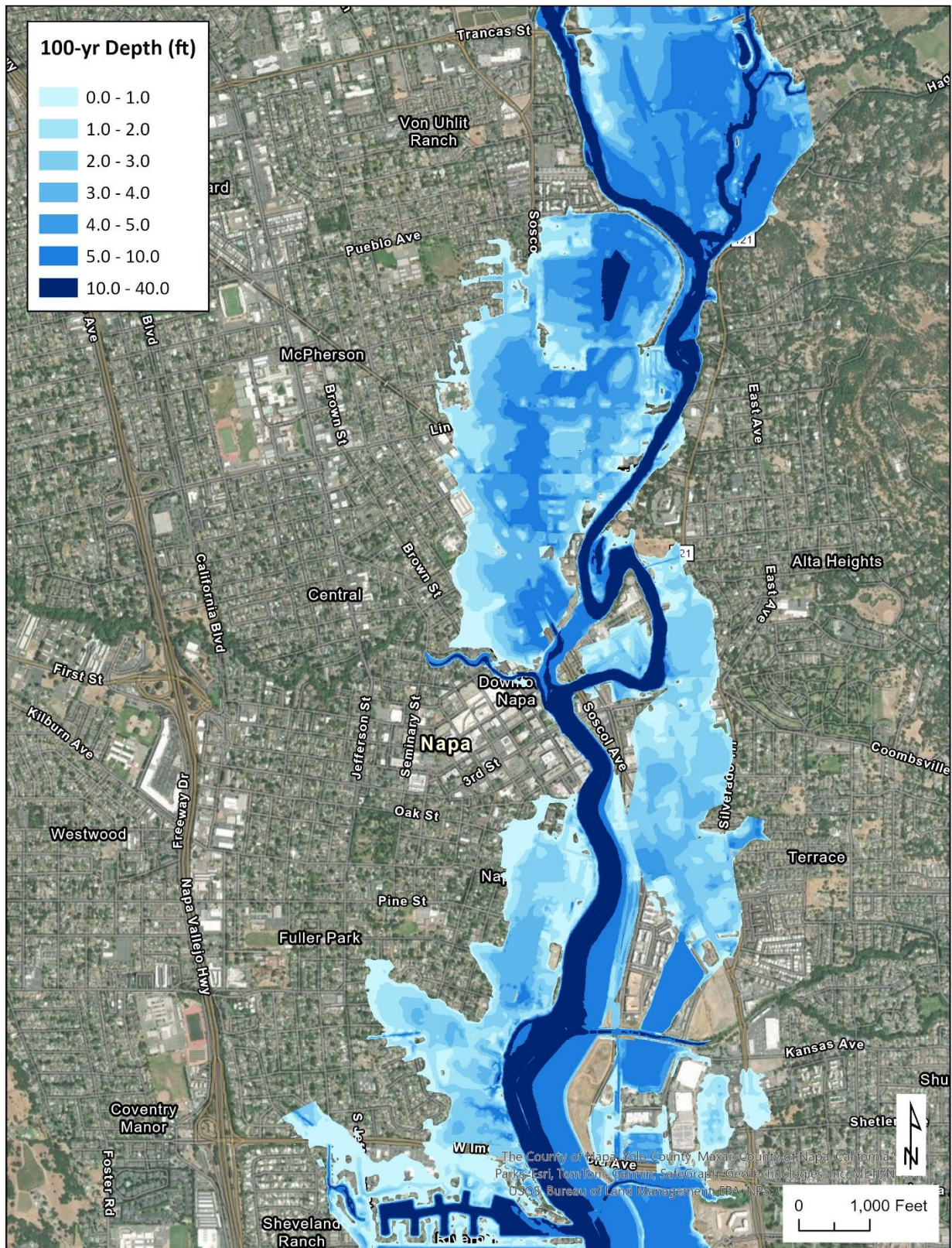


Figure 2.1-4. Napa River 100-year Flood Simulation for the No Action Alternative, North of the Bypass along the west bank of the Napa River

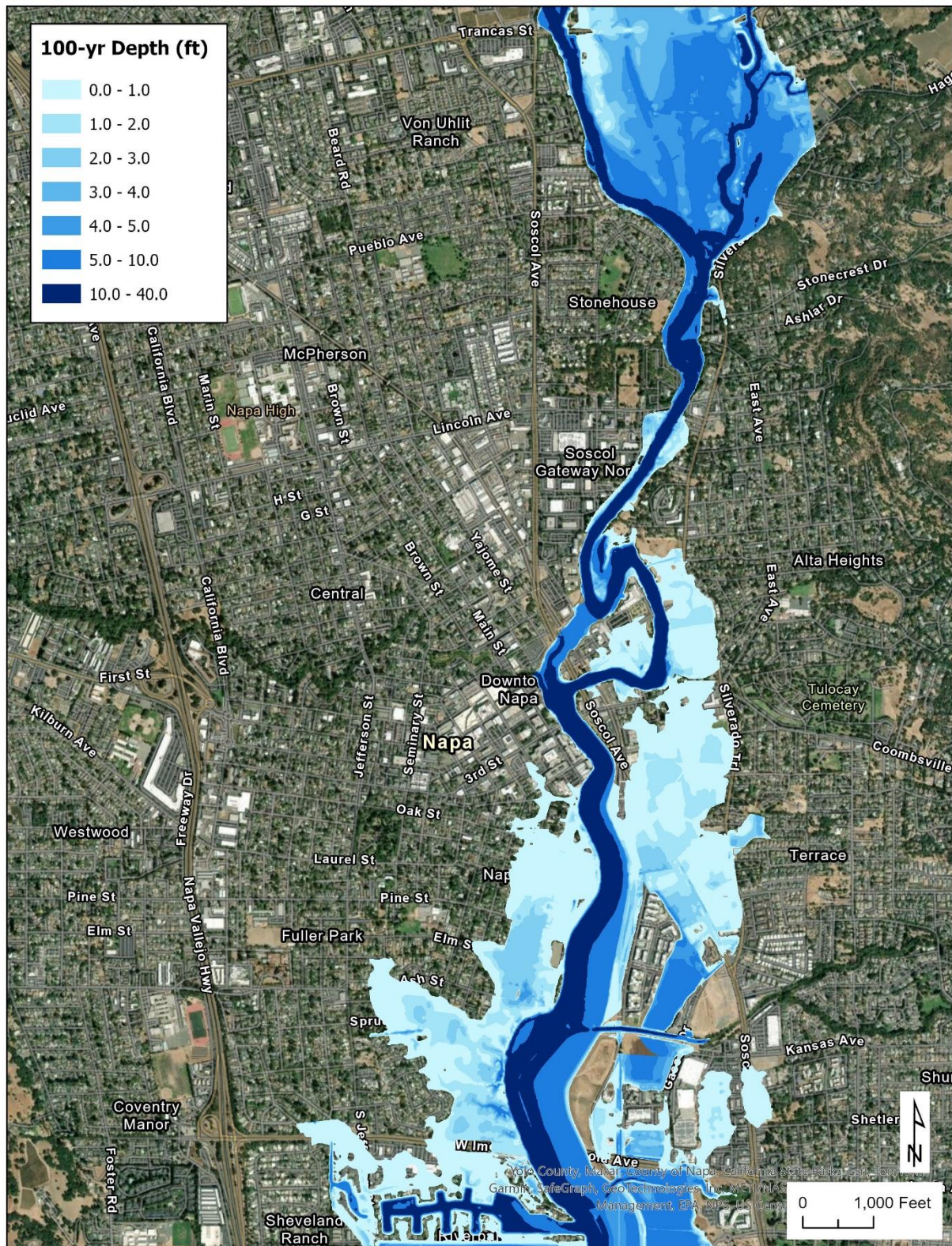
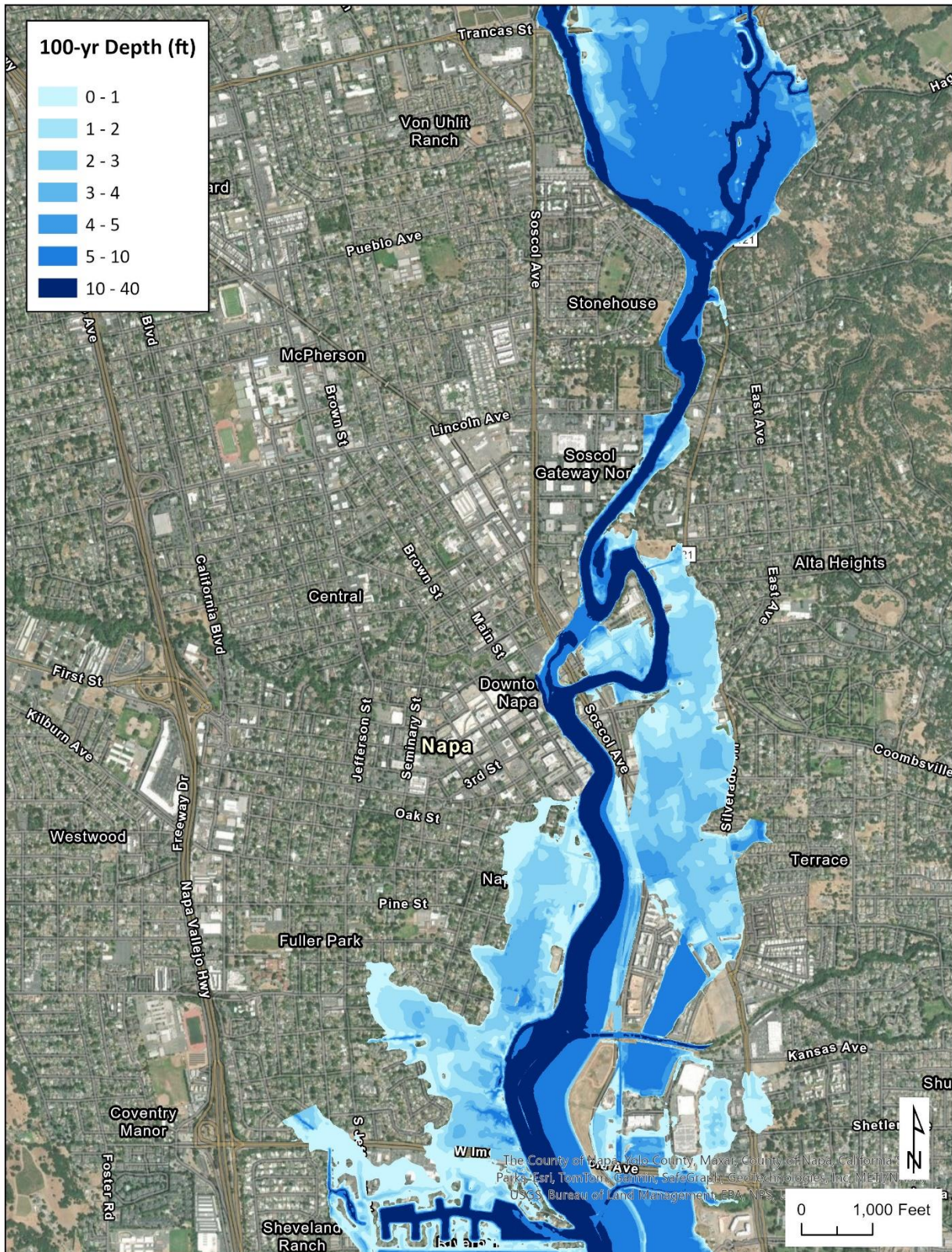


Figure 2.1-5. Napa River 100-year Flood Simulation for the Proposed Action Alternative, North of the Bypass along the west bank of the Napa River



2.2 Proposed Action Alternative

The Proposed Action design generally follows the previously proposed improvements as documented in the 1998 SGDM, analyzed in the 1999 Final SEIS/EIR, and presented in Section 2.1 *No Action Alternative*; however, there are some notable changes including a reduction in overall effects to riparian habitat in the area north of Lincoln Avenue near the Lake Park Subdivision. Notable differences between the No Action Alternative and the Proposed Action Alternative are summarized in **Table 2.2-1**.

Table 2.2-1. Differences between the Proposed Action Alternative and the 1998 SGDM Preferred Alternative/ Proposed Action Alternative in the 1999 Final SEIS/EIR

| Increment 2 Area | Description of the Difference |
|---|---|
| Floodwalls South of Lincoln Avenue to River Terrace Inn | In the area south of Lincoln Avenue, the Proposed Action Alternative includes continuation of the Napa River Trail from its current terminus on the river side of the River Terrace Inn and connecting it to the City of Napa's existing River Trail that extends between Lincoln Avenue and Trancas Street. The new trail would be on the river side of the new floodwall until just south of Wall Street where it would cross the floodwall alignment through a stoplog closure structure just south of Wall Street and run landside of the floodwall in the 15-ft O&M corridor up to Lincoln Avenue. A mid-block lighted pedestrian crossing is proposed to allow trail users to safely cross Lincoln Avenue. A few additional updates to the Project design in the area south of Lincoln Avenue include providing two flood gates for the two businesses at Lincoln Avenue versus the single gate proposed in the 1998 SGDM and the 1999 Final SEIS/EIR. Additionally, at the Lincoln Avenue Bridge, the footprint of rock scour protection proposed under the Proposed Action Alternative is less than half of what was proposed under the SGDM based upon updated scour modeling. |
| Floodwalls North of Lincoln Avenue to Elks Way | The element north of Lincoln Avenue deviates the most in design from the 1998 SGDM and the 1999 Final SEIS/EIR. The 1998 SGDM, and the 1999 Final SEIS/EIR, and the Proposed Action Alternative consist of providing flood protection from the Lincoln Avenue bridge, around the RiverPointe parcel, through the Lake Park and River Glen subdivisions and tie into high ground at Elks Way. The alignment and methods of providing flood protection for this reach vary between the authorized and proposed designs. For the RiverPointe element, the Proposed Action Alternative now eliminates in-water work for this area with construction of a new floodwall alignment that has been setback from the existing riverbank sufficiently such that in the event of continued erosion, the floodwall footing would not be undermined. This setback of the floodwall alignment retains the existing riverbank and existing riparian area but requires the removal of a row of trailer vacation rental units and pads and utility services in the RiverPointe parcel. The floodwall would extend through this reach and continue north into the existing levee embankment around the Lake Park subdivision. |
| Lake Park Subdivision | For the Lake Park subdivision, the 1998 SGDM and the 1999 Final SEIS/EIR Authorized Action Alternative consisted of reconstruction and raising of the existing levee approximately 3 feet, creating a new levee meeting the current USACE levee design standards for the full length of the Lake Park subdivision. The Proposed Action Alternative replaces the levee with a new floodwall that is embedded within the waterside slope of the existing levee embankment roughly 15-feet waterward of the existing backyard fences on top of the existing levee crown. This change results in a much smaller footprint (floodwall vs. berm), less encroachment into the riparian corridor, and changes to views as compared to the 1998 SGDM design and the 1999 Final SEIS/EIR. |

| Increment 2 Area | Description of the Difference |
|-----------------------------|--|
| River Glen Townhomes | For the River Glen townhome section, the Proposed Action Alternative floodwall alignment would be located roughly 15-feet waterward of the existing townhome backyard fence line, but instead of being a concrete T-floodwall, the floodwall would be a steel sheet pile I-floodwall with a concrete cap. Finally, instead of terminating at the rear of the Elks Lodge, the floodwall would terminate in high ground at the north end of the River Glen townhomes roughly at Elks Way road. |
| Dry Bypass and Pump Station | Starting at the southern end of the Proposed Action Area, within the Dry Bypass, where the 1998 SGDM, the 1999 Final SEIS/EIR, and the current Proposed Action Alternative design differ is at the existing gap in the floodwall between Soscol Avenue and the Napa Valley Wine Train Bridge embankments. The 1998 SGDM and the 1999 Final SEIS/EIR proposed floodwalls to close the gap between the two embankments with a 350 cfs capacity pump station located on the protected side of the floodwall to address the existing drainage outfalls in the area. The current Proposed Action includes a new outfall control structure with a manually operated sluice gate instead of a pump station to be constructed in line with the floodwalls. The previously authorized pump station at this location is no longer economically justified to support federal participation in construction. |

As stated previously, the Proposed Action Alternative consists of four major elements: floodwalls south of Lincoln Avenue, floodwalls north of Lincoln Avenue, scour protection under the Lincoln Avenue Bridge, and two short floodwall closures at the Dry Bypass. These elements and specific design changes within these elements located in Increment 2 are described further below. **Figure 2.2-1** through **Figure 2.2-5** shows the Proposed Action Area and proposed floodwalls.

Figure 2.2-1. Proposed Action Alternative (1 of 5)



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Figure 2.2-2. Proposed Action Alternative (2 of 5)



Figure 2.2-3. Proposed Action Alternative (3 of 5)

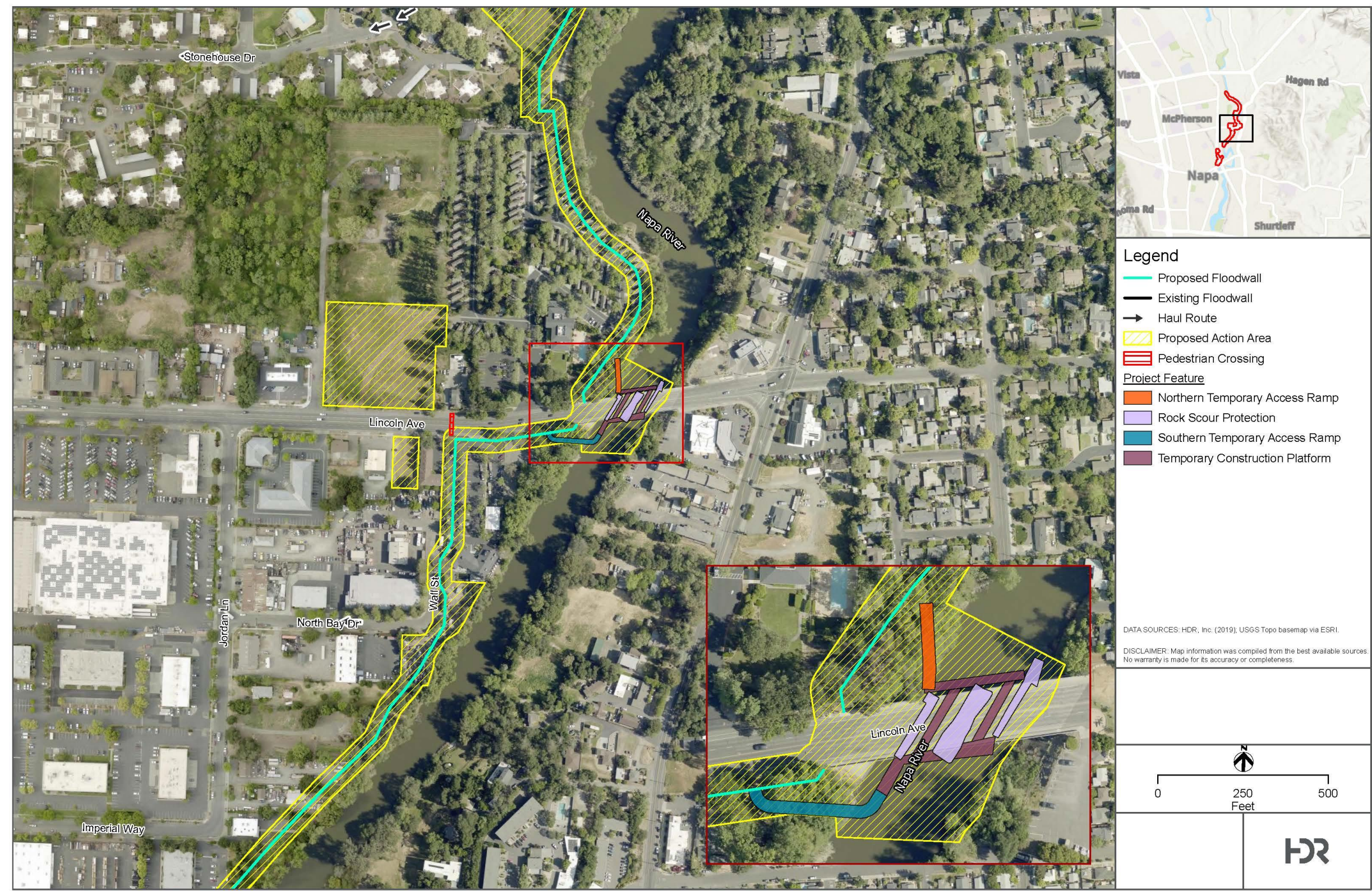
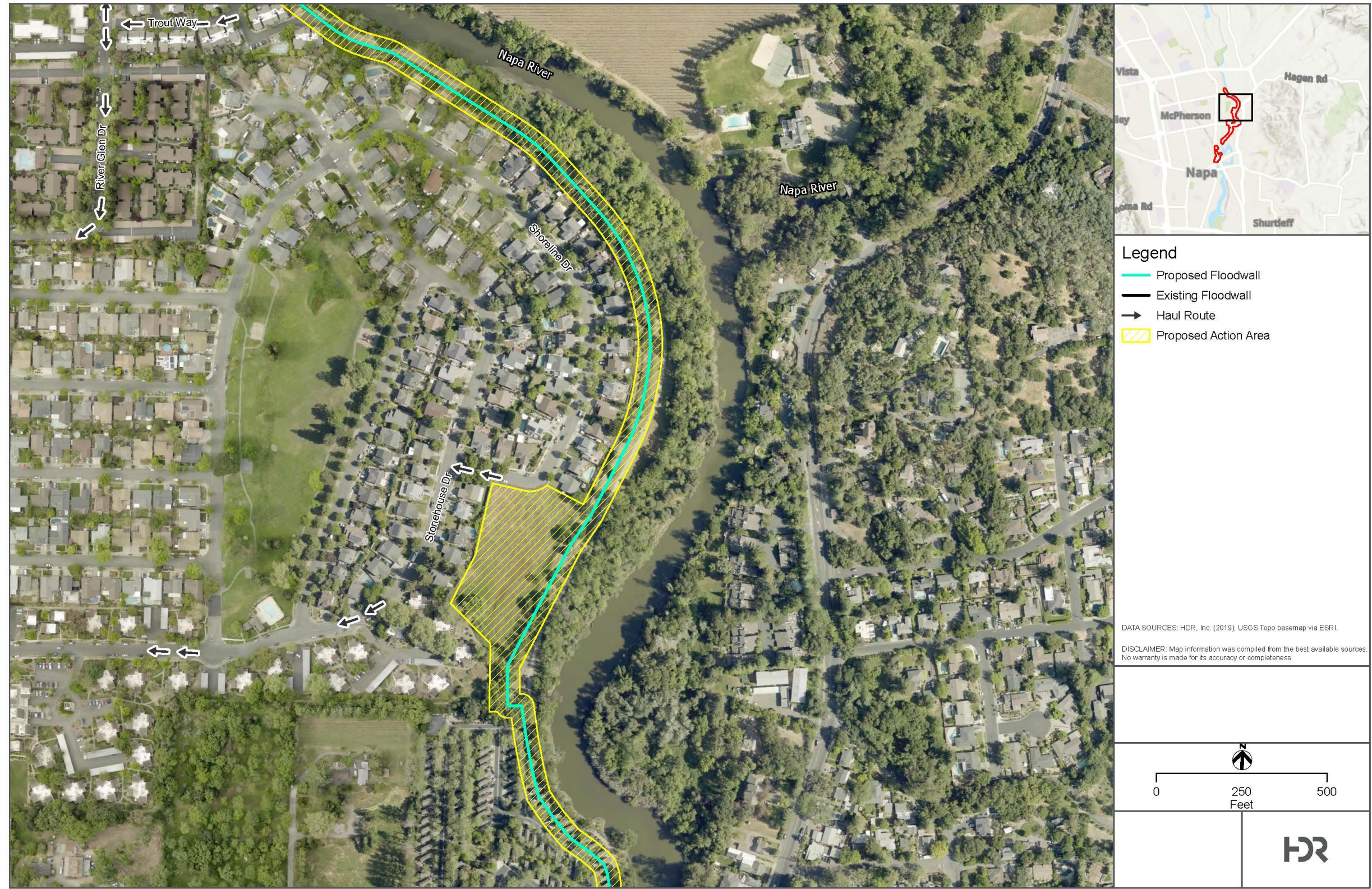


Figure 2.2-4. Proposed Action Alternative (4 of 5)



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Figure 2.2-5. Proposed Action Alternative (5 of 5)



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2.2.1 Floodwalls South of Lincoln Avenue to River Terrace Inn

A floodwall would be constructed on the west bank of the Napa River beginning at the River Terrace Inn and continuing north toward Lincoln Avenue. The floodwall would start at the high ground near the edge of the River Terrace Inn property. The floodwall would consist of 30 feet in length of sheet pile “I” wall embedment into the high ground near River Terrace Inn and would then transition to a concrete “T” wall with a foundation constructed below ground. The exposed stem of the floodwall would be approximately 3 to 7 feet high above ground and less than 2 feet wide as it goes north. The floodwall would be set back from the existing bank on the water side of existing businesses and the O&M corridor. A new 10-foot-wide recreational trail would be constructed on the water side of the floodwall starting at the high ground at River Terrace Inn and running north to Wall Street, where the trail would then cross the wall through a 15-foot-wide stop log pedestrian gate.

Continuing north, the floodwall would jog to the land side of the Ace & Vine and Napa River Pet Hospital businesses. The 10-foot-wide recreational trail would run on the land side of the floodwall in this area and run along the west side of the Ace & Vine parcel, where it would cross Lincoln Avenue with a mid-block crossing crosswalk with activatable yellow lights. The trail would then run east along the north side of Lincoln Avenue until it ties into a new waterside 10-foot-wide recreation trail on the waterside of the floodwall by crossing the wall through a new 15-foot-wide stop log pedestrian and emergency access gate. The floodwall along the south side of Lincoln Avenue would run along the frontage of both the Ace & Vine and Napa River Pet Hospital that would also consist of two roughly 20-foot-wide swing gates and business signage that would be installed in the floodwall at the existing driveway locations on Lincoln Avenue to allow access to the businesses on the other side of the wall. The floodwall would tie into and terminate at the south side of the western parapet wall of the Lincoln Avenue Bridge. In total, the floodwall south of Lincoln Avenue would consist of 2,345 linear feet of concrete “T” wall and 30 linear feet of “I” wall.

There are five outfall structures in this element south of Lincoln Avenue that would generally be modified to provide for crossing the new floodwall and positive closure devices, such as a headwall with a sluice gate or flap gate and appropriate scour protection.

2.2.2 Floodwalls North of Lincoln Avenue to Elks Way

At the Lincoln Avenue Bridge, the floodwall would tie into the north side of the western parapet wall and continue north following the existing trail on the water side of businesses and homes. A 15-foot-wide stop log pedestrian and emergency access gate would be installed at the start of the existing Napa River Trail access point located just north of the Lincoln Avenue Bridge. This gate would allow pedestrian and emergency vehicle access to the existing Napa River Trail on the water side of the floodwall. The floodwall alignment would be set back from the riverbank because of the active scour along this section of the Napa River.

Constructing the floodwall would require removing the easternmost row of trailer vacation rental units closest to the river to make space for the floodwall. Burrows Court may be realigned adjacent to the floodwall. Currently, the affected trailer vacation rental units at RiverPointe are removed during the winter, as required by the flood action plan for the resort, due to flood risk. After the proposed floodwall is constructed, the remaining trailer vacation rental units could be left in place all year because the wall would provide increased flood protection. In this area, the floodwall would be approximately 3 to 10 feet high.

North of the RiverPointe property is the Lake Park subdivision. There is an existing noncertified levee on the land side of the trail behind the homes on Shoreline Drive. This levee, which is not part of the federal project, was originally constructed in the 1960s by the Lake Park subdivision contractor, when the Lake Park subdivision was built to provide some flood protection to the homes in the community. For the Proposed Action Alternative, the existing levee berm would be partially excavated from the river side, and the floodwall would be constructed approximately 15 feet toward the river from the existing backyard fences. The area behind the wall would then be filled to provide a flat surface at roughly the elevation of the old top of levee. Homes on the water side of Shoreline Drive have existing levee maintenance easements in their back yards. These easements are not suitable for construction of the Proposed Action Alternative and operation and maintenance (O&M) of completed features, so new easements would be acquired. After construction of the Proposed Action Alternative, the reconstructed levee berm top would serve as an O&M road, and existing backyard fences would be replaced. New cross fences at each property line would also be constructed across the O&M road, to further delineate individual properties. The floodwall location would minimize effects to back yards from construction and future O&M activities. In this area, the exposed portion of the floodwall would be approximately 1 to 3 feet tall with a pedestrian rail on top when viewed from the landside. Existing trees on the water-side slope of the existing berm would be removed as well as some on the levee crest to allow for construction of the Proposed Action Alternative and provide the required clear space next to the floodwall for O&M. Trees on the land-side slope of the existing berm would not be removed. Some trees may need to be trimmed or removed on the water side of the trail to allow clearance for construction equipment. **Figure 2.2-6** provides a rendering of the proposed floodwall adjacent to the Lake Park subdivision.

An existing 36-inch-diameter steel water line crosses underneath the existing Lake Park berm along the trail. This water line would be backfilled with concrete or removed and relocated along the water side of the trail.

The section of waterline between stations 24+50± to 29+50± would be relocated waterward as a landside relocation is not suitable based on the proximity of the homes adjacent to the floodwall alignment and the complete relocation of the waterline into a nearby roadway would also require a new crossing underneath Napa River which would be prohibitively expensive.

The Proposed Action Alternative includes installation of approximately 810 linear feet of 36-inch welded steel pipe and would intersect the proposed floodwall at one location, station 11+28, as a result making it easier for maintenance.

North of the Lake Park subdivision, the floodwall would transition from a concrete “T” wall to a sheet pile “I” wall to accommodate a narrower footprint and setback requirements in this element of the floodwall corridor while also providing flood protection. The sheet pile wall would have a concrete cap surrounding it so that it appears the same as the other parts of the concrete floodwall.

Between stations 30+00 and 35+00, the existing 36-inch waterline would cross the floodwall alignment. This section of pipe would be replaced in its existing alignment to allow for a new penetration through the floodwall and the installation of two-36” butterfly valves, one located on either side of the floodwall allowing for the closure of the pipeline in the event of an emergency or maintenance needs.

The sheet pile wall would continue north along the water side of the townhomes on Trout Way, Pike Drive, and Elks Way and tie into high ground on the north side of Elks Way. The sheet pile wall may be up to 22 feet deep in some areas. Beneath Trout Way is an existing 72-inch-diameter drain outfall

that the sheet pile wall would span over. The sheet pile spanning the storm drain pipe would be reinforced and supported. The drain outfall would be avoided during construction. In total, the floodwall north of Lincoln Avenue would consist of 3,300 linear feet of concrete “T” wall and 810 linear feet of “I” wall.

There are three outfall structures in this element north of Lincoln Avenue that would generally be improved to provide for crossing the new floodwall and positive closure devices, such as a headwall with a sluice gate or flap gate and appropriate scour protection.

2.2.3 Rock Scour Protection under the Lincoln Avenue Bridge

Rock would be placed under Lincoln Avenue Bridge to reduce the potential for scour to occur and to protect the banks of the Napa River as well as the central pier footings of the bridge. As shown in **Figure 2.2-7**, this area of construction would be accessed from temporary ramps on the northwest and northeast sides of the Lincoln Avenue Bridge, on the west bank. Access ramps would be constructed on the bank of the Napa River using approximately 300 tons of rock in each ramp and later removed at the completion of construction. Best management practices (BMPs) would be installed at the temporary access points, including straw wattles on the temporary access ramps to prevent sediment from entering the Napa River, including the installation of a silt fence at the limits of work. Post construction, willow pole stakes and other native vegetation would be installed to reestablish riparian habitat on the slopes where the ramps are constructed.

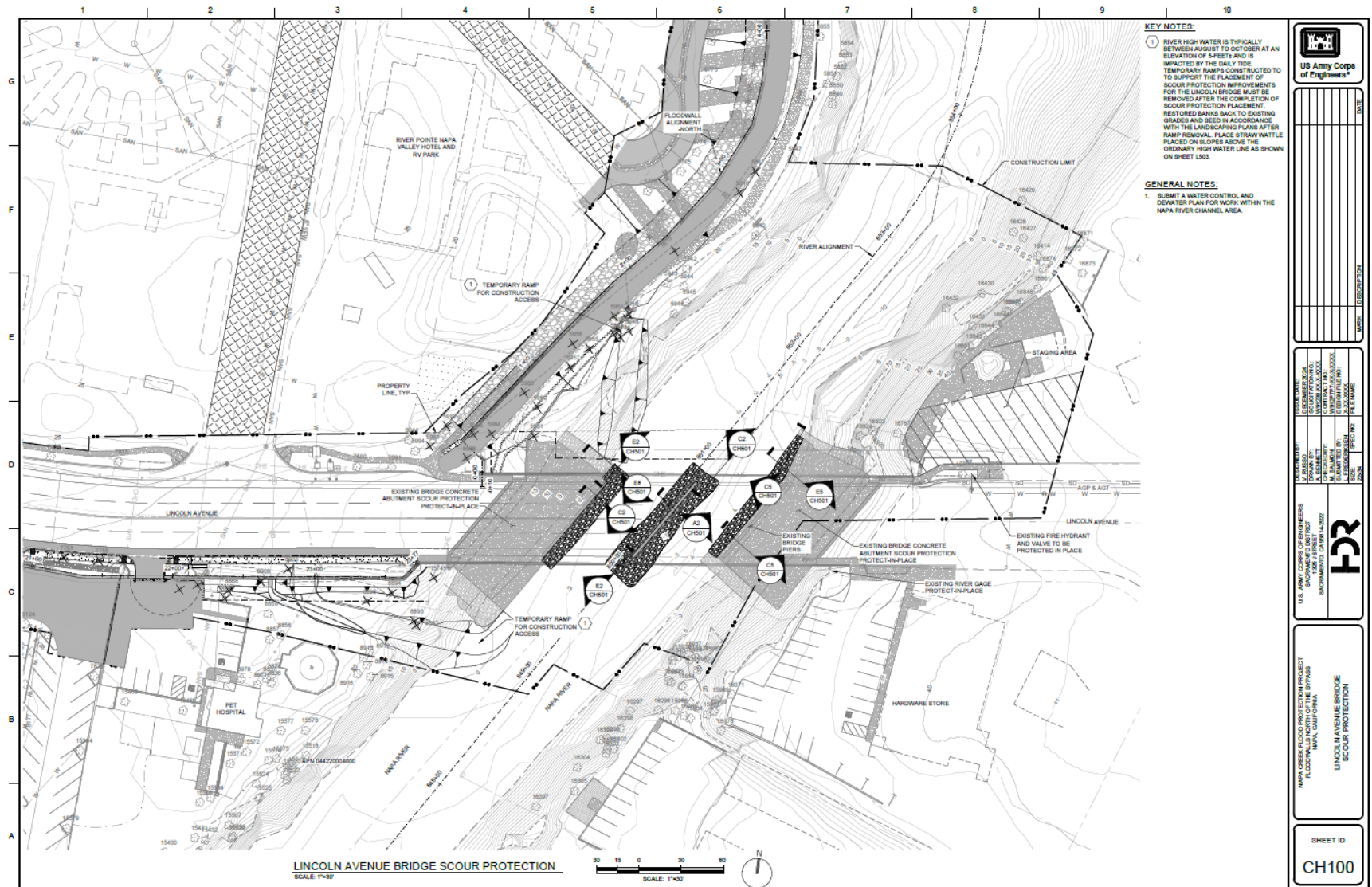
During construction, water management in the Napa River would be required to place the rock scour protection under Lincoln Avenue Bridge and to control turbidity. The primary work area isolation approach would be to place turbidity curtains on the up- and down-stream sides of the work area, due to the tidal nature of the location. Work within the river would be completed with equipment working from temporary platforms above the water level. Work platforms would be constructed to allow river flows and fish passage past the work area. The platforms would be 20 to 25 feet wide, built with an excavator, and could include supersacks or other material support for crane mats, and temporary railings for safety. Water and water quality management during construction in the Napa River would be conducted pursuant to Sections 401 and 404(b)(1) of the Clean Water Act, Waste Discharge Requirements (WDR) Order #99-074 issued by the California State Water Quality Control Board, and any additional permitting requirements necessary to support the Proposed Action Alternative to limit any potential water quality effects (RWQCB 1999). The rock scour protection requires the excavation of approximately 2-5 feet of existing bed material adjacent to the existing piers (approximately 450 cubic yards of material) which would be replaced with approximately 1,560 tons of Class V riprap with a D₅₀ of 18-inches on top of a 6-inch-thick granular filter (gravel). Excavated material would be temporarily stockpiled before being disposed of at the site or off hauled to a permitted location.

The rock scour protection would be placed in the Napa River during the dry season (June 1–October 31), in one work window. After the rock scour protection is placed, the access platforms and access ramps would be removed, and the banks would be restored. Lastly, permanent BMPs would be applied in place of the temporary BMPs and native riparian vegetation would be installed.

Figure 2.2-6. Rendering of Lake Park Subdivision Proposed Floodwall



Figure 2.2-7. Rock Scour Protection at Lincoln Avenue Bridge



2.2.4 Floodwalls at the Dry Bypass

As part of previous construction of the USACE Authorized Project at the Dry Bypass, floodwalls were constructed on both sides of the new Dry Bypass channel (i.e., below Soscol Avenue and the Napa Valley Wine Train). With the Proposed Action Alternative, drainage areas previously facilitating overland flow to reenter the Dry Bypass and river during flood events on either side of the Soscol Avenue Bridge would be closed off by constructing flood protection as proposed in the 1999 Final SEIS/EIR. The proposed floodwalls would comprise approximately 230 linear feet of “T” wall. The exposed portion of the concrete “T” walls would be approximately 4-7 feet tall west of the Soscol Avenue bridge and approximately 4-7 feet tall east of the Soscol Avenue bridge. The proposed improvements in the Dry Bypass would occur on the east and west sides of the Soscol Avenue Bridge, as discussed in **Table 2.2-2** below.

Table 2.2-2. Improvements in the Dry Bypass

| Area of Dry Bypass | Proposed Improvements |
|--|--|
| East of Soscol Avenue Bridge | The demolition work east of Soscol Avenue Bridge would consist of: removing existing rock scour protection, approximately 20-feet of existing concrete barrier of Soscol Avenue to install a gate for O&M, and gabion basket wall; exposure and removal of an existing 18-inch pipe, a 42-inch pipe, 20-feet of the bridge concrete barrier, and an inactive 27-inch sanitary sewer force main; clearing and grubbing of debris from construction areas above the original ground; and disposal of materials resulting from clearing and grubbing activities. |
| West of Soscol Avenue Bridge | <p>The demolition work on the west of Soscol Avenue Bridge would consist of removing 75 linear feet of 6-inch concrete curb for drainage improvements; saw cutting of pavement; abandonment of existing catch basin near the proposed location of floodwall; clearing and grubbing of debris from construction areas above the original ground; and disposal of materials resulting from clearing and grubbing activities.</p> <p>The proposed work on the west of Soscol Avenue Bridge would re-establish existing swale to improve drainage by capturing surface runoff, hydroseed to prevent erosion, place Class I Rock Slope Protection before the flow reaches the new concrete valley gutter, construct concrete valley gutter per federal and/or City of Napa design standards to drain the surface runoff to the catch basin downstream, replacing and relocating the existing catch basin with circular frame and grate with a new catch basin with rectangular frame and grate, placing 3-inches of hot mix asphalt before the new floodwall and grading to drain water away from the floodwall to drain to new catch basin.</p> |
| East end of the Soscol Avenue Bridge, between Soscol Avenue and the Napa Valley Wine Train | The work proposed for the east end of the Soscol Avenue Bridge, between Soscol Avenue and the Napa Valley Wine Train, involves installation of improvements to address internal storm drainage, including extending the current 36-inch reinforced concrete pipe (RCP) at the outlet to align with the flow line of the new swale and creating a natural swale to preserve stormwater treatment upstream of the floodwall, while addressing levee safety standards and protecting existing infrastructure. A weir drop inlet with a trash rack and concrete headwall would be installed to effectively collect upstream surface flow from the swale, along with approximately 70 linear feet of double 4 ft by 4 ft reinforced concrete box to collect the upstream flow from the existing double 36-inch RCP, 36-inch RCP, and 48-inch HDPE pipe. Dry Bypass Control Structure would connect the double 4 ft by 4 ft reinforced concrete box culvert. Sluice/slide gates closures would be installed at the exterior end of the Dry Bypass Control Structure to comply with the requirements of EM 1110-2-1413 for Hydrologic Analysis of Interior Areas. Approximately 85 linear feet of 42-in diameter RCP would be installed between Dry Bypass Control Structure and a new manhole on the 42-in pipe. There would also be a 5 ft by 5 ft reinforced concrete box culvert to manage surface overflow from the upstream swale, covering 45 linear feet, and a concrete wing wall with a flap gate at the outlet of the box culvert. |

| Area of Dry Bypass | Proposed Improvements |
|--------------------------|--|
| Upstream Drainage System | <p>The planned improvements to the upstream drainage system would entail routing the flow through penetrations in the outfall drainage control structure and then releasing it into either the dry bypass or the Napa River's low-flow channel by connecting to the existing 42-inch diameter RCP. Installation of a new outfall drainage vault structure (35 linear feet in length, approximately 29 feet in depth, and the width would vary from 19 to 22 linear feet and would house three penetrations- a double 4-feet by 4-feet reinforced concrete box culvert, 5-feet by 5-feet reinforced concrete box with sluice/ slide gates, and 42-inch RCP with sluice/ slide gate). On the landside, there would be a 10-foot by 10-foot drop inlet vault with a trash rack.</p> <p>Excavation would require dewatering and would involve installing temporary sheet piles around the excavation area. Any remaining water in the work area would be pumped out into a temporary holding area before being discharged to the low-flow swale leading to the river.</p> <p>The discharge into the low flow channel would be done with 47 linear feet of new a 5-feet by 5-feet reinforced concrete box culvert with flap gate daylighting to the existing bypass low flow channel with a new headwall and flap gate. Discharge back into the existing 42-inch RCP system would be done with 64 linear feet of new 42-inch RCP connecting to a new 60-inch diameter manhole tying into the existing 42-inch RCP system within the Dry Bypass.</p> |

O&M for the proposed floodwall between the Soscol Avenue and Napa Valley Wine Train bridges would be accessed by maintenance crews from the northbound land of Soscol Avenue Bridge where a 12-foot-wide O&M road and a turnaround pad of around 3,125 square feet would be constructed at the floodwall to accommodate a Vactor truck-type maintenance vehicle. Maintenance crews would access the floodwall west of Soscol via Yajome Street.

2.2.5 Construction Details

Construction of the Proposed Action Alternative is expected to begin in the fall of 2025 and end in 2028. In water work at the Lincoln Avenue Bridge is anticipated to occur in one 4-month construction season, during allowable work windows for aquatic species (June 1 through October 31). Work hours would be Monday through Friday for 10 hours per day. The sequence and duration of construction activities is shown in **Table 2.2-3** below.

Table 2.2-3. Anticipated sequence of construction activity

| Construction Activity | 2025 | 2026 | | | | 2027 | | | | 2028 |
|-----------------------------|------|------|----|----|----|------|----|----|----|------|
| | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| North of Lincoln Ave | | | | | | | | | | |
| Trail Closure, Lincoln Ave | | | | | | | | | | |
| Tree Clearing, Lincoln Ave | | | | | | | | | | |
| Floodwalls, RiverPointe | | | | | | | | | | |
| Floodwalls, Lake Park | | | | | | | | | | |
| Floodwalls, River Glen | | | | | | | | | | |
| Water Main, Lake Park | | | | | | | | | | |
| Landscaping, Lincoln Ave | | | | | | | | | | |

| Construction Activity | 2025 | 2026 | | | | 2027 | | | | 2028 |
|-------------------------------------|------|------|----|----|----|------|----|----|----|------|
| | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| North of Lincoln Ave | | | | | | | | | | |
| Bridge Protection, Lincoln Ave | | | | | | | | | | |
| South of Lincoln Ave | | | | | | | | | | |
| Tree Clearing, Lincoln Ave | | | | | | | | | | |
| Floodwalls, Wall St | | | | | | | | | | |
| Roadwork & Utilities, Wall St | | | | | | | | | | |
| Floodwalls, Wall St | | | | | | | | | | |
| Utilities, Lincoln Ave | | | | | | | | | | |
| Floodwalls, Lincoln Ave | | | | | | | | | | |
| Bridge Protection, Lincoln Ave | | | | | | | | | | |
| Dry Bypass Floodwall and Structures | | | | | | | | | | |
| Landscaping, Lincoln Ave | | | | | | | | | | |

Appendix C provides further details on construction of the Proposed Action Alternative pertaining to features located in Increment 2, only. These include site preparation, construction methods, equipment and materials to be used, removal and relocation of utilities, and post-construction operations and maintenance (O&M). Site preparation would consist of mobilization and delivery of equipment, followed by installation of traffic control and sediment control measures. Construction equipment and materials to be used are detailed in Appendix C. There would be daily deliveries of equipment and materials including concrete, aggregate, rebar, asphalt, pipe, and sheet piles. Construction traffic would utilize the Proposed Action Area and paved roads, as identified. Construction traffic would flow throughout the respective work areas – north of Lincoln Ave and south of Lincoln Ave and between staging areas. It is anticipated that a maximum of 30 workers, and personal vehicles, would be present at a given time. The anticipated area of disturbance associated with the Proposed Action Alternative within the Proposed Action Area is 14.37 acres in project work areas and 5.39 acres in staging areas. Construction of the Proposed Action Alternative would require the removal and relocation of some utilities in the Proposed Action Area. Utility conflicts are described in Appendix C. Utilities would either be protected in place, vacated, demolished and removed, abandoned in place, relocated, or maintained through the proposed floodwall.

After construction, all O&M activities would be undertaken by the Sponsor for as long as the Project remains authorized as part of their areawide O&M activities. The 15-foot-wide O&M corridor on the land side of the floodwall and the existing Napa River Trail on the water side of the floodwall would serve as maintenance corridors. Any damage to the existing Napa River Trail as a result of construction would be repaired as necessary in coordination with the City of Napa. Ongoing maintenance activities for the Proposed Action Alternative include routine inspections and minor vegetation trimming.

2.3 Permits and Approvals

Anticipated permits and approvals for the Proposed Action are included in **Table 2.3-1** below. The Sponsor has prepared a separate Draft SEIR (January 2025) to meet the requirements of CEQA and leading compliance with State agencies on State regulations.

Table 2.3-1. Anticipated permits and approvals

| Agency | Type of Approval |
|--|---|
| California Department of Fish and Wildlife | Fish and Game Code Section 1602 Streambed Alteration Agreement |
| California Department of Fish and Wildlife | California Endangered Species Act, Section 2081 Incidental Take Permit |
| California Native American Heritage Commission | Consultation for effects on Native American burials or artifacts |
| State Historic Preservation Officer | National Historic Preservation Act, Section 106 Consultation |
| National Marine Fisheries Service | Endangered Species Act, Section 7 Consultation |
| US Fish and Wildlife Service | Endangered Species Act, Section 7 Consultation |
| State of California Regional Water Quality Control Board | Clean Water Act Section 402 National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction Activities, Clean Water Act Section 401 Waste Discharge Requirements – Acquired September 1999; letter of approval in process |
| US Army Corps of Engineers | Clean Water Act Section 404(b)(1) Analysis |
| Bay Area Air Quality Management District | Consultation for Authority to Construct/Permit to Operate |

3 Environmental Setting, Effects, and Mitigation Measures

This Chapter presents supplemental analyses to the 1999 Final SEIS/EIR and focuses on the changes in environmental effects and conditions in the Proposed Action Area. This Chapter describes the resources within the Proposed Action Area, as well as the effects of the alternatives on these environmental resources. Each subsection presents the existing environmental resource conditions in the Proposed Action Area, environmental effects of the Proposed Action Alternative, and, when necessary, mitigation measures that are proposed to avoid, reduce, minimize, or compensate for adverse effects, including any that could be significant. For this SEA, NEPA and USACE NEPA regulations apply to all resources and are not repeated for each individual resource.

3.1 Approach to Analysis

USACE has elected to follow the 2020 version of the 1500-1508 NEPA regulations (40 CFR 1500-1508) for preparation of this SEA. As noted in Chapter 1, *Introduction*, Section 1.4, above, USACE's agency-specific regulations (33 CFR Part 230) are intended to be used in conjunction with the NEPA regulations.

This SEA succinctly describes the environmental effects of the proposed action and alternative(s) and provides sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact (FONSI) (40 CFR §1501.5). The affected environment describes the existing conditions in the Proposed Action Area and will provide the baseline for analyzing the effects of the No Action Alternative, which will then serve as the basis for the comparisons of the environmental consequences of the Proposed Action Alternative.

The effects analyses sections discuss the environmental effects of the No Action Alternative and Proposed Action Alternative. The potential effects of other reasonably foreseeable actions are also discussed. Reasonably foreseeable actions are actions that are sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision (e.g., planned actions) (40 CFR §1508.1(ii)). The analysis provided will determine whether to prepare an environmental impact statement or an environmental assessment and a FONSI (See, 33 CFR §§230.6, 230.7(b), 230.10(a) and 230.11).

The 1999 Final SEIS/EIR described the affected environment in detail and evaluated the potential effects of implementing the USACE Authorized Project, including the Proposed Action Alternative, on resources of concern, including hydrology, water quality, hazardous substances, biological resources, cultural resources, land use, aesthetics and visual factors, traffic, socioeconomic issues, public utilities, recreation, noise, and air quality. The Effect Analysis of each resource in this SEA includes summaries of the previously identified effects for these resources from the 1999 Final SEIS/EIR.

The majority of the effect conclusions reached in the 1999 Final SEIS/EIR are still valid for the current Proposed Action Alternative. The general design, footprint, and scope of the Proposed Action Alternative remains the same as what was considered and evaluated for the Increment 2, Floodwalls North of the Bypass in the 1999 Final SEIS/EIR. Chapter 3, *Environmental Setting, Effects, and Mitigation Measures*, Section 3.2, includes the resources that are not considered in detail and where substantial changes have not occurred. Sections 3.3 through 3.14 include the

environmental resources that are considered in more detail, and where changes in the affected environment or regulatory setting have occurred and reevaluation of effects on these resources is warranted.

Each resource topic section includes a summary of the analysis of this topic in the 1999 Final SEIS/EIR. Supplemental information on environmental setting is provided for particular resource topics where necessary to support the supplemental effect analysis. The regulatory setting related to each resource can be found in Appendix D, *Regulatory Framework*. Thresholds used to evaluate the significance of effects are carried forward from the 1999 Final SEIS/EIR, with updated thresholds identified as applicable. Only those thresholds requiring an updated analysis due to new information are discussed. For some effects, mitigation measures described in the 1999 Final SEIS/EIR may not apply to the Proposed Action Alternative. For other effects, additional or different mitigation measures are required to reduce effects of the Proposed Action Alternative described in Chapter 2, *Project Description*. In either case, any proposed change in mitigation from the 1999 Final SEIS/EIR is identified. While potential effects from O&M activities would be temporary and minor in scale, they are discussed where relevant in the resource sections.

As described in Chapter 2, *Project Description*, Section 2.1, the No Action Alternative would consist of no floodwall construction within Increment 2 located north of the dry bypass for the purposes of this SEA. The potentially affected environment for the Proposed Action Alternative, previously and hereafter referred to as the “Proposed Action Area,” is along the west bank of the Napa River in and north of downtown Napa.

3.2 Resource Topics Not Discussed in Detail

Some resources were not analyzed in detail in this SEA, either because environmental effects would be negligible or implementation of the Proposed Action Alternative would not create new substantially more significant environmental effects that were not otherwise included in the analysis of the effected resource in the 1999 Final SEIS/EIR. Moreover, no new significant effects (not disclosed in the 1999 Final SEIS/EIR), or significantly exacerbated effects (disclosed in the 1999 Final SEIS/EIR), would occur to these resources if the Proposed Action Alternative were implemented.

The resources not analyzed in detail are Agriculture and Forestry, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Socioeconomics, and Wildfire. For further discussion about why these resources are not analyzed in detail in this SEA, please refer to Appendix E, *Resource Topics Not Discussed in Detail*.

3.3 Aesthetics / Visual Resources

3.3.1 Existing Conditions

The Proposed Action Alternative is located along the west bank of the Napa River in downtown Napa. The proposed floodwalls would be constructed along the Napa River riparian corridor and the Napa River Trail, a multi-use recreational trail. Views of the area include views of mature trees and the Napa River, as well as single family homes and multi-story buildings and businesses. No scenic vistas have been identified in the Proposed Action Area in the Napa County General Plan or the City of Napa General Plan. According to the National Wild and Scenic Rivers System map, the Napa River is not designated as a wild and scenic river (National Scenic Rivers System 2023), and as a result, there are no other scenic vistas in the Proposed Action Area. The existing aesthetic and visual conditions are presented in **Table 3.3-1** below.

Table 3.3-1. Aesthetic and Visual Conditions

| Aesthetic Category | Discussion |
|--------------------------|--|
| Distinct Visual Features | As discussed in the 1999 Final SEIS/EIR, the Napa River Corridor is a distinct visual feature that traverses the City of Napa. The corridor is a natural amenity that includes significant vegetation in the northern portion of the corridor and vast expansive views of grasslands to the south. The density and quality of riparian habitat gradually decreases proceeding downstream in the Proposed Action Area. Most of the riparian areas in the southern portion of the Napa River, south of the Proposed Action Area, have been cleared, and much of the river is lined with constructed levees, dikes, and riprap. In some areas, the river has been physically constrained by urbanization which has resulted in narrow corridors of the river. As a result of surrounding development, the river has become highly channelized, flanked by steep, eroding banks on both sides of the river throughout most of the City of Napa, including in the Proposed Action Area. |
| Scenic Resources | Scenic resources highlighted in the Napa County General Plan Community Character Element include internationally distinguished vineyards, hundreds of architecturally unique wineries, and mountains, hills, and valleys in the rugged eastern portion of the county. The scenery of the valleys is characterized by forested groves of redwood, oak, and pine; shrub and grasslands; rolling, grass-covered hills punctuated by large oak trees; and Lake Berryessa (Napa County 2008). A natural scenic feature adjacent to the southern end of the Proposed Action Area is Oxbow Preserve, which is approximately 12.7 acres of land adjacent to the Napa River featuring recreational areas and riparian and wetland habitat (City of Napa 2023; City of Napa 2022). Other aesthetic resources in the vicinity of the Proposed Action Area include mature trees and riparian vegetation along the riverbanks. There are a number of notable mature trees in the Proposed Action Area, some of which are also visible from beyond the immediate river area due to their height. |
| Public Views | There are only a limited number of public views of the Napa River from surrounding areas because private development backs onto the river in many areas. The majority of public views of the river can be grouped into the following categories: views from bridges and overpasses; views from public parks and open spaces; and views from public streets. Most views of the Napa River are available through private property. This is especially true in the northern portions of the Napa River corridor. In this area, most development that is directly adjacent to the river is residential, with backyards extending to the Napa River Trail and the river. There are also several commercial and industrial uses south of Lincoln Avenue, which back directly onto the river, though it is likely that the visual amenity of the river is not enjoyed by these uses. |

| Aesthetic Category | Discussion |
|--------------------|---|
| Scenic Roadways | There are approximately 280 miles of county-designated scenic roadways in Napa County. None of these roads have been designated as official Scenic Highways by the State of California. However, segments of SR 29, SR 121, and SR 221 are eligible for scenic highway designation. SR 121 is located along the Napa River in the vicinity of the Proposed Action Area to the east. Historically, the County of Napa has not pursued official state designation from the California Department of Transportation (Caltrans) due to concerns about maintenance and improvement costs; however, these roads are not precluded from future official Scenic Highway status (Napa County 2008). Additionally, none of the roads in the Proposed Action Area are considered National Scenic Byways (FHWA 2024). |

3.3.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze aesthetics and visual resources within the Proposed Action Area. The potential effects from construction and O&M of the Proposed Action Alternative on aesthetics and visual resources were evaluated qualitatively using available private and public views and regulations that would be applicable to the Proposed Action Alternative. To evaluate the potential effects the Proposed Action Alternative would have on aesthetics and visual resources, federal and state designations for aesthetic and visual resources in the Proposed Action Area were assessed. The following methods were utilized to determine potential effects on aesthetics and visual resources to evaluate whether construction and operation of the Proposed Action Alternative would cause conflict with aesthetic and visual resources as well as with state and local plans and regulations.

- Analysis of the Caltrans California State Scenic Highway System Map GIS open data.
- Analysis of U.S. Department of Transportation Federal Highway Administration data on America's byways.
- Analysis of National Park Service data for Wild and Scenic Rivers.
- Analysis of construction methods, rights-of-way, and staging areas and their potential effects on aesthetic and visual resources.

Summary of Effects from 1999 Final SEIS/EIR

Aesthetics and visual resources were evaluated and analyzed in the 1999 Final SEIS/EIR, but effects criteria have changed since the previous analysis. The 1999 Final SEIS/EIR discussed the visual effects of construction of levees and floodwalls. Mitigation was provided for the USACE Authorized Project in the 1999 Final SEIS/EIR for some aspects and those mitigation measures still apply to the Proposed Action Alternative. This would include the revegetation plan in MM-VISUAL-7 from the 1999 Final SEIS/EIR Section 3.7.4, *Aesthetics and Visual Factors Impacts and Mitigation Measures*, as well as plantings of new vegetation for aesthetic purposes in a number of areas as described in the 1999 Final SEIS/EIR Section 2.6.1, *Aesthetic Vegetation*.

The 1999 Final SEIS/EIR concluded that views from the RiverPointe property (formerly Napa Valley RV Resort) would be impaired with construction of a 10-foot-high floodwall (Effect Visual-6). Visitors to the RiverPointe property currently enjoy views of the river, which would no longer be present with implementation of the USACE Authorized Project. As a result, this was identified as a significant and

unavoidable effect in the 1999 Final SEIS/EIR. Significant aesthetic and visual effects were also identified for grading of terrace banks and construction of levees; the unsightly placement of excavated material; removal of landmark trees or significant stands of trees; and impeded views between the pet hospital and the traffic on Lincoln Avenue. These effects were reduced to less than significant levels with implementation of mitigation measures.

Summary of Aesthetics/Visual Resources Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.3-2**.

Table 3.3-2. Summary of Aesthetics/Visual Resources Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|------------------------------------|
| <i>No Action Alternative</i> | | |
| AES-1 | Have a substantial adverse effect on a scenic vista. | No effect |
| AES-2 | In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | Significant and unavoidable effect |
| AES-3 | Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| AES-1 | Have a substantial adverse effect on a scenic vista. | No effect |
| AES-2 | In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | Less than significant effect |
| AES-3 | Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. | Less than significant effect |

Effect AES-1: Have a substantial adverse effect on a scenic vista.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The majority of trees within the No Action

Alternative footprint would need to be removed to allow construction and equipment clearance. However, these trees are not located within a scenic vista, and trees that are removed would be replaced (according to current regulations) to match the current visual quality of the No Action Alternative Area, where permitted and feasible. The City of Napa-approved trees and hardy and herbaceous perennials would be planted along disturbed roadways to match the planting seen along the southwest side of Lincoln Avenue. Along the riparian corridor, planting would include native trees and shrubs near the top of bank and herbaceous perennials and wattles with live stake plantings near the ordinary high-water line. A revegetation plan and compensatory mitigation for the USACE Authorized Project was initiated and implemented in 2000 and included planting trees and creating habitats for the areas to be disturbed by the USACE Authorized Project. Within Increment 2, the revegetation plan identified in MM-VISUAL-7 from the 1999 Final SEIS/EIR Section 3.7.4, *Aesthetics and Visual Factors Impacts and Mitigation Measures*, as well as plantings of new vegetation for aesthetic purposes as described in the 1999 Final SEIS/EIR Section 2.6.1, *Aesthetic Vegetation*, would still be required to offset effects. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative would have no effect to scenic vistas because no designated scenic vistas exist in the area. Therefore, **no effect** would occur, and no mitigation is required or recommended.

Proposed Action Alternative

No scenic vistas have been identified in the Proposed Action Area. During construction, the Proposed Action Alternative would involve the use of heavy construction vehicles and equipment, which would be staged while not in use. Staging activities would occur within the Proposed Action Area. Additionally, construction vehicles and equipment would be kept within the staging areas when not in use. Approximately 287 total trees would need to be removed in the Proposed Action Area to allow construction and equipment clearance; 170 of which are located along the west bank of the Napa River. However, these trees are not located within a designated scenic vista, and trees that are removed would be replaced (according to current regulations) to match the current visual quality of the Proposed Action Area, where permitted and feasible. The City of Napa-approved trees and hardy and herbaceous perennials would be planted along disturbed roadways to match the planting seen along the southwest side of Lincoln Avenue. Along the riparian corridor, planting would include native trees and shrubs near the top of bank and herbaceous perennials and wattles with live stake plantings near the ordinary high-water line. A revegetation plan and compensatory mitigation for the USACE Authorized Project was initiated and implemented in 2000 and included planting trees and creating habitats for the areas to be disturbed by the USACE Authorized Project including future phases such as the Proposed Action Alternative. Within Increment 2, the revegetation plan identified in MM-VISUAL-7 from the 1999 Final SEIS/EIR Section 3.7.4, *Aesthetics and Visual Factors Impacts and Mitigation Measures*, as well as plantings of new vegetation for aesthetic purposes as described in the 1999 Final SEIS/EIR Section 2.6.1, *Aesthetic Vegetation*, would be included as part of the project commitments and are identified in the project specifications. Therefore, no additional compensatory mitigation is included in the Proposed Action Alternative.

Once constructed, the Proposed Action Area would include proposed floodwalls varying in height from generally 3 to 10 feet tall along the alignment. The proposed floodwalls would affect views in the Proposed Action Area and certain vantage points; however, because there are no designated scenic vistas in the Proposed Action Area, there would be no effects on a scenic vista. Therefore, the Proposed Action Alternative would result in **no effect**. No mitigation for effects on a scenic vista is required or recommended.

Effect AES-2: In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. As disclosed in the 1999 Final SEIS/EIR, the No Action Alternative would have an effect on the visual quality of the area near the RiverPointe property because a 10-foot-high floodwall would be constructed in this location and visitors or users of the facility would no longer have views of the Napa River (see Effect VISUAL-6 in the 1999 Final SEIS/EIR). This is not a new effect for the No Action Alternative, and the effect to visual quality in this area is not greater in scope or intensity than was already determined in the 1999 Final SEIS/EIR. Therefore, as determined in the 1999 Final SEIS/EIR, the No Action Alternative would result in a **significant and unavoidable effect**, and no mitigation was presented in the 1999 Final SEIS/EIR.

Proposed Action Alternative

The effect discussion in **Table 3.3-3** below is divided by the various types of views within the Proposed Action Area. Although the Proposed Action Area is located in an urban area, it still holds visual character and quality with private and public views, which are analyzed further below.

Table 3.3-3. View Types

| View Type | Discussion |
|---|---|
| Views from Public Streets and Local Businesses | <p>As discussed, during construction, the Proposed Action would involve the use of heavy construction vehicles and equipment, which would be staged while not in use at designated staging areas located off local roadways. Approximately 287 total trees would need to be removed in construction areas to allow construction and equipment clearance; 170 of which are located along the west bank of the Napa River. However, these trees would be replaced to match the current visual quality of the Proposed Action Area, where permitted and feasible. As noted above, tree and compensatory mitigation has been met for the USACE Authorized Project, including the Proposed Action Alternative; therefore, no additional compensatory mitigation or tree mitigation is included here. The floodwall would be constructed in several-hundred-foot segments at a time as it progresses along the alignment. Approximately 40 linear feet of floodwall could be constructed per day. During construction, the proposed placement of excavated material that would be stockpiled could result in mounds that appear unnatural or unsightly along the proposed floodwall alignment; however, visual effects associated with stockpiling of excavated material would be temporary, not permanent, because the stockpiled material would be hauled offsite for disposal resulting in a less than significant effect.</p> <p>The floodwall along the south side of Lincoln Avenue would run along the frontage of both Ace & Vine and the Napa River Pet Hospital that would also consist of two roughly 20-foot-wide swing gates to allow for driveway access for these businesses. The floodwalls on either side of the Ace & Vine and Napa River Pet Hospital driveways would be lowered to 3 feet and a temporary stop log structure would be constructed on top of the floodwall and only in place during a flood event. Therefore,</p> |

| View Type | Discussion |
|---------------|--|
| | <p>the visible floodwall in this area would be 3 feet in normal conditions. This would improve sight lines for vehicles utilizing the Ace & Vine and Napa River Pet Hospital driveways compared to the No Action Alternative, which consists of a higher floodwall. Views between the pet hospital and traffic on Lincoln Avenue would be slightly impaired with construction of the proposed floodwalls. The 20-ft wide swing gates would be left open and would only be used/closed during major flood events. Signage would be installed in the floodwall at the existing driveway locations on Lincoln Avenue to allow access to the businesses on the other side of the floodwall. See Section 3.13, <i>Traffic/Transportation</i>, for additional information regarding traffic flow, access, and sight lines. Views of the Napa River would not be impeded in this location. Therefore, the Proposed Action Alternative would result in a less than significant effect along the south side of Lincoln Avenue near Ace & Vince and the Napa River Pet Hospital.</p> |
| Private Views | <p>Constructing the floodwall would require removing the easternmost row of trailer vacation rental units closest to the river to make space for the proposed floodwall. Burrows Court in the RiverPointe parcel may be realigned adjacent to the proposed floodwall. Currently, the affected trailer vacation rental units at RiverPointe are removed during the winter, as required by the flood action plan for the resort, which is coordinated with the Sponsor, due to flood risk. After the re-alignment of Burrows Court within the RiverPointe property to accommodate the proposed floodwall construction, some vacation rental units would be reinstalled depending on the remaining space available, and other trailer vacation rental units on the property outside of the Proposed Action Area could be left in place all year because the wall is anticipated to provide increased flood protection. The Sponsor and property owner would work together to establish an updated flood action plan for the resort after the floodwall is constructed. In this area, the floodwall would be approximately 3 to 10 feet high. The Proposed Action would result in fewer environmental effects on aesthetics than the No Action Alternative. The Proposed Action would feature shorter floodwalls than that of the No Action Alternative, negating the level of visual impairment that the No Action Alternative would inflict.</p> <p>The easternmost row of trailer vacation rental units at RiverPointe, currently have partial views of the Napa River, and views of the riparian corridor of trees and vegetation on the west bank of the Napa River. Other trailer vacation rental units at RiverPointe do not have views of the Napa River because they are set more inland and have limited views of the riparian corridor on the west bank of the Napa River. Since the easternmost row of trailer vacation rental units would be removed, which the Sponsor and the property owner have agreed to through negotiations, to accommodate the proposed floodwalls, there would be no impact to the private views in this area since the viewers would no longer be present. Furthermore, these viewers are only temporary since these are rental units. Therefore, due to this design change, floodwall height reduction, and shift in the floodwall alignment, the Proposed Action Alternative would not result in a significant and unavoidable effect in this area, as was concluded in the 1999 Final SEIS/EIR. The No Action Alternative would have kept the easternmost row of trailer units behind a 10ft floodwall and had obstructed views of the Napa River. The Proposed Action Alternative shifts the floodwall back from the top of the bank and removes the easternmost row of trailer vacation rentals units, thus no private views from these units exist. Other views from the RiverPointe property would be generally the same as the current views and would not vary substantially from the anticipated views that were evaluated in the 1999 Final SEIS/EIR.</p> <p>Backyard views in the Lake Park subdivision, along Shoreline Drive, would be minimally obstructed by the proposed floodwall along the west bank of the Napa River. In this area, the exposed portion of the floodwall would be approximately 1 to 3 feet tall with a pedestrian rail on top when viewed from the homes (see Chapter 2, Figure 2.2-6). Some existing trees on the water-side slope of the existing levee in this area would be removed as well as some on the levee crest to allow for construction of the proposed floodwall and to provide the required space next to the</p> |

| View Type | Discussion |
|--------------------------|---|
| | <p>proposed floodwall for O&M activities. Private views in this area would not be as significantly affected in comparison to the No Action Alternative because the proposed floodwall would not remove all vegetation on the waterside slope of the Napa River, like the proposed berm would have thereby substantially changing the visual character. The footprint of the proposed floodwall is smaller in this area, and therefore, the visual change to the existing natural environment is not as substantial. However, consistent with the 1999 Final SEIS/EIR, impacts to private views from the Lake Park subdivision are not considered significant, because private views are only available to a limited number of people. Additionally, in most cases, homes are positioned downslope of the existing levee, and existing backyard fences would be located in between homes and the proposed floodwall, partially blocking or making the floodwall difficult to see from the vantage point of the residents. Therefore, the Proposed Action Alternative would result in a less than significant effect to private viewers north of Lincoln Avenue.</p> |
| Views from Public Spaces | <p>Recreationalists and viewers on the Napa River Trail, north of Lincoln Avenue would experience a permanent changed view due to the floodwall on the landside of the trail which could detract from the natural visual quality of the area. Recreationalists and viewers of the Napa River Trail are transient user that only experience views in the Proposed Action Area for a short period of time as they walk or bike. Some trees would need to be trimmed or removed on the water side of the trail to allow clearance of construction equipment. City of Napa-approved trees and hardy and herbaceous perennials would be planted along disturbed roadways to match the planting seen along the southwest side of Lincoln Avenue to reduce the temporary effects of tree clearing for purposes of construction. Along the riparian corridor, planting would include native trees and shrubs near the top of bank and herbaceous perennials and wattles with live stake plantings near the ordinary high-water line. The 10- to 12-foot-wide recreational trail would be reconstructed on the water side of the floodwall starting at the high ground at River Terrace Inn and running north to Wall Street. The realigned trail would serve as a maintenance corridor and would be repaved in areas that were previously paved. A new crosswalk at Lincoln Avenue would be installed. As discussed in the 1999 Final SEIS/EIR Section 2.6.2, <i>Floodwall Treatments</i>, the concrete wall would be covered with aesthetic treatments to improve the appearance, and gate closure structures would be installed. Disturbed areas would be seeded and restored after construction. A combination of native and adaptive drought tolerant plant varieties would be used along the trail network. Within Increment 2, the revegetation plan identified in MM-VISUAL-7 from the 1999 Final SEIS/EIR Section 3.7.4, <i>Aesthetics and Visual Factors Impacts and Mitigation Measures</i>, as well as plantings of new vegetation for aesthetic purposes as described in the 1999 Final SEIS/EIR Section 2.6.1, <i>Aesthetic Vegetation</i>, would be included as part of the project commitments and are identified in the project specifications. Therefore, with aesthetic treatments and installation of native plants according to the project specifications, effects to the existing visual character or quality of public views in the Proposed Action Area from the realigned trail and would be minimized and would result in a less than significant effect.</p> <p>The Proposed Action Alternative also involves rock scour protection, which would be placed in the river channel bottom and on bridge abutment aprons beneath the Lincoln Avenue Bridge. These permanent improvements would be visible from certain vantage points in the Proposed Action Area. However, rock scour protection would reduce the potential for bank erosion and degradation of the bridge structure, which would result in beneficial effects to the aesthetic quality of the Proposed Action Area. A natural scenic feature adjacent to the southern end of the Proposed Action Area is Oxbow Preserve, which is approximately 12.7 acres of land adjacent to the Napa River featuring recreational areas, riparian and wetland habitat (City of Napa 2023; City of Napa 2022). Oxbow Preserve can be viewed from the vicinity of River Terrace Inn, located across the Napa River. Views may be partially, although not completely impeded on a permanent basis by the new 1-3- foot floodwall in this location. Effects in this location would be minor and localized. As opposed to the effects of the proposed berm in the No Action Alternative, which would remove all</p> |

| View Type | Discussion |
|-----------|--|
| | riparian vegetation, fewer environmental effects would occur with implementation of the Proposed Action Alternative as the riparian vegetation would remain on the waterside of the proposed floodwall. Based on the factors described above, the Proposed Action would not conflict with applicable zoning and other regulations governing scenic quality. Therefore, the Proposed Action Alternative would result in a less than significant effect . No mitigation is required or recommended. |

Effect AES-3: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Limited, short-term nighttime construction work may be required along Lincoln Avenue for utility relocations and the trail crossing under Lincoln Avenue Bridge. If nighttime work is required, lighting would be directed down and would be limited to reduce any glare or stray onto adjacent properties. No permanent lighting would be installed under the No Action Alternative. The No Action Alternative would result in temporary construction lighting and would not be expected to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, the No Action Alternative would result in a **less than significant effect**, and no mitigation is required or recommended.

Proposed Action Alternative

Nighttime work is not proposed for construction of floodwalls either north or south of Lincoln Avenue or for construction of the rock scour protection. Limited, short-term nighttime construction work may be required along Lincoln Avenue for utility relocations. If nighttime utility work is required, lighting would be directed down and would be limited to reduce any glare or stray onto adjacent properties. No permanent lighting would be installed in the Proposed Action Area for the proposed floodwalls or other features. However, the mid-block crossing crosswalk on Lincoln Avenue would include activatable yellow lights that would only come on if a pedestrian is present to provide a safe crossing; they would not stay on consistently. The Proposed Action Alternative would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area on either a temporary or permanent basis. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

3.4 Air Quality

3.4.1 Existing Conditions

The City of Napa (City), including the Proposed Action Area, is located within the boundaries of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma, and the southwestern portion of Solano County. The Bay Area Air Quality Management District (BAAQMD) is the regional air quality agency for the SFBAAB.

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards to protect public health and welfare. There are six criteria air pollutants: Ozone (O₃); Particulate Matter, which consists of particulate matter 10 micrometers and smaller (PM₁₀) and particulate matter 2.5 micrometers and smaller (PM_{2.5}); Carbon Monoxide (CO); Nitrogen Dioxide (NO₂); Sulfur Dioxide (SO₂); and Lead (Pb). O₃ is considered a regional pollutant because its precursors (i.e., nitrogen oxides [NO_x] and reactive organic gases [ROGs]) affect air quality on a regional scale. Pollutants such as CO, NO₂, SO₂, and Pb are considered local pollutants that tend to accumulate in the air locally. Particulate matter is both a regional and local pollutant. The primary criteria pollutants generated by the Proposed Action are O₃ precursors (NO_x and ROGs), CO, PM₁₀, PM_{2.5}, and SO₂. Pollutants of concern are discussed in **Table 3.4-1** below.

Table 3.4-1. Pollutants of Concern

| Criteria Air Pollutant | Description of Pollutant |
|-------------------------------------|--|
| Ozone (O ₃) | O ₃ , also known as smog, is not emitted directly into the atmosphere. Instead, it is a secondary pollutant that is formed when ROGs and NO _x (both byproducts of the internal combustion engine exhaust) undergo chemical reactions in the presence of sunlight. ROGs and NO _x are known as O ₃ precursors. Ozone poses a health threat to those who already suffer from respiratory diseases (e.g., asthma) as well as to healthy people. Exposure to O ₃ can cause coughing, sore or scratchy throat, inflamed airways, chest pain, lung infection, and aggravation of lung diseases such as asthma, emphysema, and chronic bronchitis (United States Environmental Protection Agency [USEPA] 2023a). Exposure to elevated concentrations of O ₃ can result in deaths from respiratory causes. Additionally, ozone has been tied to crop damage, typically in the form of stunted growth, reduced photosynthesis, increased risk of diseases, and leaf discoloration (USEPA 2022a). |
| Reactive Organic Gases (ROGs) | ROGs are compounds made up of primarily hydrogen and carbon atoms. Internal combustion associated with motor vehicles is the major source of hydrocarbons. Other sources of ROGs are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs but rather by reactions of ROGs to form secondary pollutants such as O ₃ . |
| Nitrogen Dioxide (NO ₂) | NO ₂ is a major component of the group of highly reactive gases known as oxides of nitrogen or NO _x , which is an O ₃ precursor. NO ₂ primarily gets in the air from the burning of fuel. Breathing air with a high concentration of NO ₂ can irritate airways in the human respiratory system. Short-term exposure to NO ₂ can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions, and visits to emergency rooms (USEPA 2022b). Longer exposures to elevated concentrations of NO ₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. In addition to human health effects, NO ₂ and other NO _x can also reduce visibility and contribute to acid rain, which can harm sensitive ecosystems (USEPA 2022b). |
| Carbon Monoxide (CO) | CO is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO concentrations tend to be the highest during winter |

| Criteria Air Pollutant | Description of Pollutant |
|-----------------------------------|---|
| | mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to very high levels of CO, which are possible indoors or in other enclosed environments, can cause dizziness, confusion, unconsciousness, and death (USEPA 2023b). |
| Particulate Matter (PM) | Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Particulate matter includes PM ₁₀ , which are inhalable coarse particles with a diameter of 10 micrometers or less, and PM _{2.5} , which are inhalable fine particles with a diameter of 2.5 micrometers or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Particles less than 10 micrometers in diameter pose the greatest risk to health because these particles can get deep into the lungs and may even enter the bloodstream. Health effects of exposure to particulate matter include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing or difficulty breathing). Particulate matter can also cause environmental effects such as reduced visibility (haze), environmental damage (e.g., making lakes and streams acidic, depleting nutrients in soils, damaging sensitive forests and farm crops, affecting diversity of ecosystems, and contributing to acid rain effects), and aesthetic damage by staining stone and other materials (USEPA 2022c). |
| Sulfur Dioxide (SO ₂) | SO ₂ is the component of greatest concern for the group of gaseous sulfur oxides (SO _x). The largest source of SO ₂ in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. Smaller sources of SO ₂ emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content. Short-term exposures to SO ₂ can harm the human respiratory system and make breathing difficult. These effects of SO ₂ are of particular concern to people with asthma, particularly children. Environmental effects of SO ₂ and other SO _x include damaging foliage and decreasing growth of trees and plants, contributing to acid rain that is harmful for sensitive ecosystems, and reducing visibility (USEPA 2023c). |
| Lead (Pb) | Major sources of Lead (Pb) in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of Pb are usually found near lead smelters. Depending on the level of exposure, Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Pb exposure also affects the oxygen carrying capacity of the blood. Infants and young children are especially sensitive to Pb exposures, which may contribute to behavioral problems, learning deficits and lowered IQ. Elevated levels of Pb in the environment can result in decreased growth and reproduction in plants and animals, and neurological effects in vertebrates (USEPA 2023d). |
| Toxic Air Contaminants | <p>According to the California Health and Safety Code, a toxic air contaminant (TAC) is “an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health” (California Air Resources Board [CARB] 2023a). CARB has formally identified over 200 substances and groups of substances as TACs. Examples of TACs include benzene; asbestos; formaldehyde; dioxin; toluene; and metals such as cadmium, mercury, chromium, and lead compounds, among many others (CARB 2023a).</p> <p>Diesel engines emit a complex mixture of pollutants, including very small carbon particles, or “soot” coated with numerous organic compounds, known as diesel particulate matter (DPM). DPM contains more than 40 cancer-causing substances, most of which are readily adsorbed onto the soot particles. In 1998, CARB identified DPM as a TAC based on its potential to cause cancer.</p> <p>Most major sources of diesel engine emissions, such as ships, trains, and trucks, operate in and around urban areas. As a result, people living and working in cities and industrial areas and near heavy truck or train traffic are most likely to be exposed to DPM. Exposure to DPM can contribute to a range of health problems, including cancer. Diesel engine emissions are</p> |

| Criteria Air Pollutant | Description of Pollutant |
|------------------------|---|
| | believed to be responsible for about 70 percent of California's estimated known cancer risk attributable to TACs (CARB 2023b). DPM comprises about 8 percent of PM _{2.5} in outdoor air, which is a known health hazard. As a significant fraction of PM _{2.5} , DPM contributes to numerous health impacts that have been attributed to particulate matter exposure, including increased hospital admissions, particularly for heart disease, but also for respiratory illnesses, and even premature death. Additionally, exposure to DPM may contribute to the onset of new allergies. DPM also affects the environment by reducing visibility and contributing to global warming (CARB 2023b). |
| Odor | Other air quality issues of concern in the SFBAAB include nuisance from odors. Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache) (BAAQMD 2017). |

Sensitive Receptors

Certain community members are more susceptible to poor air quality. These individuals, referred to as sensitive receptors, are typically children, the elderly, and those with preexisting serious health problems. Land uses where sensitive receptors are most likely to spend time include schools, parks and playgrounds, daycare centers and preschools, hospices, dormitories, prisons, nursing homes, hospitals, and residential communities (BAAQMD 2023).

There are approximately 25 residences in the vicinity of the Proposed Action Area for construction of Increment 2, the Proposed Action Alternative. The nearest sensitive receptors are residences on Shoreline Drive, Pike Drive, and Trout Way, located approximately 25 feet from the limits of the construction area.

Existing Air Quality

Ambient Air Quality

BAAQMD's air quality monitoring network consists of over 30 stations distributed among the nine San Francisco Bay Area (Bay Area) counties. This network measures concentrations of pollutants for which National Ambient Air Quality Standards (NAAQS) have been set by the United States Environmental Protection Agency (USEPA 2024).

The closest monitoring station to the Proposed Action Area is the Napa Valley College monitoring station, located approximately 2 miles south of the Proposed Action Area. The Napa Valley College station monitors O₃, PM₁₀, PM_{2.5}, NO₂, and CO. **Table 3.4-2** presents the most recent ambient air quality data at the Napa Valley College monitoring station from 2019 to 2021.

Table 3.4-2. Ambient Air Quality Monitoring Data at the Napa Valley College Monitoring Station

| Pollutant Standards ¹ | Year | | |
|---|-------|-------|-------|
| | 2019 | 2020 | 2021 |
| O₃ | | | |
| Maximum 1-hour concentration (ppm) | 0.095 | 0.091 | 0.070 |
| Maximum 8-hour concentration (ppm) | 0.077 | 0.077 | 0.064 |
| <i>Number of days standard exceeded</i> | | | |
| NAAQS 8-hour (>0.07 ppm) | 2 | 1 | 0 |
| PM₁₀ | | | |
| National maximum 24-hour concentration (µg/m ³) | 37.5 | 122.9 | 22.9 |
| State maximum 24-hour concentration (µg/m ³) | 39.0 | 125.0 | 24.0 |
| National annual average concentration (µg/m ³) | 13.5 | 18.6 | 9.9 |
| State annual average concentration (µg/m ³) | * | 19.0 | * |
| <i>Number of days standard exceeded</i> | | | |
| NAAQS 24-hour (>150 µg/m ³) | 0 | 0 | 0 |
| PM_{2.5} | | | |
| National maximum 24-hour concentration (µg/m ³) | 21.5 | 148.5 | 17.6 |
| State maximum 24-hour concentration (µg/m ³) | 21.5 | 148.5 | 17.6 |
| National annual average concentration (µg/m ³) | 5.9 | 10.3 | * |
| State annual average concentration (µg/m ³) | 6.0 | 10.4 | * |
| <i>Number of days standard exceeded</i> | | | |
| NAAQS 24-hour (>35 µg/m ³) | 0 | 14 | 0 |
| NO₂ | | | |
| Maximum 1-hour concentration (ppb) | 36.6 | 29.9 | 29.0 |
| Annual average concentration (ppb) | 4 | 4 | * |
| <i>Number of days standard exceeded</i> | | | |
| NAAQS 1-hour (>100 ppb) | 0 | 0 | 0 |

Source: CARB 2023c

Notes: O₃ = ozone; PM₁₀ = particles of 10 micrometers and smaller; PM_{2.5} = particles of 2.5 micrometers and smaller; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide; ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb = parts per billion; NAAQS = National Ambient Air Quality Standards; * = insufficient data available to determine the value

1. Carbon monoxide (CO) data is not available on CARB's website

Attainment Status

The Federal Clean Air Act requires that USEPA designate areas within the country as either “attainment” or “nonattainment” for each criteria pollutant based on whether the NAAQS have been achieved. If a pollutant concentration is lower than the NAAQS, the area is classified as “attainment” for that pollutant. If a pollutant exceeds the NAAQS, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the NAAQS is exceeded in an area, the area is designated as “unclassified.”

The designation of “unclassified/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the NAAQS after a nonattainment designation are redesignated as “maintenance” areas and must have approved maintenance plans to ensure continued attainment of the standards. **Table 3.4-3** presents the attainment status for each criteria air pollutant in Napa County.

Table 3.4-3. Attainment Status for Napa County

| Pollutant | Federal Standard |
|-------------------|-------------------------|
| O ₃ | Nonattainment |
| PM ₁₀ | Unclassified |
| PM _{2.5} | Nonattainment |
| CO | Unclassified/Attainment |
| NO ₂ | Unclassified/Attainment |
| SO ₂ | Unclassified/Attainment |
| Pb | Unclassified/Attainment |

Source: CARB 2023d

Notes: O₃ = ozone; PM₁₀ = particles of 10 micrometers and smaller;

PM_{2.5} = particles of 2.5 micrometers and smaller; CO = carbon monoxide; NO₂ = nitrogen dioxide;

SO₂ = sulfur dioxide; Pb = lead

As shown in **Table 3.4-3**, Napa County is currently in nonattainment for the federal standards for O₃ and PM_{2.5}.

3.4.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze air quality characteristics within the Proposed Action Area. The potential effects from construction of the Proposed Action Alternative on air quality were evaluated quantitatively using industry accepted software tools. Construction of the Proposed Action would generate criteria pollutant emissions (ROG, NO_x, CO, SO₂, PM₁₀, and PM_{2.5}) from equipment and vehicle exhaust during site preparation, excavation, material delivery, construction of proposed improvements, and site cleanup. Major construction activities would require use of off-road construction equipment such as excavators, dozers, cranes, forklifts, backhoes, and loaders. On-road vehicles such as haul trucks and dump trucks would be used for material, borrow, and equipment hauling.

Criteria air pollutant emissions from construction of the Proposed Action Alternative were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria air pollutant emissions associated with both construction and operation from a variety of land use projects. Construction emissions were estimated in CalEEMod using a combination of Project-specific information presented in Chapter 2, *Project Description*, CalEEMod defaults, and standard assumptions.

CalEEMod used construction details from the Proposed Action Alternative, such as construction schedule, construction equipment quantities, area of disturbance, and number of construction workers. These are presented in Appendix C, *Project Construction Details*. The concrete trucks presented in **Table 2.2-2** were accounted as on-road vendor trucks. Each worker is assumed to commute to the Proposed Action Area in a separate vehicle. Refer to Appendix F, *Air Quality Emissions Modeling*, for details regarding modeling inputs and assumptions. The average daily emissions (in pounds per day) from construction of the Proposed Action Alternative were compared against BAAQMD's construction thresholds to determine significance of air quality effects.

Upon completion of construction, the Sponsor would undertake all O&M activities indefinitely, for as long as the USACE Authorized Project remains authorized, as part of areawide O&M activities. Minimal quantities of equipment and vehicles would be required for routine inspections and minor vegetation trimming. Given the limited and infrequent nature of O&M activities, and the infrequent need for anticipated reconstruction or replacement, air quality effects are evaluated qualitatively.

Summary of Effects from 1999 Final SEIS/EIR

Air quality effects were evaluated in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. The 1999 Final SEIS/EIR evaluated the effects of construction activities, including construction vehicle traffic and wind blowing over exposed earth generating particulate matter emissions. Mitigation was provided for some aspects in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, under AIR-1a through AIR-1g, and those mitigation measures still apply. The 1999 Final SEIS/EIR concluded that air quality emissions would be generated due to construction activities, but the effects would be less than significant after implementation of mitigation.

Summary of Air Quality Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.4-4**.

Table 3.4-4. Summary of Air Quality Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------|--|---|
| <i>No Action Alternative</i> | | |
| AQ-1 | Conflict with or obstruct implementation of the applicable air quality plan | Less than significant effect with mitigation incorporated |
| AQ-2 | Result in a considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. | Less than significant effect with mitigation incorporated |
| AQ-3 | Expose sensitive receptors to substantial pollutant concentrations | Less than significant effect with mitigation incorporated |
| AQ-4 | Result in other emissions (such as those leading to odors adversely affecting a substantial number of people) | Less than significant effect |

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|---|
| <i>Proposed Action Alternative</i> | | |
| AQ-1 | Conflict with or obstruct implementation of the applicable air quality plan | Less than significant effect with mitigation incorporated |
| AQ-2 | Result in a considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. | Less than significant effect with mitigation incorporated |
| AQ-3 | Expose sensitive receptors to substantial pollutant concentrations | Less than significant effect with mitigation incorporated |
| AQ-4 | Result in other emissions (such as those leading to odors adversely affecting a substantial number of people) | Less than significant effect |

Effect AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects are identified in Impact AIR-1 of the 1999 Final SEIS/EIR and would be temporary but were deemed to be potentially significant. Therefore, mitigation was proposed in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, under AIR-1a through AIR-1g to reduce effects to less than significant. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects to air quality would occur. Through the implementation of mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR, the No Action Alternative would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, the No Action Alternative would result in **a less than significant effect with mitigation incorporated.**

Proposed Action Alternative

BAAQMD adopted the 2017 Climate Action Plan (CAP) on April 19, 2017. As discussed in Appendix D, *Regulatory Framework*, BAAQMD's 2017 CAP is the most current applicable air quality plan for the Bay Area. Consistency with the 2017 CAP is the basis for determining whether the Proposed Action Alternative would conflict with or obstruct implementation of an air quality plan.

The 2017 CAP includes control measures that are intended to reduce air pollutant emissions in the Bay Area. These control measures are grouped into various categories and include stationary source measures, mobile-source measures, and transportation control measures. The control measures pertain to projects such as those involving stationary sources or land use development projects and thus are not applicable to the Proposed Action Alternative.

The air quality emissions and BAAQMD threshold compliance are summarized in **Table 3.4-5**. Total emissions from construction of the Proposed Action Alternative are presented at the average daily

time scale and compared with BAAQMD’s construction thresholds. Refer to Appendix F, *Air Quality Emissions Modeling*, for the CalEEMod assumptions and output.

Table 3.4-5. Unmitigated Construction Criteria Air Pollutant Emissions

| Year | ROG | NO _x | CO | PM ₁₀ Exhaust | PM ₁₀ Dust | PM _{2.5} Exhaust | PM _{2.5} Dust | SO ₂ |
|--|-----------|-----------------|------------------|--------------------------|-----------------------|---------------------------|------------------------|------------------|
| <i>Average Daily Emissions in lb/day</i> | | | | | | | | |
| 2025 | 3.78 | 33.23 | 38.86 | 1.41 | 1.78 | 1.31 | 0.35 | 0.08 |
| 2026 | 4.05 | 34.66 | 37.93 | 1.44 | 3.10 | 1.34 | 0.49 | 0.09 |
| BAAQMD Thresholds | 54 | 54 | N/A ¹ | 82 | N/A ¹ | 54 | N/A ¹ | N/A ¹ |
| Exceeds BAAQMD Thresholds? | No | No | N/A | No | N/A | No | N/A | N/A |

Source: CalEEMod, shown in Appendix F

Notes: ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; PM₁₀ = particles of 10 micrometers and smaller; PM_{2.5} = particles of 2.5 micrometers and smaller; SO₂ = sulfur dioxide; lb = pounds

¹ BAAQMD does not have daily thresholds of significance for CO and SO₂. These pollutants are shown for informational purposes.

As shown in **Table 3.4-5** above, the unmitigated daily criteria air pollutant emissions during construction of the Proposed Action Alternative would not exceed BAAQMD’s thresholds for ROG, NO_x, exhaust PM₁₀, and exhaust PM_{2.5}. Since the Proposed Action Alternative’s construction criteria air pollutants would not exceed the applicable BAAQMD thresholds, the Proposed Action Alternative would be consistent with the 2017 CAP. However, Proposed Action Alternative construction activities, particularly site preparation, excavation, and material hauling, would result in fugitive dust emissions in the form of PM_{2.5} and PM₁₀. BAAQMD’s Guidelines consider a project to have a less than significant effect related to construction-related fugitive dust emissions if BAAQMD’s basic BMPs are implemented to reduce these emissions. Therefore, the Proposed Action Alternative would be consistent with applicable air quality plans through the implementation of mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR and mitigation measures **MM-AQ-1** and **MM-AQ-2** shown in **Table 3.4-6**. Further, implementation of the Proposed Action Alternative would not inhibit BAAQMD or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP.

Federal conformity standards under the CAA ensure that federally funded or approved projects align with SIPs to maintain or improve air quality. *De minimis* standards under the Clean Air Act establish pollutant-specific emission thresholds below which projects are presumed to have minimal impact on air quality and are exempt from detailed conformity analyses. If a project’s anticipated emissions fall below the *de minimis* thresholds for specific pollutants in nonattainment or maintenance areas, it is presumed to have minimal impact on air quality and is exempt from a full conformity determination. The Proposed Action Area is in Federal nonattainment for O₃ and PM_{2.5}. For O₃ (using NO_x as a precursor), the *de minimis* standard is 100 tons/year of NO_x emitted, and the Proposed Action Alternative is projected to emit 6.1 – 6.3 tons/year (converted from the 33.23 – 34.66 lb/day shown in Table 3.4-5). For PM_{2.5}, the *de minimis* standard is 70 tons/year of PM_{2.5} emitted, and the Proposed Action Alternative is projected to emit 0.3 – 0.33 tons/year (converted from the 1.66 – 1.83 lb/day shown in Table 3.4-5) (USEPA 2024). Because the Proposed Action Alternative is well below the *de*

minimis standards for any pollutants for which it is in nonattainment, the Proposed Action Alternative is exempt from detailed conformity analysis and in compliance with general conformity standards.

Through the implementation of mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR and mitigation measures **MM-AQ-1** and **MM-AQ-2**, the Proposed Action Alternative would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect AQ-2: Result in a considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects are identified in Impact AIR-1 of the 1999 Final SEIS/EIR and would be temporary but were deemed to be potentially significant. Therefore, mitigation was proposed in the 1999 Final SEIS/EIR Section 3.13.4, Air Quality Impacts and Mitigation Measures, under AIR-1a to reduce effects to less than significant. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects to air quality would occur. Through the implementation of mitigation measure AIR-1a in the 1999 Final SEIS/EIR, the No Action Alternative would not result in a considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

The Proposed Action Alternative would generate criteria pollutant emissions during site preparation, excavation, material delivery, construction of the proposed floodwalls, and site cleanup. Criteria air pollutant emissions generated during construction were estimated using CalEEMod. The unmitigated construction criteria pollutant emissions are summarized in **Table 3.4-5**, shown and explained above. As shown in **Table 3.4-5**, the unmitigated daily criteria air pollutant emissions during construction of the Proposed Action would not exceed BAAQMD's thresholds for ROG, NO_x, exhaust PM₁₀, and exhaust PM_{2.5}. Further compliance with BAAQMD Guidelines through implementation of **MM-AQ-1** and **MM-AQ-2**, listed above, would reduce effects related to criteria air pollutant emissions during construction of the Proposed Action Alternative. Therefore, with the implementation of mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, and mitigation measures **MM-AQ-1** and **MM-AQ-2**, effects related to fugitive dust (PM₁₀ and PM_{2.5}) emissions during construction of the Proposed Action Alternative would be less than significant, and construction of the Proposed Action Alternative would not result in an air quality effect. The Proposed Alternative Action would result in fewer environmental effects on air quality than the No Action Alternative. Construction of the Proposed Action Alternative would require fewer truck trips for materials than the No Action Alternative.

O&M activities would generate limited criteria air pollutant emissions from the use of minimal amounts of equipment and vehicles. Given the limited and infrequent nature of O&M activities in the

absence of reconstruction or replacement needs, criteria pollutant emissions from O&M would be substantially or significantly less than those generated during construction and thus would not exceed BAAQMD thresholds. Therefore, O&M of the Proposed Action Alternative would not result in an air quality effect.

The Proposed Action Alternative would not result in a considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Through the implementation of mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, and mitigation measures **MM-AQ-1** and **MM-AQ-2** would further reduce Proposed Action emissions. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect AQ-3: Expose sensitive receptors to substantial pollutant concentrations.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects are identified in Impact AIR-1 of the 1999 Final SEIS/EIR and would be temporary but were deemed to be potentially significant. Therefore, mitigation was proposed in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, under AIR-1a to reduce effects to less than significant. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects to air quality would occur. Through the implementation of mitigation measure AIR-1a in the 1999 Final SEIS/EIR, the No Action Alternative is not expected to expose sensitive receptors to substantial or significant pollutant concentrations. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

The Proposed Action Alternative has the potential to generate TAC emissions from the use of diesel equipment during site clearing, grading, material delivery, construction of proposed improvements, and site cleanup. The primary TAC of concern associated with the Proposed Action Alternative construction is DPM. DPM is a carcinogen emitted by diesel engines that could affect existing sensitive receptors. Several sensitive receptors, including residences, are located adjacent to the Proposed Action Area. The nearest sensitive receptors to the Proposed Action Alternative construction activities are residences on Shoreline Drive, Pike Drive, and Trout Way, located approximately 25 feet from the limits of the construction area.

The Proposed Action Alternative would be constructed in phases as described in Appendix C, *Project Construction Details*. Thus, portions of the Proposed Action Area would be disturbed over short periods of time throughout the construction period. Construction equipment would operate intermittently throughout the project construction phases with some phases requiring more equipment usage and potentially higher emissions compared to other phases of work. The Proposed Action Alternative construction activities would also progress along the Proposed Action Alternative alignment and therefore, would not be concentrated in one area for an extended period of time. As construction progresses through the Proposed Action Area, vehicle use would continuously be shifting with the work area. DPM concentrations, and thus health risks, are generally greatest near

the emissions source and dissipate as a function of distance (CARB 2005). Periodic operation of construction equipment would allow for the dispersal of DPM by avoiding continuous construction activity in the portions of the Proposed Action Area closest to existing sensitive receptors.

According to *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (Office of Environmental Health Hazard Assessment 2015), DPM poses a carcinogenic health risk that is generally measured using an exposure period of 30 years for sensitive residential receptors. However, as presented in **Table 3.4-5**, emissions of DPM (which is strongly correlated with PM_{2.5} emissions) are below thresholds and minimal. Although the Proposed Action Alternative analysis does not directly measure health risk impacts in the region, it does provide data that can be used to evaluate the potential for the Proposed Action Alternative to cause health risk impacts. The low level of PM_{2.5} emissions generated by the Proposed Action Alternative construction activities coupled with the short-term duration of construction activity in any one given area would result in an overall low level of DPM concentrations within the Proposed Action Area. When schools, residential areas, or other sensitive land uses are located near the construction site, BAAQMD recommends that projects implement enhanced BMPs, in addition to the basic BMPs, to control fugitive dust emissions (BAAQMD 2023).

No long-term generators or stationary sources are included as part of the Proposed Action Alternative. The Proposed Action Alternative would not generate significant quantities of operational DPM because O&M activities, in the absence of reconstruction or replacement, would be infrequent and require minimal diesel-powered equipment. Therefore, O&M of the Proposed Action Alternative, in the absence of reconstruction or replacement, would not expose sensitive receptors to substantial or significant pollutant concentrations.

To reduce effects related to fugitive dust emissions during construction to a less-than-significant level, the implementation of mitigation measure AIR-1a in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, and mitigation measures **MM-AQ-1** and **MM-AQ-2** (described under Effect AQ-1) would be implemented.

The Proposed Action Alternative would not expose sensitive receptors to substantial or significant pollutant concentrations or generate significant quantities of construction or operational DPM. Implementation of mitigation measure AIR-1a and mitigation measures **MM-AQ-1** and **MM-AQ-2** would further reduce Proposed Action Alternative emissions. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect AQ-4: Result in other emissions such as those leading to odors adversely affecting a substantial number of people.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The No Action Alternative would not result in construction or operational emissions leading to odors adversely affecting a substantial or significant number of people. Temporary emissions would be generated during construction; therefore, the Proposed Action Alternative would result in a **less than significant effect**, and no mitigation is required or recommended.

Proposed Action Alternative

As described above, there are several residences located adjacent to the Proposed Action Area on Shoreline Drive, Pike Drive, and Trout Way. Construction of the Proposed Action could result in odor emissions in the form of diesel exhaust from construction equipment, equipment and material hauling trucks, and worker commute vehicles. It is anticipated that odors during construction would be temporary, intermittent, and would dissipate rapidly from the source with an increase in distance; therefore, they would not affect a substantial or significant number of individuals.

The Proposed Action Alternative does not involve operation of any of the common types of facilities that are known to produce odors (e.g., landfill, wastewater treatment facility, chemical plants, refineries). Frequency of O&M activities would be conducted consistent with the OMRR&R Manual for the Proposed Action Alternative, and infrequent and would involve the use of minimal equipment at times and would not increase generation of odor emissions in the Proposed Action Area. Given the limited and infrequent nature of O&M activities, in the absence of reconstruction and replacement, odors from O&M would not affect a substantial or significant number of individuals.

The Proposed Action Alternative would not result in construction or operational emissions leading to odors adversely affecting a substantial or significant number of people. Temporary emissions would be generated during construction; therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Table 3.4-6. Mitigation Measures for Air Quality Effects of the Proposed Action Alternative

| Mitigation Measure | Description of Measure |
|---|---|
| MM-AQ-1: Implement Fugitive Dust Control Measures | <p>Aligning with Mitigation Measure AIR-1a through AIR-1g from the 1999 Final SEIS/EIR (Napa County Flood Control and Water Conservation District and U.S. Army Corps of Engineers 1999), during construction, the Sponsor would implement the following BAAQMD basic BMPs for construction-related fugitive dust emissions:</p> <ul style="list-style-type: none"> • B-1: All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • B-2: All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • B-3: All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • B-4: All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • B-5: All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • B-6: All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour. • B-7: All trucks and equipment, including tires, shall be washed off prior to leaving the site. • B-8: Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel. • B-9: Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations. |
| MM-AQ-2: Implement Enhanced Fugitive Dust Control Measures | <p>During construction, the Sponsor would implement the following BAAQMD enhanced BMPs for construction-related fugitive dust emissions:</p> <ul style="list-style-type: none"> • E-1: Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. • E-2: Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. • E-3: Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and watered appropriately until vegetation is established. • E-4: Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. • E-5: Minimize the amount of excavated material or waste materials stored at the site. • E-6: Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are inactive for at least 10 calendar days. |

3.5 Cultural Resources

3.5.1 Existing Conditions

This section presents an overview of information on the local prehistory and history of the Proposed Action Area and vicinity. Understanding local cultural history is critical in defining important local, state, and/or regional events, trends, or patterns in prehistory and history by which eligible historic properties and/or cultural resources, in the Area of Potential Effects, if any, may be identified, and their significance evaluated.

Precontact Archaeological Context

The archaeological chronology discussed here has been developed through the synthesis of the precontact archaeological record throughout the Bay Area as a whole.

The earliest well-documented entry and spread of native peoples into the San Francisco region occurred at the beginning of the Paleo-Indian Period (12,000–8,000 years before present (BP)). Social units are thought to have been small and highly mobile. Known sites have been identified in the contexts of ancient pluvial lakeshores and coastlines, as evidenced by such characteristic hunting implements as fluted projectile points and flaked stone crescent forms. Prehistoric adaptations over the ensuing centuries have been identified in the archaeological record by numerous researchers working in the Bay Area since the early 1900s, as summarized by Moratto (1984).

Few archaeological sites dating to the Paleo-Indian Period before the subsequent Lower Archaic Period (8,000–5,000 BP) have been found in the Bay Area, likely because of high sedimentation rates and sea level changes. Archaeologists have, however, recovered a great deal of information from sites dating to the Middle Archaic Period (5,000–2,500 BP). By this time, broad regional subsistence patterns gave way to more-intensive procurement practices. Economies became more diversified; most notably, acorn-processing technology was introduced during this period. As populations increased and groups occupied more-diverse settings, permanent, year-round villages were established primarily around major waterways. During the Upper Archaic Period (2,500–1,300 BP), status distinctions and other indicators of sociopolitical complexity developed. Complex exchange systems were formalized, and regular, sustained trade between groups began to appear.

The Emergent Period (1,300–200 BP) is marked by both technological and social changes. Territorial boundaries between groups become more defined, and it was increasingly common for an individual's social status to be linked with acquired, personal wealth. During the latter portion of the period (500–200 BP), sophisticated exchange relations were regularized, with specialists governing the various aspects of production and exchange. The use of the clamshell disk bead as a monetary unit developed during the late Emergent Period.

The Lower Archaic, Middle Archaic, Upper Archaic, and Emergent Periods can be further divided according to the following cultural manifestations observed from well-documented archaeological assemblages throughout the Bay Area. These patterns are described further in **Table 3.5-1**.

Table 3.5-1. Historic Patterns relevant to the Proposed Action Area

| Pattern | Description of Pattern |
|---------------------------------------|---|
| Windmill Pattern (5,000-1,500 BP) | People placed an increased emphasis on acorn use and continued reliance on hunting and fishing activities during this period. Ground and polished charmstones, twisted basketry, baked clay, and worked shell and bone are artifacts typical of this pattern. Widely distributed trade patterns brought in goods from both the Coast Ranges and trans Sierran sources. Trade networks with local partners were likely active as well. |
| The Berkeley Pattern (2,200–1,300 BP) | This period was marked by a still-increasing use of acorns as a food source. Distinctive stone and shell artifacts differ from earlier cultural manifestations, and burials were placed primarily in flexed positions and often included red ochre. The occurrence of the Berkeley Pattern in Napa County has been interpreted as a movement of Utian speakers into the region. |
| The Augustine Pattern (1,300–200 BP) | This period reflected intensive food procurement strategies, and the resultant population increase. Intergroup trade activities gained in importance. Intensive fishing and hunting practices and complex, regular exchange systems are hallmarks of this period. A wide variety of mortuary practices have also been noted. |

Historic Period Context

Spanish dominion over the Bay Area was not exerted until the late 1700s, when Franciscan missions were established. This does not mean that the Native American communities of Napa Valley were untouched by the mission system. Jackson (1978) notes that by 1809, the first baptism of a member of the Napa, the Native American community for which the City of Napa takes its name, was recorded at Mission San Francisco de Asis. A Spanish missionary is recorded as visiting the Napa Rancheria in 1812 (Jackson 1978). In fact, over 90% of the obsidian tools excavated from Mission San Jose in Fremont, California, were sourced from Napa Valley (Panich et al. 2018).

After more than a decade of intermittent rebellion and warfare, New Spain (Mexico) won independence from Spain in 1821. Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated its colonization efforts. With the passage of the secularization act by the Mexican Congress, the mission lands of California were privatized and sold in the form of large ranchos.

By 1835, Mariano Vallejo was made director of colonization with the power to grant land in the North San Francisco Bay (Tays 1937). As a result, Native American communities in Napa Valley came into direct and persistent contact with Mexican and American settlers. The area encompassing the City of Napa was granted to Nicholas Higuera in 1836 by the Mexican Governor as Entre Napa Rancho (Wallace and Kanaga 1901). The “Napa” in the rancho’s name, much like the surrounding ranchos, was taken from the local Native American community.

The first non-Native American to settle within the current boundaries of the City of Napa was Cayetano Juarez, who built an Adobe on Tulocay Rancho in 1840 followed by Nicolas Higuera, who built a house along Napa Creek prior to 1841 (Palmer 1881). Around this same time, Americans

John Rose and John Davis started operating a schooner on the Napa River, docking their schooner at a location which is now near First Street in the City of Napa (ibid, 58).

In 1845, the Congress of the United States of America declared war on Mexico. Within days following the declaration of war, the U.S. Secretary of the Navy began to communicate in secret with Commodore Sloat, commander of the U.S. Pacific Squadron, to capture the Port of San Francisco and other coastal ports, which were known to be little defended (Bancroft 1884).

In Sonoma, Mariano Vallejo was detained by the Bear Flaggers and confined in squalid conditions for months (Haas 1997). Despite mistreatment at the hands of the Bear Flag rebels, Vallejo embraced the annexation of California by the United States and further settlement of the north San Francisco Bay by American citizens. The Mexican-American War ended with the Treaty of Guadalupe Hidalgo in 1848, ushering California into its American Period. The new state of California recognized the ownership of lands in the state distributed under the Mexican Land Grants of the previous decades.

By 1848, Nathan Coombs, who arrived in the north San Francisco Bay in 1845, laid out the town site of the City of Napa (Palmer 1881). The following year, Mariano Vallejo in partnership with John Frisbie, opened a store in Napa (Palmer 1881). Napa quickly grew and developed a diverse community of Euro-Americans, African Americans, Australian immigrants, Chinese immigrants, and Native Americans (Menefee 1873). Up to the 1850s, the primary industry in Napa Valley was cattle herding for the tallow and hide trade (Menefee 1873).

Napa County was formed in 1851, and a telegraph line was built connecting the City of Napa to Vallejo in 1858 (Menefee 1873). During the latter half of the 19th century, Napa grew with the development of agricultural associations and the construction of a railroad (Kanaga and Wallace 1901). The rail line connecting Suscol to Napa began construction in 1864 and was extended to Calistoga in 1867, which dramatically increased property values in the northern half of the county (Menefee 1873). The City of Napa was formally incorporated in the early 1870s (Menefee 1873).

Throughout the latter half of the 19th century to the present, agricultural activities have been the primary driver of the economy of Napa County, and to this end, viticulture predominates. The first wine grapes were planted in by George Yount in the late 1830s (Mohan 2014). Yount was followed by Charels Krug and Jacob Berringer who are credited with establishing Napa's wine industry (Mohan 2014). By the late 19th century, wealthy investors like Gustav Niebaum and Alfred Tubbs constructed palatial wine estates while Napa's wines received international recognition. However, by the early 20th century, a phylloxera blight and prohibition had devastated the wine industry which would not regain its reputation and production levels until the 1960s (Mohan 2014).

3.5.2 Effect Analysis

Method of Analysis

This section describes the methods used to identify and analyze cultural resources, including but not limited to historic properties within the Proposed Action Area and the Area of Potential Effects. The potential effects from construction, operation, and maintenance of the Proposed Action Alternative on cultural resources were evaluated using known historical records search data, pedestrian survey, and subsurface investigation and in accordance with regulations that would be applicable to the Proposed Action Alternative.

Importantly, the Proposed Action Alternative is subject to the Project's Programmatic Agreement (PA), developed pursuant to Section 106 of the National Historic Preservation (NHPA) (54 U.S.C. § 306108). USACE uses findings arrived at through the NHPA Section 106 process to determine effects to historic properties and cultural resources under NEPA and to mitigate adverse effects to currently listed and eligible historic properties and eligible cultural resources under both laws (i.e., NHPA and NEPA). The Project was authorized by Congress through the Flood Control Act of 1965 (Public Law 89-298) with additional authority provided by the Water Resources Development Act of 1976. The PA among USACE, California State Historic Preservation Officer (SHPO), Federal Highway Administration (FHWA), the Sponsor, the City of Napa, and the California Department of Transportation (Caltrans) was executed on December 6, 1999, with no sunset or specified termination date. A PA was determined necessary at the time because the identification and National Register of Historic Places (NRHP) evaluation of all properties that may be affected by the (1999) undertaking, as well as the nature of any such effects, could not be fully determined prior to approval of the undertaking. USACE elected to comply with Section 106 of the NHPA through execution and implementation of a PA pursuant to 36 CFR §§ 800.14(b)(1) and 800.14(b)(3). The PA states that USACE will have lead agency status regarding implementation of the PA's stipulations throughout implementation of the Project. The PA also specifies under Stipulation IV.D. (Treatment of Historic Properties) that a treatment plan is to be developed for the "River Glen archaeological site" (CA-NAP-261 – discussed further below).

A research design consisting of an archival/record research, pedestrian survey, and auger testing was developed in 2023 to identify the location of archaeological, ethnographic, and built environment resources within the Proposed Action Area and identify the Area of Potential Effects. The location and eligibility status of previously recorded archaeological, ethnographic, and built environment resources were identified using:

- Records search data of previously conducted cultural resource studies and previously recorded cultural resources on file with the California Historical Resources Information System housed at the Northwest Information Center of at Sonoma State University and the Northeast Information Center at California State University, Sacramento – database searches conducted in August 2018 and April 2021.
- Listings of the NRHP.
- Listings of the California Register of Historical Resources (CRHR).
- Listings of the California Office of Historic Preservation's (OHP) Built Environment Resources Directory (BERD).
- California Points of Historical Interest (1992).
- California State Landmarks (1996).
- California Inventory of Historic Resources (1976).
- Regional geological maps compiled by the California Division of Mines and Geology and the United States Geological Survey for Napa County.
- Caltrans Historic Bridge Survey.
- The Web Soil Survey online mapping tool available from the United States Department of Agriculture, Natural Resources Conservation Service (<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>) (2023).

- Historic aerials and topographic maps available at (www.historicaerials.com).

Efforts to identify previously unrecorded cultural resources included intensive pedestrian survey of the floodwall alignment in the Proposed Action Area and a reconnaissance/windshield survey of paved roadways and parking lots within the Proposed Action Area in October 2023. The field survey and recording of cultural resources followed the Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (NPS 1983) and the State of California OHP publication Instructions for Recording Historical Resources (OHP 1995). A subsurface investigation of a previously recorded archaeological resource (P-28-000218/CA-NAP-261) within the Proposed Action Area was also conducted in December 2023.

Identification Results

Four previously recorded resources were identified within the Proposed Action Area as a result of the records search and resource survey: the Napa Valley/Southern Pacific Railroad grade and line (P-28-00966), the historic district encompassing the Napa Valley Railroad line from the City of Napa to St. Helena (P-28-001547), the Lincoln Avenue Bridge, and the precontact “River Glen Site” archaeological resource (P-28-000218/CA-NAP-261). No previously unrecorded resources were identified as a result of the 2023 survey. These resources are included in **Table 3.5-2**.

Table 3.5-2. Cultural Resources in the Proposed Action Area

| Resource | Description |
|------------------------|--|
| P-28-001547 | The resource is a previously recorded resource composed of the historic-era Napa Valley/Southern Pacific railroad and is a historic district composed of the railroad and associated structures and facilities. It is listed in the Office of Historic Preservation’s BERD as determined ineligible for NRHP listing by consensus through the Section 106 process and is, therefore, not considered a significant cultural resource. |
| P-28-000966 | The resource is a previously recorded resource composed of the historic-era Napa Valley/Southern Pacific railroad and consists of the railroad itself. It is listed in the Office of Historic Preservation’s BERD as determined ineligible for NRHP listing by consensus through the Section 106 process and is, therefore, not considered a significant cultural resource. |
| P-28-000218/CA-NAP-261 | The “River Glen Site” is a precontact residential site containing midden soils and human burials. The site may be one of the earliest precontact sites in Napa with a large Upper Archaic cultural horizon. The archaeological resource has previously been determined eligible for NRHP listing and is, therefore, considered a significant cultural resource. |
| Lincoln Avenue Bridge | The resource is a concrete bridge constructed in the 1950s that spans the Napa River. The bridge is listed on both the Caltrans Bridge Inventory (2019) and the National Bridge Inventory (2024). The historical significance of the bridge is listed as code 5, not NRHP eligible, and is, therefore, not considered a significant cultural resource. |

Summary of Effects from 1999 Final SEIS/EIR

Cultural resources effects were evaluated in the 1999 Final SEIS/EIR. The 1999 Final SEIS/EIR evaluated the effects of construction activities, including construction through site P-028-000218. Mitigation was provided for the USACE Authorized Project effects to site P-028-000218 and

Mitigation Measure Cultural-7 presented in the 1999 Final SEIS/EIR Section 3.5.4, *Cultural Resources Impacts and Mitigation Measures*, still applies.

Summary of Cultural Resources Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.5-3**.

Table 3.5-3. Summary of Cultural Resources Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|--|
| <i>No Action Alternative</i> | | |
| CUL-1 | Result in an adverse effect to a historic property (currently listed or eligible for listing) pursuant to Section 106 of the NHPA 54 U.S.C. § 306108 | Significant adverse effect with mitigation incorporated ¹ |
| <i>Proposed Action Alternative</i> | | |
| CUL-1 | Result in an adverse effect to a historic property (currently listed or eligible for listing) pursuant to Section 106 of the NHPA 54 U.S.C. § 306108 | Significant adverse effect with mitigation incorporated ¹ |

¹ This finding was previously disclosed in the 1999 Final SEIS/EIR and remains the same. Effects of the Proposed Action Alternative within the Area of Potential Effects are not new, would not be greater in scope or intensity than previously disclosed, and will be minimized and mitigated through Section 106 compliance.

Effect CUL-1: Result in an adverse effect to a historic property pursuant to Section 106 of the NHPA 54 U.S.C. § 306108.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. As disclosed in the 1999 Final SEIS/EIR, the components of the No Action Alternative intersect P-28-000218/CA-NAP-261. As such, construction activities would result in a substantial or significant adverse change in the significance of the in situ archaeological deposits of P-28-000218/CA-NAP-261. These effects are identified in Effect CULTURAL-7 of the 1999 Final SEIS/EIR. Mitigation was proposed under CULTURAL-7 in the 1999 Final SEIS/EIR Section 3.5.4, *Cultural Resources Impacts and Mitigation Measures*, and included various measures including development of a Memorandum of Agreement or Programmatic Agreement (PA) through Section 106. The PA executed on December 6, 1999, for the USACE Authorized Project specifies obligations and parameters pertaining to the development of a historic properties treatment plan (HPTP) and other stipulations. The HPTP was developed by the USACE and the Sponsor in consultation with the consulting tribes and was finalized in February 2025. Human remains are also likely to be encountered and disturbed within the historic property site P-28-000218/CA-NAP-261 according to past documentation and, if encountered, treatment of such is addressed in the HPTP. Construction effects are identified in Effect CULTURAL-9 of the 1999 Final SEIS/EIR to previously undiscovered archaeological resources, and mitigation was proposed under CULTURAL-9 in the 1999 Final SEIS/EIR would reduce effects to these resources, and this mitigation still applies. Nonetheless, the No Action Alternative would have a significant adverse effect on P-28-000218/CA-NAP-261. This is not a new effect as a result of the No Action Alternative, and the effect to P-28-000218/CA-NAP-261 is not greater in scope or intensity than was already determined in the 1999

Final SEIS/EIR. Therefore, as determined in the 1999 Final SEIS/EIR, the No Action Alternative would result in a **significant adverse effect** with mitigation presented in the 1999 Final SEIS/EIR.

Proposed Action Alternative

As described above, the Napa Valley/Southern Pacific Railroad grade and line (P-28-00966), the historic district encompassing the Napa Valley Railroad line from the City of Napa to St. Helena (P-28-001547), and the Lincoln Avenue Bridge are located within the Proposed Action Area and the Area of Potential Effects. P-28-00966 and P-28-001547 were evaluated together and determined NRHP ineligible with concurrence from SHPO in a letter dated November 22, 2006. P-28-001547, P-28-000966, and the Lincoln Avenue Bridge would not be altered by the Proposed Action Alternative. Effects to these cultural resources also would be avoided during construction and long-term O&M. Rock scour protection would be placed below the Lincoln Avenue Bridge, but this would not affect the bridge structure.

An archaeological resource (P-28-000218/CA-NAP-261) was identified in the Proposed Action Area and was also evaluated in the 1999 Final SEIS/EIR. The archaeological resource, a precontact village site, had been previously evaluated and found eligible as a historic property per the NRHP eligibility criteria. As described in Chapter 2, *Project Description*, section 2.2, *Proposed Action Alternative*, the construction activities of the Proposed Action north of Lincoln Avenue entail the replacement of a 36-inch-diameter steel water line and the construction of a sheet pile “I” wall up to 30 feet deep. These components of the Proposed Action Alternative intersect P-28-000218/CA-NAP-261. As such, construction activities would result in a substantial or significant adverse change in the significance of the in situ archaeological deposits of P-28-000218/CA-NAP-261. Due to the sensitive nature of P-28-000218/CA-NAP-261, the O&M activities of the Proposed Action Alternative could also result in the damage or destruction of in situ archaeological deposits. Therefore, the Proposed Action Alternative would result in an adverse effect to a historic property pursuant to 36 CFR § 800.5(d)(2). This is not a new effect as a result of the Proposed Action, and the effect to site P-28-000218/CA-NAP-261 is not greater in scope or intensity than was already determined in the 1999 Final SEIS/EIR. Thus, the effect still remains as identified and analyzed in the 1999 Final SEIS/EIR, since effects of the USACE Authorized Project have not been fully realized because construction of the entirety of the USACE Authorized Project has not occurred.

A PA was executed on December 6, 1999, for the USACE Authorized Project. Per the requirements of the PA, the adverse effect to P-28-000218/CA-NAP-261 will be mitigated to the extent possible via the development and implementation of the HPTP (Stipulation IV.D), which is described in **MM-CUL-1** shown in **Table 3.5-4**. The HPTP was developed by the USACE and the Sponsor in consultation with the consulting tribes and was finalized in February 2025. Mitigation prescribed as part of CULTURAL-7 in the 1999 Final SEIS/EIR would also be implemented, as well as additional mitigation contained in **MM-CUL-1** to mitigate adverse effects to site P-28-000218/CA-NAP-261 to the extent feasible. Therefore, as determined in the 1999 Final SEIS/EIR, the Proposed Action Alternative would still result in a **significant adverse effect** to site P-28-000218/CA-NAP-261, but this effect would be minimized and mitigated through the Section 106 PA as described in **MM-CUL-1**.

For the rest of the Proposed Action Area, effects to known archaeological resources are not anticipated. However, implementation of the HPTP and the 2025 SEIR mitigation measures SEIR-MM-CUL-2, SEIR-MM-CUL-3, and SEIR-MM-CUL-4 to be implemented by the Sponsor would reduce other construction effects to archaeological resources.

Human remains are likely to be encountered and disturbed at site P-28-000218/CA-NAP-261 according to past documentation. It is possible that previously unknown, buried human remains could be unearthed and damaged or destroyed during excavation activities associated with the Proposed Action Alternative. Damage to or destruction of human remains during construction of the Proposed Action would be considered an adverse effect. Mitigation Measure **MM-CUL-1**, per Stipulation IV.D. of the PA, must be implemented prior to construction; therefore, the probability of encountering human remains at site P-28-000218/CA-NAP-261 would be minimized. Nonetheless, there is still the possibility of an inadvertent discovery of human remains within the Proposed Action Area. Effect CULTURAL-9 of the 1999 Final SEIS/EIR evaluated the construction effects of the Proposed Action on previously undiscovered archaeological resources and human remains. Mitigation was proposed in the 1999 Final SEIS/EIR Section 3.5.4, *Cultural Resources Impacts and Mitigation Measures*, under CULTURAL-9 to effectively reduce effects to human remains and this mitigation still applies. If human remains are encountered, protocol will be followed by implementing the procedures identified in the HPTP as well as the 2025 SEIR mitigation measure SEIR-MM-CUL-5 to be implemented by the Sponsor.

Table 3.5-4. Mitigation Measures for Cultural Resources Effects of the Proposed Action Alternative

| Mitigation Measure | Description of Measure |
|--|---|
| MM-CUL-1: Implement 1999 Programmatic Agreement | <p>Aligning with Mitigation Measure Cultural-7 from the 1999 Final SEIS/EIR (Napa County Flood Control and Water Conservation District and U.S. Army Corps of Engineers 1999) and the 1999 Section 106 Programmatic Agreement (PA), a Historic Property Treatment Plan shall be developed for P-28-000218/CA-NAP-261. The PA specifies obligations and parameters pertaining to the development of a treatment plan which entail in part the following stipulations:</p> <ul style="list-style-type: none"> USACE would develop a treatment plan for the P-28-000218/CA-NAP-261 and any other archaeological sites determined NRHP eligible, and the treatment plan shall be in conformance with the Secretary of the Interior's Standards and Guidelines for Archeological Documentation (48 FR 44734-37) and take into account the Advisory Council on Historic Preservation's publication, Treatment of Archeological Properties (Advisory Council on Historic Preservation, 1980); USACE and Federal Highway Administration (FHWA) (if participating) shall consult with the Native American community, including but not limited to the Suscol Council, the Wappo Tribe, the Cortina Indian Rancheria of Wintun Indians, and Yocha Dehe Wintun Nation, concerning the River Glen site and any other prehistoric archeological site designated as an historic property located within the APE; all inventory and evaluation reports and treatment plans shall be submitted to USACE for review and comment and then submitted by USACE to SHPO for review comment; if extending into multiple years, annual reports shall be produced summarizing activities over the previous year, and these reports shall be submitted to all signatories and interested parties of the PA. <p>Additional measures included in Mitigation Measure Cultural-7 of the 1999 Final SEIS/EIR state:</p> <ul style="list-style-type: none"> Measures to be taken prior to construction include excavation, remote sensing, recovery of prehistoric and historic resources, and monitoring by archeological personnel. Standards of significance for additional resources which may be uncovered during project excavation and the exact consultation procedure to be followed if there is a discovery would be developed during this period. During project excavation, the site would be monitored for prehistoric and historic resources by a qualified archaeologist(s) with substantial previous professional experience in accordance with the standards of significance and procedure for discovery described above. A final report would be prepared, following the Secretary's Standards, with all evaluation of the site and treatment activities, as well as recommendations for placement of the archeological specimens retrieved. The final data report would be given to the City of Napa Cultural Heritage Commission and the Napa Historical Society. In addition, if any human remains are discovered, an appropriate representative of Native American Indian groups such as the Soscol Council, the Wappo Tribe and the County Coroner would both be informed and consulted to determine appropriate disposition consistent with California law. |
| Additional Mitigation Measures included in the 2025 SEIR and the HPTP | |
| SEIR-MM-CUL-2: Cultural Resources Awareness Training | <p>Before any ground-disturbing work (including vegetation clearing, grading, and equipment staging) commences, a qualified archaeologist would conduct a mandatory cultural resources awareness training for all construction personnel. The training would cover the cultural history of the area, characteristics of archaeological sites, applicable laws, and the avoidance and minimization measures to be implemented. Proof of personnel attendance would be provided to overseeing agencies as appropriate. If new construction personnel are added to the Proposed Action, the contractor would ensure that the new personnel receive the mandatory training before starting work.</p> |

| Mitigation Measure | Description of Measure |
|---|--|
| SEIR-MM-CUL-3: Unrecorded Cultural Resources Discovery | <p>If unrecorded cultural resources are encountered during implementation of Proposed Action Alternative -related ground-disturbing activities, even in the absence of an onsite archaeological monitor, a qualified cultural resources specialist shall be contacted to assess the potential significance of the find. If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains) is made during Proposed Action Alternative-related construction activities, ground disturbances in the area of the find would be halted, and a qualified professional archaeologist would be notified regarding the discovery. The archaeologist would determine whether the resource is potentially significant per federal law and the CRHR and, in consultation with the Sponsor, USACE and Native American Tribes as appropriate, develop appropriate additional mitigation measures, such as avoidance and protection measures or data recovery.</p> <p>If the find is determined to be an important cultural resource, USACE and the Sponsor would make available contingency funding and a time allotment sufficient to allow recovery of an archaeological sample or to implement an avoidance measure. Construction work can continue in other parts of the Proposed Action Area while archaeological mitigation takes place.</p> |
| SEIR-MM-CUL-4: Inadvertent Discovery Plan | <p>Prior to implementation of the Proposed Action Alternative, a formalized Archaeological and Tribal Monitoring and Inadvertent Discovery Plan would be prepared which details the Proposed Action Alternative's inadvertent discovery protocol, archaeological site definitions, archaeological and tribal monitoring procedures and responsibilities, including the payment of costs, provisions for additional identification efforts if deemed necessary, and requirements for dealing with the inadvertent discovery of human remains including coordination with the Napa County Coroner and the designation of a Most Likely Descendant (detailed further in MM-CUL-5). The Plan would be developed in consultation with the County and participating Native American Tribes, particularly the Mishewal-Wappo Tribe of Alexander Valley and the Yocha Dehe Wintun Nation, would be afforded an opportunity to review and comment on the Plan prior to implementation. The Plan may include provisions for Native American Tribes to conduct additional analyses, if requested.</p> |
| SEIR-MM-CUL-5: Inadvertent Discovery of Human Remains | <p>In accordance with the California Health and Safety Code Sections 7050.5 and 7052, Public Resources Code Section 5097.98; if human remains are uncovered during ground-disturbing activities, all such activities in the vicinity of the find would be halted immediately, and the designated representatives of the Sponsor and USACE would be notified. The Sponsor's representative would immediately notify the Napa County Coroner and a qualified professional archaeologist. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The Sponsor's responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in the California Public Resources Code Section 5097.9. The Sponsor or its appointed representative and the professional archaeologist would contact the Most Likely Descendent (MLD), as determined by the NAHC (presumably a representative from the Mishewal-Wappo Tribe of Alexander Valley and the Yocha Dehe Wintun Nation), regarding the remains. The MLD, in cooperation with the Sponsor, USACE, and the landowner, would determine the ultimate disposition of the remains at Sponsor cost.</p> |

3.6 Fisheries and Aquatic Biological Resources

3.6.1 Existing Conditions

Aquatic biological resources discussed in this chapter include federal special-status species and their critical habitats, as well as other special-status species and their aquatic habitats. For more information about state-listed species, see the 2025 SEIR prepared in accordance with CEQA for this Proposed Action. For details on terrestrial biological resources, such as amphibians, birds, invertebrates, mammals, and plants, please see Section 3.12, *Terrestrial Biological Resources*. Appendix G, *Biological Resources*, contains the Reinitiation of Consultation with USFWS and the Informal Consultation/No Formal Consultation required with NMFS for the Proposed Action.

The Napa River watershed is surrounded by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south and covers approximately 426 miles with a northwest-southeast trending topography (Koehler 2002 and Napa County 2008). The headwaters of the Napa River originate at Mt. St. Helena and flow 55 miles along the valley floor to San Pablo Bay (Koehler 2002). Downstream of the City of Napa, the Napa River turns into the Napa marsh, a complex of approximately 47,000 acres of existing and historic salt marshes (City of Napa 2022).

Within the City of Napa, the Napa River is surrounded by highly urbanized areas, but there are tracts of Valley foothill riparian, saline emergent wetland, and riverine habitat types (City of Napa 2022). The average annual flow of the Napa River is approximately 1,300 cubic feet per second through the populated center of the City of Napa (California Department of Water Resources California Data Exchange Center 2023). Along the lower third of the river, the city banks are hardened with expanses of riprap and do not support substantial vegetation (City of Napa 2022).

Streamflow in the Napa River varies widely seasonally and annually; flows are higher from December through March and are reduced in the summer and early fall. Yearly variations are significant, and consecutive dry years with reduced flows are not uncommon.

Within the Proposed Action Area there are three main habitat types, intertidal mudflats, shaded riverine aquatic (SRA), and riverine. Each habitat is described in greater detail in Appendix G, *Biological Resources*.

The Napa River contains a wide variety of native and non-native resident and anadromous fish species. Species composition within the brackish, tidally influenced waters of the Napa River ranges widely from saltwater fish such as Pacific herring (*Clupea pallasii*) to freshwater fish such as common carp (*Cyprinus carpio*). Salinity changes strongly influence what species occur in the Proposed Action Area at any given time. Fish and invertebrate surveys have been conducted on the Napa River. Details from these surveys, including identified species and important habitat features are described in detail in Appendix G, *Biological Resources*.

Special Status Species

For the purposes of this document, special-status species refers to those species that meet one or more of the criteria specified in Appendix G, *Biological Resources*. These criteria generally include any species listed under the Endangered Species Act, 16 U.S.C. §§ 1531-1544 or other special lists maintained by federal agencies.

To assess aquatic biological resources with the potential to occur within the Proposed Action Area, nine United States Geological Survey quadrants (USGS quads) were queried in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2024). These USGS quads included Mt. George, Cordelia, Capell Valley, Sonoma, Yountville, Rutherford, Napa, Cuttings Wharf, and Sears Point. Information on federal special-status species was obtained from a query of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consulting (IPaC) database (USFWS 2023a) (Appendix G - *Biological Resources*). In addition, the Napa County RCD conducts annual surveys of the fish species in Napa River north of the City of Napa and these results were used to identify other potential species that may occur within the Proposed Action Area (Napa County RCD 2023) (Appendix G - *Biological Resources*).

Table 3.6-1 lists each of the five special-status species with potential to occur in the Proposed Action Area. The life history characteristics and habitat requirements of the listed special-status species are detailed in Appendix G, *Biological Resources*.

Table 3.6-1. Special-status species with potential to occur within or near the Proposed Action Area.

| Species and ESU/DPS ¹ | Common Name | Federal Status ² | State Status ³ | Critical Habitat |
|--|---|-----------------------------|---------------------------|---|
| <i>Acipenser medirostris</i> southern DPS | Green Sturgeon | FT | None | Outside Proposed Action Area |
| <i>Entosphenus tridentatus</i> | Pacific Lamprey | BLM-S USFWS-S | SSC | No |
| <i>Hypomesus transpacificus</i> | Delta Smelt | FT | SE | Outside Proposed Action Area |
| <i>Oncorhynchus mykiss irideus</i> central California coast DPS | Central California Coast (CCC) Steelhead | FT | None | Yes, San Pablo Hydrologic Unit 2206; includes Napa River and Proposed Action Area |
| <i>Spirinchus thaleichthys</i> San Francisco Bay-Delta DPS | Longfin Smelt | FE | ST | No |

¹ Evolutionarily Significant Unit (ESU); Distinct Population Segment (DPS)

² Federally Endangered (FE); Federally Threatened (FT), Federal Candidate for Listing (FC), Bureau of Land Management – Sensitive (BLM-S), U.S. Forest Service – Sensitive (USFWS-S)

³ State Endangered (SE); State Threatened (ST); State Species of Special Concern (SSC)

Source: Species and Listing Status (CDFW 2024; CNDDDB 2024), Critical Habitat (USFWS 2023b).

Critical Habitat

Delta smelt, southern DPS green sturgeon, and CCC steelhead have listed critical habitat designations. CCC steelhead's critical habitat is the only one that overlaps with the Proposed Action Area (USFWS 2023b). Critical habitat area for CCC steelhead includes approximately 1,465 mi of stream habitat and 386 mi² of estuarine habitat, the majority of which resides in the San Francisco Bay-San Pablo Bay area (70 FR 52488). Of interest is critical habitat located within the San Pablo Hydrologic Unit 2206, which includes the City of Napa, the Napa River, and the Proposed Action Area.

Essential Fish Habitat

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) (16 U.S.C. § 1801, et seq.), requires federal agencies to consult with the National Marine Fisheries Service (NMFS) on activities that may adversely affect Essential Fish Habitat (EFH) for species that are managed under federal fishery management plans for U.S. waters. Section 3 of the MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 U.S.C. § 1802). These waters include aquatic areas and their associated physical, chemical, and biological habitat features necessary to support the entire life cycle of the species in question and may include areas historically used by these species. The Proposed Action Area addressed within this document falls within the Pacific Groundfish EFH and Pacific Salmon EFH (NOAA 2023). This is described further in Appendix G, *Biological Resources*.

The MSA also requires that NMFS designate Habitat Areas of Particular Concern (HAPCs) for each federally managed fish species. The Napa River constitutes an estuary HAPC. The inland extent of the estuary HAPC is the high-water tidal level along the shoreline or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 part per thousand (ppt) during the period of average annual low flow (Pacific Fishery Management Council 2023). The Proposed Action Area is upstream of the HAPC, as described by National Oceanic and Atmospheric Administration’s (NOAA) EFH Mapper (NOAA 2023).

Other species that fall under EFH within the Proposed Action Area include Pacific sanddab, starry flounder, and Chinook salmon, which are not covered under ESA or CESA. The life history and habitat requirements of these three species are discussed Appendix G, *Biological Resources*.

3.6.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze aquatic biological resources within the Proposed Action Area. The potential effects from construction, operations, and maintenance of the Proposed Action on aquatic biological resources were evaluated qualitatively and quantitatively using field survey data, desktop analysis, and available data and literature reviewed materials as well as reviewing the regulations that apply to the Proposed Action Alternative.

The USACE determined that reinitiation of formal or informal consultation with the NMFS would not be necessary for the Proposed Action Alternative, since the 1999 biological opinion and 2000 supplemental biological opinion for the USACE Authorized Project are still valid and the Proposed Action Alternative effects to central California coast steelhead and the southern distinct population segment of green sturgeon would be less than what was originally determined in both of those respective biological opinions. The NMFS confirmed that reinitiation of consultation was not necessary on October 16, 2024.

Summary of Effects from 1999 Final SEIS/EIR

Effects to aquatic biological resources were evaluated in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. The 1999 Final SEIS/EIR evaluated the effects of construction and operation activities on aquatic and riparian species. Mitigation measures BIO-6 and BIO-9 from the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation*

Measures, were provided for some aspects and those mitigation measures still apply. The 1999 Final SEIS/EIR concluded that there would be effects including loss of important habitat, loss of woody vegetation, and effects to fisheries and other aquatic species, but the effects would be less than significant after implementation of mitigation and the various permitting requirements associated with the USACE Authorized Project.

Summary of Fisheries and Aquatic Biological Resources Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.6-2**.

Table 3.6-2. Summary of Fisheries and Aquatic Biological Resources Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|---|
| <i>No Action Alternative</i> | | |
| BIO-A-1 | Have 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 or by the CDFW, NMFS, or USFWS | Less than significant effect with mitigation incorporated |
| BIO-A-2 | Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW, NMFS, or USFWS | Less than significant effect with mitigation incorporated |
| BIO-A-3 | Interfere substantially with the movement of any native resident or migratory fish | Less than significant effect with mitigation incorporated |
| <i>Proposed Action Alternative</i> | | |
| BIO-A-1 | Have 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 or by the CDFW, NMFS, or USFWS | Less than significant effect with mitigation incorporated |
| BIO-A-2 | Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW, NMFS, or USFWS | Less than significant effect |
| BIO-A-3 | 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 wildlife nursery sites | Less than significant effect with mitigation incorporated |

Best Management Practices

The following BMPs in **Table 3.6-3** would be incorporated as part of the Proposed Action Alternative to avoid and minimize potential effects on aquatic biological resources.

Table 3.6-3. Best Management Practices

| BMP | Description of BMP |
|---|---|
| BMP-1: Minimize Footprint | Minimize project-related ground disturbance to the extent practicable. All project-related parking, storage areas, laydown and staging sites, and any other surface-disturbing activities shall be limited to previously disturbed areas when possible. |
| BMP-2: Worker Environmental Awareness Training | <p>Prior to the onset of construction, a qualified biologist shall conduct mandatory contractor/worker environmental awareness training for construction personnel to inform them on the locations of sensitive biological resources and site-specific protective measures required during construction activities. If new construction personnel are added to the project, the contractor shall require them to receive mandatory training prior to starting work.</p> <p>Training shall discuss special-status species, including species identification, a description of life history, habitat requirements during various life stages, and the species' protected status. Education shall include clear instructions that if any workers encounter special-status species within or near the disturbance footprint, work shall halt until the species has left the area of its own volition, and the biologist and Sponsor should be informed immediately.</p> |
| BMP-3: Restoration of Temporarily Disturbed Areas | All exposed and/or disturbed areas resulting from construction activities shall be returned to their original contour and grade and shall be restored using locally native grass and forb seeds, plugs, or a mix of the two, as appropriate. Areas shall be seeded with species appropriate to their topographical and hydrological character. Plastic monofilament netting shall not be used. |
| BMP-4: Construction BMPs | <p>No fueling of construction equipment shall occur below top of bank of any stream courses or within 50 feet of other aquatic resources. If maintenance or refueling of vehicles or equipment must occur on-site, use a designated area and/or a secondary containment, located away from drainage courses to prevent the runoff of spills and stormwater. Equipment shall be stored in areas such that any possible contamination from the equipment would not flow or be washed back into the channel. Daily inspection and cleaning of equipment entering the water shall be conducted such that fuel, oil, grease, and deleterious amounts of soil are removed from the portion of equipment to be submerged. If an equipment leak occurs in the work area, proper BMPs shall be installed immediately, and the equipment shall be removed from the area.</p> <p>BMPs shall be employed on site to prevent degradation to on- and off-site aquatic resources. Methods would include the use of appropriate measures to intercept and capture sediment prior to entering aquatic resources, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material (i.e., fencing). All BMPs shall be in place prior to initiation of any construction activities and shall remain until construction activities are completed. All erosion control methods shall be maintained until all on-site soils are stabilized. The use of monofilament netting or other erosion control materials that could be harmful to species shall be prohibited.</p> <p>Mitigation, measures, or conditions as required in regulatory permits issued through USACE and/or State of California Regional Water Quality Control Board (RWQCB) may be applied to satisfy this BMP.</p> <p>This BMP aligns with Mitigation Measures WQ-3a through 3c from 1999 Final SEIS/EIR Section 3.2.4, <i>Water Quality Impacts and Mitigation Measures</i>.</p> |
| BMP-5: Clean Construction Area | All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the Proposed Action Area. On completion of construction activities, all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes, shall be removed and appropriately disposed. |

Effect BIO-A-1: Would the Proposed Action Alternative have 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 the CDFW, NMFS, or USFWS?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects to Central California Steelhead are identified in Effect BIO-6, and habitat effects that may lead to additional effects to Central California Steelhead are identified in BIO-9 of the 1999 Final SEIS/EIR. Mitigation was proposed under BIO-6a through 6d and BIO-9 in the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, to reduce effects to less than significant. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects to listed fish would occur. Through the implementation of mitigation measures BIO-6a:6d and BIO-9 in the 1999 Final SEIS/EIR, the No Action Alternative would not be expected to have a substantial or significant adverse long-term 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 the CDFW, NMFS, or USFWS. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

Construction of the Proposed Action Alternative would result in effects to the eight special-status species that may have habitat within the Proposed Action Area listed in **Table 3.6-1**.

Both adults and juvenile fish could be affected during sediment excavation, rock scour protection placement, and working platform construction and removal if they are present within or adjacent to the Proposed Action Area during construction. The potential Proposed Action Alternative effects for the aforementioned species would be similar in the Proposed Action Area.

Underwater noise would be generated during construction of the Proposed Action by a variety of construction activities, including potential pile driving (vibratory hammer)¹, dredging in the river, in-water platform construction, and rock scour protection placement. The effects of vibratory pile driving on fish may include behavioral responses. Factors that may influence the magnitude of effects include: (1) species, life stage, and size of fish (smaller fish are more susceptible to injury); (2) type and size of pile and hammer (larger piles and bigger hammers result in more noise); (3) frequency and duration of pile driving (more strikes per day means greater accumulated energy); (4) site

¹ Impact pile driving uses a hydraulic hammer mounted on a piling rig with a ram mass to dynamically drive piles into the ground, while vibratory pile driving uses a low impact method of creating vertical vibrations that puts soil particles into motion thereby loosening the soil and allowing the pile to penetrate the soil. Impact pile driving results in high intensity impulsive sounds that can potentially cause injury in fish. Vibratory hammers generally produce less sound than impact hammers and are often employed as a mitigation measure to reduce the potential for adverse effects on fish that can result from impact pile driving (California Department of Transportation 2015:2-17). In addition, there are no established injury criteria for vibratory pile driving (California Department of Transportation 2015:2-17); therefore, effects on fish from vibratory pile driving are typically behavioral.

characteristics (e.g., water depth, channel bends [sound attenuates faster in shallow water and around bends]); and (5) distance of fish from the source (fish closer to the source of the noise are at greater risk of injury than fish farther away). These temporary effects would include physiological effects or negative behavioral responses (such as changes in feeding behavior), changes in migratory patterns, and increased stress.

The proposed June 1 through October 31 in-water work restrictions, from the previous Biological Opinion (BO) and Supplemental BO issued for the Proposed Action Alternative (NMFS 1998 and 2000), and localized effect of pile driving and other in-water construction activities would limit adverse noise-generated effects to a small proportion of special-status fish species present within the Proposed Action Area. Pile driving and other in-water construction activities would be timed (June 1–October 31) for periods when life stages of some fish species are not present (e.g., CCC steelhead) or their abundance in the affected reach of the Napa River is relatively low (e.g., adult green sturgeon). Any fish present would be expected to pass through the affected area relatively quickly in response to general construction noise and physical disturbance, thereby limiting their exposure.

The aforementioned BMPs in **Table 3.6-3** would be implemented during project design and construction to avoid and minimize potential effects on sensitive biological resources along with the following mitigation measures.

Special-status fish species habitat may be temporarily impacted because of increased siltation and impaired water quality within and downstream of the Proposed Action Area. At the Lincoln Avenue Bridge, construction of the access ramps, installation of work platform, excavation, and placement of materials, such as rock scour protection, may release suspended particles and other material into the water column. Increased turbidity may directly impact fish species by impairing gill function, reducing dissolved oxygen, increasing stress, and altering behavior if they are present in the Proposed Action Area. Excavation, fill placement, and movement of construction equipment may also release toxins into the water column. These toxins could have an immediate or delayed effect on the special-status species, SRA habitat, and aquatic vegetation. These effects could be lethal or sublethal, affecting mortality, behavior and/or migratory and reproductive success. Aquatic vegetation and foraging habitat could also be affected by either loss or impaired or inhibited growth. As a result, effects of sediment disturbance and reduced water quality would be potentially significant and would adversely affect special-status species without avoidance, minimization, and mitigation measures. Mitigation measures to reduce potentially significant effects are described below.

In-water construction may result in physical injury or mortality to fish from activities that include pile driving, temporary platform installation, and placement of rock scour protection. Installation of access ramps, flood walls, or placement of rock scour protection could involve fish being crushed, although that risk would be expected to be low based on the limited spatial extent of the work, the timing of construction activities, and the high probability of fish avoiding such activities. Displacement of fish away from habitat near construction activities seems the most likely adverse effect. Fish that are rescued from stream segments prior to or during work could be injured and killed during rescue activities or as a result of handling. As a result, effects of the Proposed Action Alternative would be potentially significant and would adversely affect special-status species without avoidance, minimization, and mitigation measures. The Proposed Action Alternative would result in fewer environmental effects on fisheries and aquatic biological resources than the No Action Alternative.

The Proposed Action Alternative would feature a smaller project footprint due to a reduction in proposed rock scour and the absence of a berm proposed in the No Action Alternative.

Implementation of **BMP-1** through **BMP-5** would require erosion control measures and BMPs for construction activities to reduce potential effects to special-status species and their habitat resulting from sedimentation, turbidity and decreased water quality during construction. These would include, but not be limited to:

- Silt fencing would be installed in all upland areas where construction occurs within 100 feet of the water;
- Straw wattles and silt fencing on the temporary access ramp to prevent sediment from eroding into the Napa River;
- Turbidity curtains to limit the movement of turbidity and potential decrease water quality from excavation would be installed prior to in-water work commencement;
- Spoil sites and other debris areas would be located so they do not drain directly into any body of water. Spoil sites would be graded to reduce the potential for erosion; and
- All equipment refueling and maintenance during construction would occur more than 200 feet from the main channel. Any spill within the floodplain and active channel of the Napa River and Napa Creek would be reported to NMFS within 48 hours.

Water and water quality management during construction in the Napa River would also be conducted in accordance Section 401 and Section 404 of the Clean Water Act, and with the WDR Order #99-074 from the California RWQCB, as well as with any additional permitting requirements imposed on the Proposed Action Alternative to limit any potential water quality effects.

Implementation of the aforementioned measures, combined with seasonal in-water work restrictions and compliance with WDR Order #99-074, would provide multiple mechanisms of avoidance and minimization of potential water quality effects to special-status species. As a result, effects from sedimentation and decreased water quality would be reduced to less than significant and would not have an adverse effect on these special-status species.

Effects to special-status fish would be avoided and minimized through the implementation of the Conservation Recommendations (CR), Reasonable and Prudent Measures (RPM), and Terms and Conditions (TC) from the previous 1998 BO and 2000 Supplemental BO. The CRs, RPMs, and TCs listed below in **Table 3.6-4** are still required for the Proposed Action Alternative:

Table 3.6-4. Implementation Measures for Special-Status Fish

| Implementation Measure | Effects Avoided/Minimized |
|------------------------|---|
| RPM-1: | Sponsor with USACE oversight would actively manage the USACE Authorized Project along with other resource agencies, and the citizens of Napa, to minimize impacts to special-status species and their habitat, and to maximize habitat enhancement and restoration. |
| RPM-2: | Sponsor shall annually report to NMFS the status of Preferred Alternative activities and any take of special-status species resulting from construction or operation of the Preferred Alternative. |
| RPM-3: | All bank stabilization designs shall be reviewed and approved by NMFS. |
| RPM-4: | The habitat creation goals shall all be achieved. |

| Implementation Measure | Effects Avoided/Minimized |
|------------------------|---|
| RPM-6: | Sponsor shall minimize the adverse effects associated with fisheries monitoring in the Napa River and Napa Creek. |
| TC-1: | Adhere to all impact mitigation and seasonal construction windows which limit construction activities below ordinary high water to June 1 through October 31. |
| CR-1: | The use of biotechnical bank stabilization methods on an aggressive, adaptive management basis. |
| CR-3: | Development and implement a fish and wildlife population monitoring plan. |

Implementation of **MM BIO-A-1**, shown in **Table 3.6-6**, in combination with seasonal restrictions and limiting pile driving to daylight hours would provide fish a 12-hour period to recover between exposures or migrate through the area unexposed during nighttime hours, further limiting the proportion of any given fish run exposed to underwater noise. Thus, noise generated by pile driving and other in-water construction activities would be expected to affect only a small proportion of these fish populations in the Napa River and effects would be reduced to less-than-significant and would not have an adverse effect on special-status species.

In addition, as part of the previous federal and state permitting required for the USACE Authorized Project, habitat mitigation for effects to special-status species and their habitats have been required and implemented by the Sponsor. The mitigation provided to date is detailed in Appendix G, *Biological Resources*.

No new or continued in-water or bridge work is proposed for the O&M phase of the Proposed Action Alternative. All O&M work would occur along the floodwall in the upland area and would have no effect on the special-status fish species, or their habitats, listed in this section.

To further reduce potential effects to special-status species, **MM BIO-A-2** would be implemented. Implementation of mitigation measures BIO-6 and BIO-9 in the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, and **MM BIO-A-1** and **MM BIO-A-2** in combination with seasonal restrictions, the above-identified CRs, RPMs, and TCs and implementation of **BMPs** would provide multiple mechanisms of avoidance and minimization of effects through limiting and isolation of potential effects to special-status species and their habitats. It would also provide mitigation via the creation of special-status fish species' habitats within the Napa River and estuary as identified in Appendix G, *Biological Resources*. Therefore, the Proposed Action Alternative's effects on special-status fish would be reduced to a **less than significant effect with mitigation incorporated**.

Effect BIO-A-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW, NMFS, or USFWS?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Habitat effects that may lead to effects to Central California Steelhead

are identified in BIO-9 of the 1999 Final SEIS/EIR. Mitigation was proposed under BIO-9 in the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, to reduce effects to less than significant. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects to habitat or listed fish would occur. Through the implementation of mitigation measures BIO-9 in the 1999 Final SEIS/EIR, the No Action Alternative would not be expected to have a substantial or significant adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW, NMFS, or USFWS. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

With respect to sensitive natural communities associated with fish and aquatic species, construction of the Proposed Action Alternative would result in permanent loss of riverine habitat and temporary loss of SRA habitat. For effects to wetlands and other terrestrial-based sensitive natural communities please see **Effect BIO-T-3** in Section 3.12, *Terrestrial Biological Resources*, of this document.

Placement of rock scour protection and construction associated with the Proposed Action Alternative such as floodwalls would result in temporary and permanent effects to riverine habitat and temporary loss of SRA habitat. **Table 3.6-5** below provides a breakout by acreage of potential temporary and permanent effects to riverine and SRA habitat types that would result from the Proposed Action Alternative.

Although temporary effects would be restored to pre-construction condition, permanent removal of riverine habitat would be a potentially significant effect, and would adversely affect these habitats without avoidance, minimization, and mitigation measures.

Table 3.6-5. Fish and Aquatic Species-Related Sensitive Natural Communities

| Land Cover Type | Temporary Impacts (acres) | Permanent Impacts (acres) | Total Impacts (acres) |
|-------------------------|---------------------------|---------------------------|-----------------------|
| Riverine | 0.89 | 0.04 | 0.96 |
| Shaded Riverine Aquatic | 0.16 | 0.00 | 0.16 |

As discussed above in **Effect BIO-A-1** effects to SRA and fish and aquatic related sensitive natural communities would be avoided and minimized through the implementation of the CRs and RPMs from the previous 1998 BO and 2000 Supplemental BO, which are still required for the Proposed Action Alternative. These are cited above and include, but are not limited to: RPM-1, RPM-3, RPM-4, CR-1.

BMP-1 would be implemented to ensure that the area of potential impact on SRA habitat is as small as possible. Implementation of **BMP-1** would restore areas of temporary loss of SRA and riverine habitats that would result from the Proposed Action Alternative. Additionally, the previously required federal and state habitat mitigation for the USACE Authorized Project (RPM-4) has already been implemented by the Sponsor (Rincon 2022). The mitigation implemented to date is detailed in Appendix G – *Biological Resources* and encompasses the mitigation needs for the Proposed Action Alternative. There is no new or continued in-water or bridge work proposed for the O&M phase of the Proposed Action Alternative. All O&M work would occur along the floodwall in the upland area and would have no effect on SRA or other aquatic-based sensitive natural community. Therefore, the

Proposed Action Alternative would result in a **less than significant effect** to SRA and fish and aquatic related sensitive natural communities.

Effect BIO-A-3: Would the project interfere substantially with the movement of any native resident or migratory fish?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. In-water work would be required for the rock scour protection placement. The in-water work window would be June 1 to October 31 to avoid the migration and spawning periods of special-status aquatic species. The No Action Alternative would still have potential adverse effects to Central California Steelhead, which are identified in Effect BIO-6. A fish salvage plan was not proposed in the 1999 Final SEIS/EIR. Mitigation measure BIO-6d requires remediation if the No Action Alternative structures create a fish passage barrier. Through the implementation of mitigation measure BIO-6d in the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, the No Action Alternative would not be expected to interfere with the movement of any native resident or migratory fish. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

The Proposed Action Area is a migratory corridor for CCC steelhead and green sturgeon and likely provides localized movement among habitats for other special-status species. Installation of rock scour protection, work platform construction, and sediment excavation has the potential to alter the hydrology of the aquatic habitats in the Proposed Action Area and/or downstream if they are present. This could alter behavior and migratory patterns of special-status fish and would be a potentially significant effect and have an adverse effect without avoidance, minimization, and mitigation measures.

An in-water work construction window of June 1 to October 31 (as described in **Effect BIO-A-1**) would avoid the migration and spawning periods of special-status aquatic species. In addition, a fish salvage plan, as described in **MM BIO-A-2**, would reduce potential effects to native fish present in the Proposed Action Area during construction. No continued in-water or bridge work is proposed for the O&M phase of the Proposed Action Alternative. All O&M work would occur along the flood wall in the upland area and would have no effect on migratory corridors. With the implementation of the aforementioned CRs, RPMs, mitigation measures BIO-6 and BIO-9 in the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, and **MM BIO-A-2**, the Proposed Action Alternative would not result in a significant or adverse effect on the movement of any native resident or migratory fish. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Table 3.6-6. Mitigation Measures for Fisheries and Aquatic Biological Resources Effects of the Proposed Action

| Mitigation Measure | Description of Measure |
|---|---|
| MM BIO-A-1: Implement Measures to Avoid and Minimize Effects from Acoustic Disturbance | <p>The Sponsors contractor would use vibrational pile driving or padded hammer techniques where possible to prevent acoustic impacts to special-status fish species. Where the use of these techniques is not possible, an approved pile driving plan would be submitted to NMFS for approval prior to start of construction. All pile driving would comply with the Interim Criteria for Injury of Fish to Pile Driving Operations (FHWG 2008), which describes the level of sound exposure acceptable for different sizes of fish, and neither the sound exposure level nor the peak sound pressure level would be exceeded. Specifically:</p> <ul style="list-style-type: none"> • The Sound Exposure Level would not exceed 183 decibels for fish under 2 grams and 187 decibels for fish over 2 grams, in any single strike, measured at a distance of 32.8 feet from the source; and • The peak sound pressure level would not exceed 206 decibels in any single strike, measured at a distance of 32.8 feet from the source. • Pile driving would only occur during daylight hours. Restricted working hours would allow for relaxation periods and movement windows for special status fish present in the Proposed Action Area; • The number and size of piles would be developed as part of the final design and would be limited to the minimum necessary to meet the engineering and design requirements of the Proposed Action Alternative. • The use of other sound attenuation devices and methods, such as bubble curtains, may be utilized if needed to maintain Sound Exposure Levels below the NMFS Interim Criteria (NMFS 2008). |

| Mitigation Measure | Description of Measure |
|---|--|
| MM BIO-A-2: Implement Fisheries Salvage Plan | <p>A qualified fisheries biologist would design and conduct a fish rescue and salvage effort for fish and aquatic species in the temporary isolation area, which would involve the capture and relocation of those species to suitable habitat in the Napa River. In addition, a fisheries biologist would provide observation during construction. The Fish Rescue and Salvage Plan would be prepared and submitted to NMFS for approval a minimum of 30 days prior to isolation of the temporary in-water work area.</p> <p>At a minimum, the Fish Rescue and Salvage Plan would include:</p> <ul style="list-style-type: none"> • During rescue, special-status species shall be identified, measured, and counted immediately upon capture; and the time that special-status species are held in buckets, and handling stress during processing and release, shall be minimized; • Special-status species shall be processed before other fish species and released as soon as possible during rescue operations. Species name and length data shall be recorded on data sheets, as well as time, date, location, gear type, water temperature, salinity and any other pertinent observations of the special-status species; • Because of the potential for mortality during rescue, if any special-status species are killed, the individuals shall be preserved via freezing or placing in a container with 10 percent formalin solution. Information on time and exact location of any incidental take, method of take, length of time from death to preservation, water temperature, and any other relevant information shall be recorded in writing; • If any dead fish cannot be positively identified in the field, the specimen shall be bagged, labeled, and delivered to a CDFW or USFWS laboratory for positive identification. Frozen fish shall be kept as cold as possible. If identification does not occur on the same day as capture, the fish shall be placed in a freezer. Each bag shall have a waterproof paper tag with date, time, and location caught; • No one may remove any special-status species, dead or alive, from the site for personal use; and • After completing the fish rescue, the Designated Biologist shall prepare a brief documentation report. The report shall contain the species name and length data, as well as time, date, location, gear type, water temperature, salinity and any other pertinent observations, and information on the personnel conducting the rescue, methods used, number of each species collected and relocated, and an estimate of the survival rate of special-status species immediately after release. Photographs of the site and rescue operations shall be included. The report shall be provided by the Sponsor to NMFS within 30 days of completing the fish rescue. |

3.7 Geology and Soils

3.7.1 Existing Conditions

Table 3.7-1 details regional geology; fault rupture; seismicity and ground shaking; soils; subsidence and liquefaction; landslide, slope failure, and lateral spreading; and, expansive soils as they pertain to the Proposed Action Area.

Table 3.7-1. Regional Geological Conditions

| Geologic Category | Discussion |
|-------------------------------|---|
| Regional Geology | Napa County is located in the Coast Ranges Geomorphic Province, which is bounded on the west by the Pacific Ocean and on the east by the Great Valley Geomorphic Province (County of Napa 2008). The Coast Ranges Geomorphic Province has low mountains and intervening valleys, with Mount St. Helena being the highest topographic feature within the County at 4,343 feet. Rocks in the Coast Range are comprised of Quaternary aged surficial deposits largely characterized by unstratified, geologically young materials (clay, silt, sand, rock fragments and gravel, and organic material) lying on bedrock (or older deposits or other sedimentary materials) at or near the Earth's surface (County of Napa 2008). Quaternary alluvium deposits, including marine and nonmarine sedimentary rocks underlie the Proposed Action Area (California Department of Conservation (DOC) 2015). Minor pyroclastic deposits, including Tertiary volcanic flow rocks, underlie a portion of the Proposed Action Alternative staging area on the east bank of the Napa River. |
| Fault Rupture | Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. According to Figure 4.10-2, Napa County Fault Features, in the Napa County General Plan, the Proposed Action Alternative is located outside of an Alquist Priolo Fault Zone (County of Napa 2007). |
| Seismicity and Ground Shaking | <p>Ground shaking (or seismic shaking) is a general term referring to all aspects of motions of the earth's surface resulting from an earthquake. Seismically induced ground shaking can cause substantial damage to roadways, bridges, and other infrastructure. The breadth of the damage is determined by multiple interconnecting factors including: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surficial deposits or bedrock, degree of consolidation of surficial deposits, presence of high ground water, topography, and design, type, and quality of building construction (County of Napa 2008).</p> <p>Fault areas considered to be of greatest risk in California are identified as Alquist-Priolo fault zones. Soda Creek Fault is a quaternary fault that borders sections of the Proposed Action Area to the east (DOC 2015). However, Soda Creek Fault is not active (County of Napa 2008).</p> <p>There are four known faults that are of concern to Napa. These include West Napa, Hunting Creek, Green Valley, and Cordelia, located approximately 2 miles, 31 miles, 7 miles, and 9 miles east of the Proposed Action Area, respectively. According to The Association of Bay Area Governments' "Earthquake Hazard Map for the Entire Bay Area Scenario: West Napa Fault," the southern portion of Napa County could be subject to Violent (Modified Mercalli IX) and Very Strong (Modified Mercalli VIII) movement as a result of a 6.5 magnitude event from the West Napa Fault. Based on data presented in the Napa County General Plan EIR, there is a 67% chance for a 6.7 or larger magnitude earthquake to occur in the Bay Area by the year 2032 (County of Napa 2008).</p> |

| Geologic Category | Discussion |
|--|---|
| Soils | <p>The principal soil series in the Napa Valley is Bale-Cole-Yolo, which have formed on the nearly level, gently sloping, deep alluvium of the Valley. The soils range from well drained to somewhat poorly drained loams, silt loams, and clay loams on flood plains, alluvial fans and terraces. Soil in areas that border major waterways are susceptible to sporadic flooding events (County of Napa 2007).</p> |
| Subsidence and Liquefaction | <p>The term subsidence describes the compression of soils after groundwater withdrawal or oxidation of buried organic material. Areas consisting of fine-grained sediments are more susceptible to ground subsidence. As ground levels are lowered from subsidence, flooding is more likely to occur. In addition, subsidence can result in damage to structures, utilities, and roadways from differential settlement. As the population of Napa increases, the development of urban, rural, agricultural, and public facilities could expose people, structures, and development to damage from subsidence and settling (County of Napa 2007).</p> <p>Liquefaction is the temporary transformation of granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. Areas with loose, well-draining, granular soil types have a higher liquefaction potential, especially in soil layers where the groundwater table is closer to the surface. According to Figure 4.10-3, Liquefaction Susceptibility, in the Napa County General Plan, the Proposed Action Area is in areas designated as high and very high for liquefaction susceptibility (County of Napa 2008).</p> |
| Landslide, Slope Failure and Lateral Spreading | <p>Areas with unstable slopes, where the underlying geology is predominantly weaker, are prone to landslides and mudslides. Landslides commonly occur after bouts of unusually high rainfall, which can result in increased soil saturation, by earthquakes, or a combination of these conditions. However, due to volcanic base rock, the nearly vertical slopes in the east side of the City of Napa are stable. According to regional liquefaction hazard mapping from USGS, cited in the City of Napa General Plan, areas along Napa River, Napa Creek, and Tulocay Creek are categorized as moderate-to-high, high, or very high and have increased susceptibility to liquefaction (City of Napa 2022).</p> <p>Lateral spreading is horizontal displacement that can occur on gently sloping ground (areas with a slope of 5 percent or less) along riverbanks or exposed embankments. Most of the County is not susceptible to lateral spreading; however, in alluvial areas adjacent to open stream channels (where a bank or terrace face exists) there is a potential risk of limited lateral spreading. Slopes along the Napa River in the vicinity of the Proposed Action Area are steeper and unlikely to be susceptible to lateral spreading (Napa County 2007).</p> |
| Expansive Soils | <p>Certain clay-rich soils can shrink and swell in response to seasonal changes in their moisture content and are referred to as expansive soils. Expansive soils exist at a number of locations in Napa County, and such conditions are typical in much of the Bay Area (County of Napa 2008). In the event of a large earthquake, the risk of damage within the County ranges from moderate to low in the unconsolidated deposits of colluvium, alluvium, and marsh/bay mud (hill-front, valley, and near bay front areas, respectively) to minimal in areas underlain by bedrock (primarily hill-slopes) (County of Napa 2007). The County of Napa requires site-specific geotechnical investigations on new development projects to prevent negative impacts caused by expansive soils. (County of Napa 2007).</p> |

3.7.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze geology and soils characteristics within the Proposed Action Area. The potential effects from construction, operations, and maintenance of the Proposed Action Alternative on geologic, seismic, and soil-related hazards were evaluated qualitatively and quantitatively using known geologic, seismic, and soils data and regulations that would be applicable to the Proposed Action.

The methods used for analyzing effects on geology and soils included a review of information from published maps, and Napa County publications and reports pertaining to the Proposed Action Area. The primary data sources for effect analysis include the following:

- Napa County Code of Ordinances (Napa County 2023)
- Napa County General Plan (Napa County 2008)
- Napa County General Plan Update – Final Environmental Impact Report (2007)
- City of Napa 2040 General Plan (City of Napa 2022)
- U.S. Geological Survey geologic maps (USGS 2002)

Summary of Effects from 1999 Final SEIS/EIR

Geology and soils effects were examined in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. Results of the 1999 Final SEIS/EIR analysis indicated that USACE Authorized Project would not result in effects to geology and soils, as documented in Section 6.5 of the 1999 Final SEIS/EIR. Therefore, geology and soils were not addressed in detail in the 1999 Final SEIS/EIR. The basis for this dismissal was that geotechnical evaluations have and will provide sound design for all project structures and facilities, and that there were no anticipated significant effects to or from geology with implementation of the 1999 Preferred Alternative of the USACE Authorized Project.

Summary of Geology and Soils Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.7-2**.

Table 3.7-2. Summary of Geology and Soils Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------|---|------------------------------|
| <i>No Action Alternative</i> | | |
| GEO-1 | Cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, or seismic-related ground failure, including liquefaction or inducing landslides | Less than significant effect |
| GEO-2 | Result in substantial soil erosion or the loss of topsoil | Less than significant effect |

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|---|------------------------------|
| GEO-3 | Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| GEO-1 | Cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, or seismic-related ground failure, including liquefaction or inducing landslides | Less than significant effect |
| GEO-2 | Result in substantial soil erosion or the loss of topsoil | Less than significant effect |
| GEO-3 | Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse | Less than significant effect |

Effect GEO-1: Cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; or seismic-related ground failure, including liquefaction or landslides?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative is located outside of the Alquist Priolo Fault Zone (County of Napa 2007). The Soda Creek Fault borders the Proposed Action Area to the east; however, it is not considered active. Geotechnical evaluations required as part of the No Action Alternative would guide sound seismic design for all structures and facilities. The proposed floodwalls and raised berm would also be designed to meet USACE standards and seismic criteria. The No Action Alternative would not cause potential substantial or significant adverse effects for the risk of loss, injury, or death involving rupture of a known earthquake fault, to exacerbate ground shaking, or seismic-related ground failure including liquefaction or landslides. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The Proposed Action Alternative is located outside of the Alquist Priolo Fault Zone (County of Napa 2007). The Soda Creek Fault borders the Proposed Action Area to the east; however, it is not considered active. Active faults, including West Napa, Hunting Creek, Green Valley, and Cordelia, are located approximately 2 miles, 31 miles, 7 miles, and 9 miles east of the Proposed Action Area, respectively. Geotechnical evaluations required as part of the Proposed Action Alternative would

guide sound seismic design for all structures and facilities. The proposed floodwalls would also be designed to meet USACE standards and seismic criteria.

Table 3.7-3. Risk Based on Known Fault

| Category | Discussion |
|----------------|---|
| Ground Shaking | Ground shaking is a general term referring to the motion of the earth's surface resulting from an earthquake. The closest mapped active fault is the West Napa Fault, which is located approximately 2 miles away from the Proposed Action Area. According to the Association of Bay Area Governments' "Earthquake Hazard Map for the Entire Bay Area Scenario: West Napa Fault," the southern portion of Napa County could be subject to Violent (Modified Mercalli IX) and Very Strong (Modified Mercalli VIII) movement as a result of a 6.5 magnitude event from the West Napa Fault. Based on data presented in the Napa County General Plan EIR, there is a 67% chance for a 6.7 or larger magnitude earthquake to occur in the Bay Area by the year 2032. (County of Napa 2008). The Proposed Action has the potential to experience strong seismic ground shaking from nearby faults in the County; however, geotechnical evaluations would guide sound seismic design for all Proposed Action structures. |
| Liquefaction | Liquefaction is a process in which uniform, clean, loose, fine sandy, and silty sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. According to Figure 4.10-3, Liquefaction Susceptibility, in the Napa County General Plan, the Proposed Action Area is in areas designated as high and very high for liquefaction susceptibility (County of Napa 2007). According to regional liquefaction hazard mapping from USGS, cited in the City of Napa General Plan, areas along Napa River, Napa Creek, and Tulocay Creek are categorized as moderate-to-high, high, or very high and have increased susceptibility to liquefaction (City of Napa 2022). Therefore, the Proposed Action Area could experience liquefaction in the event of a large earthquake. However, the proposed floodwalls and rock scour protection, would be designed to meet USACE standards and would be composed of approved materials and structures. Further, geotechnical evaluations would provide data on soils that would inform the design in areas with potential liquefaction concerns. |
| Landslides | Landslides refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under gravitational influence. There are no zones of required investigation for landslides identified in the Proposed Action Area and the topography in the Proposed Action Area is generally flat, with the exception of the banks of the Napa River. The Proposed Action Area is not located in an area designated for high landslide hazard potential (USGS 2023). Further, geotechnical evaluations would guide and provide sound design for all Proposed Action structures, which would meet USACE standards. |
| O&M | Operation and maintenance activities would mostly occur in previously disturbed areas, resulting in no potential for the risk of loss, injury, or death involving rupture of a known earthquake fault, to exacerbate ground shaking, or seismic-related ground failure including liquefaction or landslides. |

The Proposed Action Alternative would not cause potential substantial or significant adverse effects for the risk of loss, injury, or death involving rupture of a known earthquake fault, to exacerbate ground shaking, or seismic-related ground failure including liquefaction or landslides. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Effect GEO-2: Result in substantial soil erosion or the loss of topsoil?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Ground disturbance, excavation, and other construction activities associated with the No Action Alternative would remove ground cover and expose and disturb soils, which makes soils vulnerable to erosion. The No Action Alternative would have to comply with the National Pollutant Discharge Elimination System (NPDES) General Permit and a Stormwater Pollution Prevention Plan (SWPPP) would have to be prepared and implemented. SWPPP BMPs include measures to reduce erosion from disturbed areas, prevent sediment from migrating off site, provide dust and tracking control, and prescribe good housekeeping practices for material storage and stockpile management. Additionally, at Station 858+00, biotechnical measures would be used to stabilize the bank where a significant erosion problem exists. The channel bottom at this location would be modified by excavation to redirect flows away from the west bank and across a point bar on the east side of the river. Thus, once constructed, the proposed floodwalls, raised berm, rock scour protection, and biotechnical measures would minimize long-term erosion conditions in the No Action Area. The No Action Alternative would not result in substantial or significant soil erosion or topsoil loss. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

Ground disturbance, excavation, and other construction activities associated with the Proposed Action Alternative would remove ground cover and expose and disturb soils. Exposed and disturbed soils are vulnerable to erosion. As part of the Proposed Action Alternative, coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit would be obtained from the RWQCB. The NPDES General Permit requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for projects with greater than one acre of disturbance to control stormwater runoff within the construction and staging areas, thus minimizing soil erosion and effects to surface waters to the extent possible. SWPPP BMPs include measures to reduce erosion from disturbed areas, prevent sediment from migrating off site, provide dust and tracking control, and prescribe good housekeeping practices for material storage and stockpile management. Additionally, once constructed, the proposed floodwalls and rock scour protection would minimize long-term erosion conditions in the Proposed Action Area.

O&M activities would not include ground disturbing activities that could expose or disturb soil.

The Proposed Action Alternative would not result in substantial or significant soil erosion or topsoil loss. As a result, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Effect GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Area is not located in an area designated for high landslide hazard potential (USGS 2023). However, expansive soils exist at several locations in Napa County, and the No Action Area is in areas designated as high and very high for liquefaction susceptibility (County of Napa 2007). Therefore, the No Action Area could experience liquefaction in the event of a large earthquake. Geotechnical evaluations required as part of the No Action Alternative would guide sound seismic design for all structures and facilities. The proposed floodwalls and raised berm would also be designed to meet USACE standards and seismic criteria. Thus, the No Action Alternative would not be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

Land subsidence results in a slow-to-rapid downward movement of the ground surface as a result of the vertical displacement of the ground surface, usually resulting from groundwater withdrawal. Soils in the Proposed Action Area are well drained to somewhat poorly drained loams, silt loams, and clay loams on flood plains, alluvial fans and terraces. The Proposed Action Area is not located in an area designated for high landslide hazard potential (USGS 2023). However, expansive soils exist at several locations in Napa County, and the Proposed Action Area is in areas designated as high and very high for liquefaction susceptibility (County of Napa 2007). Therefore, the Proposed Action Area could experience liquefaction in the event of a large earthquake. The proposed floodwalls and rock scour protection would be designed to meet USACE standards and would be composed of approved materials and structures. Although the Proposed Action Area may be located on a geologic unit or soil that has a marginal potential for liquefaction and subsidence, due to the nature of the proposed improvements, this risk would be low and would exist with or without construction of the Proposed Action Alternative. O&M activities would not include extensive ground disturbing activities that could expose or disturb soil. The Proposed Action Alternative would not result be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. As a result, the Proposed Action Alternative would result in a **less than significant effect**, and no mitigation is required or recommended.

3.8 Hazards and Hazardous Materials

3.8.1 Existing Conditions

A description of the Proposed Action Alternative's proximity to existing schools and airports in the Proposed Action Area, emergency response plans and evacuation routes, and fire hazards is presented in **Table 3.8-1** below.

Table 3.8-1. Hazards Setting and Proximity

| Category | Description |
|---|---|
| Schools | <p>Schools near the Proposed Action Area include:</p> <ul style="list-style-type: none"> • Blue Oak Middle School, located approximately 0.33 miles west of the southern end of Proposed Action Area; • New Technology High School, located approximately 0.40 miles west of the southern end of the Proposed Action Area; • Mayacamas Countywide Middle School, located approximately 0.25 mile west of the Proposed Action Area; • McPherson Elementary School, located approximately 0.70 mile west of the Proposed Action Area; and, • Alta Heights Elementary School, located approximately 0.50 mile east of the southern end of the Proposed Action Area. |
| Airports | <p>There are no public use airports within two miles of the Proposed Action Area. The nearest airport is the Napa County Airport, located approximately 7 miles south of the Proposed Action Area. The Proposed Action Alternative is not located within an airport land use plan.</p> |
| Fire Hazards | <p>According to the California Department of Forestry and Fire Protection (CAL FIRE), the Proposed Action Area is located in a local responsibility area, outside of a Very High Fire Hazard Severity Zone (CAL FIRE 2022).</p> |
| Emergency Response and Emergency Evacuation | <p>Napa County is located in the Governor's Office of Emergency Services Coastal Region and Mutual Aid Region II. There are approximately 55 evacuation zones in the City of Napa, which are roughly drawn along major streets and are based on an algorithm that considers fire history and population density. The Proposed Action Area is located within evacuation zones NAP-EO32 and NAP-EO26 for various hazardous events (Napa County 2023). There are no designated evacuation routes in the City; however, major roads such as SR 29 and SR 221 are critical corridors for circulation in the event of an emergency (City of Napa 2022).</p> |

A Phase I Environmental Site Assessment (ESA) was completed for Silverado Towing located at 501 North Bay Drive (Terracon 2023). The Accessor Parcel Number (APN) for this site is 044-220-017. This site adjoins the Napa River, Napa River Pet Hospital, and Ace & Vine. According to the Phase I ESA, the site is listed on the California Hazardous Material Incident Report System (CHMIRS), Emergency Response Notification System (ERNS), Facility Registry Service/Facility Index, Hazardous Waste Manifest Data, Generators from Hazardous Waste Manifest Data, Historical Hazardous Waste Manifest Data, Historical Hazardous Substance Storage Container Information - Facility Summary (HIST TANK), Napa County – Local Oversight Program List, Leaking Underground Storage Tank (LUST), and Underground Storage Tank Statewide Environmental Evaluation and Planning System (UST SWEEPS) databases (Terracon 2023).

According to the HIST TANK, LUST, and UST SWEEPS databases, one 2,500-gallon unleaded regular fuel UST was installed for the site, formerly Patterson Bus Company, in July 1985, and a

LUST case was opened in April 1993 due to unauthorized release of diesel. The site underwent various site investigation and remediation activities associated with the removal of the 2,500-gallon diesel UST. In 1995, 200 cubic yards of soil were over-excavated and stockpiled on-site. Contaminated soil was still present on the east wall of the excavation; however, a power pole prevented further soil removal in this area. Groundwater samples were also collected at the site from 1997 to 2000.

In September 2001, a Case Closure was issued by Napa County Division of Environmental Management (NCDEM); however, a note was attached to the closure indicating that NCDEM should be contacted prior to any well installation on-site or on adjoining properties. Based on the residual diesel impact in the soil on the eastern area of the site and case closure by the NCDEM, this represents a Controlled Recognized Environmental Condition (CREC) (Terracon 2023).

The CHMIRS, ERNS, and ERNS PFAS listings are related to the following incidents: illegal dumping such as dumped waste oil into the soil and dumped oil product into Napa River; pushing of trash and dirt into the river; a car catching fire in the tow yard; and use of firefighting foam on site. Based on site observations and history of spills onsite, and the lack of documentation cleanup, the above referenced spills represent a Recognized Environmental Condition (REC) to the site. Additionally, roof shingles, concrete, and building debris at the site potentially contain Asbestos Containing Materials (ACM), which represents a business environmental risk (BER) (Terracon 2023).

Power lines are also located within the Proposed Action Area and may require relocation for construction of the Proposed Action Alternative. These power lines may include old transformers that may contain polychlorinated biphenyls (PCBs) or PCB-contaminated material.

3.8.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze hazards and hazardous materials characteristics within the Proposed Action Area. The potential effects from construction, operations, and maintenance of the Proposed Action on hazards and hazardous materials were evaluated qualitatively using known hazards and hazardous materials data and regulations that would be applicable to the Proposed Action Alternative.

A desktop analysis was completed to collect and analyze data related to hazards and hazardous materials in the Proposed Action Area. Information was collected on known hazardous material sites within the Proposed Action Area and geographic information system (GIS) data and aerial imagery were used to identify the hazardous sites within the Proposed Action Area. Additionally, the following resources were used for data collection:

- EnviroStor Database (EnviroStor 2023)
- GeoTracker Database (SWRCB 2023)
- CAL FIRE Fire Hazard Severity Zone Maps (CAL FIRE 2022)

A Phase I ESA was also completed for the Proposed Action Area by Terracon for the Silverado Towing property located at 501 North Bay Drive (see Section 3.8.1 above). The Phase I ESA recommends the preparation of a Soil Management Plan prior to future development and earthwork to address potential encounters with hydrocarbon and per- and polyfluoroalkyl substances (PFAS) impacted soil and unknown subsurface conditions associated with the reported historical tow yard

and storage located at 501 North Bay Drive. The Phase I ESA also recommends that suspected ACM be sampled for asbestos and transported off-site per regulatory guidelines (Terracon 2023).

Summary of Effects from 1999 Final SEIS/EIR

Hazardous substances were analyzed in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. Results of the analysis in the 1999 Final SEIS/EIR indicated that significant effects would occur from the routine transport, use, or disposal of hazardous materials; and accident conditions involving the likely release of hazardous materials into the environment. Mitigation measures were proposed to reduce these effects to a less than significant level, and these measures still apply. Additional effects were identified related to several remediation sites that were identified in the USACE Authorized Project footprint. Mitigation measures were established in the 1999 Final SEIS/EIR Section 3.3.4, *Hazardous Substances Impacts and Mitigation Measures*, to address effects related to these sites and would be applicable to the Proposed Action Alternative evaluated in this SEA if they are encountered in the current Proposed Action Area. The potential for encountering contaminated soil and PCBs due to relocation or power lines and removal of transformers was also identified in the 1999 Final SEIS/EIR and mitigation measures were identified for soil sampling and disposing of any contamination accordingly, and these measures still apply.

Summary of Hazards and Hazardous Materials Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.8-2**.

Table 3.8-2. Summary of Hazards and Hazardous Materials Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|---|---|
| <i>No Action Alternative</i> | | |
| HAZ-1 | Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. | Less than significant effect with mitigation incorporated |
| HAZ-2 | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. | Less than significant effect with mitigation incorporated |
| HAZ-3 | Be located on a known hazardous materials site and, as a result, would create a significant hazard to the public or the environment. | Less than significant effect with mitigation incorporated |
| HAZ-4 | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| HAZ-1 | Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. | Less than significant effect with mitigation incorporated |

| Effect Number | Effect Statement | NEPA Effect Determination |
|---------------|--|---|
| HAZ-2 | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. | Less than significant effect with mitigation incorporated |
| HAZ-3 | Be located on a known hazardous materials site and, as a result, would create a significant hazard to the public or the environment. | Less than significant effect with mitigation incorporated |
| HAZ-4 | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | Less than significant effect |

Effect HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative would involve the transport and use of common construction materials such as vehicle fuels, grease, lubricants, and drilling fluids which could pose a threat as hazardous materials. The use of these materials, including their routine transport and disposal, carries the potential for an accidental release into the local environment, including near the Napa River. During clearing, grubbing excavation, utility replacement, use of large earthmoving construction equipment, vehicle and equipment fueling, and other construction activities for the No Action Alternative, it is anticipated that limited quantities of miscellaneous hazardous substances would be used in the No Action Area. Organics, trash, and demolished material would be off-hauled, and the No Action Alternative would not discharge liquid construction wastes to surface or groundwaters in the area. Construction disturbance, including disturbance near surface waters, has the potential to result in the accidental release of fuel and other construction material to the environment. Spill prevention measures would be included in the construction plans and monitored by the SWPPP for the proposed improvements to address the accidental or inadvertent release of oil, grease, or fuel into adjacent waterways. Also, mitigation measures WQ-3a through 3c from the 1999 Final SEIS/EIR Section 3.2.4, *Water Quality Impacts and Mitigation Measures*, address accidental or inadvertent spills, and these measures are still applicable and would be implemented to reduce nonpoint source runoff and water quality degradation due to accidental spills and construction activities. Implementation of the SWPPP, BMPs, and mitigation measures WQ-3a through 3c would be employed to reduce the extent of potential spills or release of hazardous materials into the environment for the No Action Alternative. The No Action Alternative would also comply with all relevant federal, state, and local statutes and regulations related to transport, use (including material storage procedures), or disposal, of hazardous materials. Thus, the No Action Alternative would not be expected to create a significant

hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment and would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

The Proposed Action Alternative would involve the transport and use of common construction materials such as vehicle fuels, grease, lubricants, and drilling fluids which could pose a threat as hazardous materials. The use of these materials, including their routine transport and disposal, carries the potential for an accidental release into the local environment, including near the Napa River. During clearing, grubbing excavation, utility replacement, use of large earthmoving construction equipment, vehicle and equipment fueling, and other construction activities for the Proposed Action, it is anticipated that limited quantities of miscellaneous hazardous substances would be used in the Proposed Action Area and staging areas. These would include petroleum-based products/fluids, solvents, oils, and potentially asbestos bearing materials from old structures onsite.

Organics, trash, and demolished material would be off-hauled, and the Proposed Action Alternative would not discharge liquid construction wastes to surface or groundwaters in the area. Construction disturbance, including disturbance near surface waters, has the potential to result in the accidental release of fuel and other construction material to the environment. Spill prevention measures would be included in the construction plans and monitored by the SWPPP for the proposed improvements to address the accidental or inadvertent release of oil, grease, or fuel into adjacent waterways. Mitigation measures WQ-3a through 3c from the 1999 Final SEIS/EIR Section 3.2.4, *Water Quality Impacts and Mitigation Measures*, address accidental or inadvertent spills, and these measures are still applicable and would be implemented to reduce nonpoint source runoff and water quality degradation due to accidental spills and construction activities. Implementation of the SWPPP, BMPs, and mitigation measure **MM-HAZ-1** shown in **Table 3.8-3**, which includes mitigation measures WQ-3a through 3c from the 1999 Final SEIS/EIR would be employed to reduce the extent of potential spills or release of hazardous materials into the environment for the Proposed Action Alternative.

Water management in the Napa River would be required during construction for placement of rock scour protection under Lincoln Avenue Bridge to control turbidity. Water and water quality management during construction in the Napa River would be conducted in accordance with WDR Order #99-074 as well as any additional permitting requirements imposed on the Proposed Action and to limit any potential water quality effects.

The Proposed Action Alternative would comply with all relevant federal, state, and local statutes and regulations related to transport, use (including material storage procedures), or disposal, of hazardous materials. The SWPPP and BMPs (as required by federal state and local regulations), would minimize hazards resulting from routine transport, use, or disposal of hazardous materials. Additionally, the Proposed Action Alternative would be regulated by the Napa County Division of Environmental Health as the CUPA for Napa County and would be subject to the *Napa County Area Plan*. The *Napa County Area Plan* identifies the hazardous materials which pose a threat to the community; develops procedures and protocols for emergency response; provides for notification and coordination of emergency response personnel; and provides for public safety including notification and evacuation.

O&M activities would include routine inspections and minor vegetation trimming. Activities would be performed in conformance with relevant federal, state, and local statutes and regulations related to transport, use, or disposal, of hazardous materials.

The Proposed Action Alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Temporary construction activities would occur as described above and would involve the transport, use and disposal of hazardous materials. However, all construction activities would be carried out according to local, state, and federal regulations. Implementation of the SWPPP, BMPs, and **MM-HAZ-1** would be employed to reduce the extent of potential spills or release of hazardous materials into the environment for the Proposed Action Alternative. Thus, the Proposed Action Alternative would not be expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment and would result in a **less than significant effect with mitigation incorporated**.

Effect HAZ-2: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. One school, Mayacamas Countywide Middle School, is located within one-quarter mile of the No Action Area. The No Action Alternative would require construction vehicles to be operated within the No Action Area over the construction duration, which could result in emissions of air quality pollutants within one-quarter mile of an existing school. Fuel combustion results in the release of air quality pollutants that can be considered hazardous. Impact AIR-1 of the 1999 Final SEIS/EIR addresses construction effects of the No Action Alternative, which were identified as temporary but also potentially significant. Therefore, mitigation was proposed under AIR-1a through AIR-1g in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, to reduce effects to less than significant. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects to air quality would occur. Through the implementation of mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR, the No Action Alternative would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school or expose sensitive receptors to substantial or significant pollutant concentrations. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

Five schools are located within one mile of the Proposed Action Area. Only one school, Mayacamas Countywide Middle School, is located within one-quarter mile of the Proposed Action Area. The Proposed Action Alternative would require construction vehicles to be operated within the Proposed Action Area over the construction duration, which could result in emissions of air quality pollutants within one-quarter mile of an existing school. Fuel combustion results in the release of air quality pollutants that can be considered hazardous.

As discussed in Section 3.4, *Air Quality*, construction activities would be temporary and short-term. The floodwall would be constructed in several-hundred-foot segments at a time as it progresses along the alignment, and only portions of the Proposed Action Area would be disturbed at a time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location in the Proposed Action Area. Periodic operation of construction equipment would allow for the dispersal of DPM by avoiding continuous construction activity in the portions of the Proposed Action Area closest to existing sensitive receptors. Furthermore, compliance with the ARB airborne toxic control measures anti-idling measure, which limits idling to no more than 5 minutes at any location for diesel-fueled commercial vehicles, would further minimize DPM emissions in the Proposed Action Area.

The Proposed Action Alternative would involve implementation of a Project SWPPP, compliance with the ARB airborne toxic control measures anti-idling measure, and consistency with hazardous materials handling and air quality district requirements. As discussed in Section 3.4, *Air Quality*, when schools, residential areas, or other sensitive land uses are located near the construction site, BAAQMD recommends that projects implement enhanced BMPs, in addition to the basic BMPs, to control fugitive dust emissions (BAAQMD 2023). Therefore, to reduce effects related to fugitive dust emissions during construction, mitigation measures AIR-1a:1g in the 1999 Final SEIS/EIR Section 3.13.4, *Air Quality Impacts and Mitigation Measures*, and mitigation measures **MM-AQ-1** and **MM-AQ-2** (described in Section 3.4) would be implemented.

As discussed above, O&M of the Proposed Action Alternative would require routine inspections and minor vegetation trimming. This would involve the use of a small number of trucks and equipment that would use and emit potentially hazardous materials. However, these vehicles would not be operated in areas near schools and these inspections would be performed infrequently; therefore, the inspections would not increase the potential for emissions significantly over existing levels. Additionally, no long-term generators or stationary sources are included as part of the Proposed Action. The Proposed Action Alternative would not generate significant quantities of operational DPM because O&M activities would be infrequent and require minimal diesel-powered equipment.

With the implementation of mitigation measures **MM-AQ-1** and **MM-AQ-2**, the Proposed Action would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school or expose sensitive receptors to substantial or significant pollutant concentrations. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect HAZ-3: Be located on a known hazardous materials site and, as a result, would create a significant hazard to the public or the environment.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Effect HAZ-1 of the 1999 Final SEIS/EIR identifies the potential effects of the No Action Alternative on known clean-up sites. None of the previously identified known clean-up sites in the 1999 Final SEIS/EIR occur in the Action Area. However, another site that was not previously identified, Silverado Towing located at 501 North Bay Drive, is in the Action Area and may be potentially affected by the No Action Alternative. A Phase I ESA was completed for Silverado

Towing (Terracon 2023). This site adjoins the Napa River, Napa River Pet Hospital, and Ace & Vine. Effects from residual diesel in the soil in the eastern area of the site represent a CREC. The CHIRMS, ERNS, and ERNS PFAS listings related to illegal dumping and spills represent a REC to the site. Additionally, roof shingles, concrete, and building debris at the site potentially contain ACM and represent a BER (Terracon 2023). Based on the Phase I ESA, it is recommended that a Soil Management Plan be prepared prior to future development and earthwork to address potential encounters with hydrocarbon and PFAS impacted soil and unknown subsurface conditions associated with the reported historical tow yard and storage located at 501 North Bay Drive. It is also recommended that suspected ACM be sampled for asbestos and transported off-site per regulatory guidelines (Terracon 2023).

Potentially contaminated soils or groundwater encountered during ground disturbing activities would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES construction general permit thus reducing effects. Additionally, any hazardous materials encountered, including contaminated soils and groundwater, would be managed and disposed of in accordance with DTSC regulations. However, given that there is potential contamination in the No Action Area that represents a CREC, REC, and BER, effects during construction would be potentially significant. To reduce effects mitigation measures HAZ-1 and HAZ-4a in the 1999 Final SEIS/EIR Section 3.3.4, *Hazardous Substances Impacts and Mitigation Measures*, would be implemented. Through the implementation of mitigation measures HAZ-1 and HAZ-4a in the 1999 Final SEIS/EIR, the No Action Alternative would not create a significant hazard to the public or the environment as a result of being located on a known hazardous materials site. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

According to the DTSC EnviroStor Database (DTSC 2023), hazardous material database listings near the Proposed Action Area include 3011 Soscol Avenue and 750 Randean Way. 3011 Soscol Ave, located 0.25 northwest of the Proposed Action Area, is not a concern to the Proposed Action Alternative given its distance from the Proposed Action Area. Contaminated soils at the 750 Randean Way property were excavated and disposed off-site, resulting in a determination of no further action by the RWQCB. Therefore, 750 Randean is also not a concern to the Proposed Action Alternative.

In addition to the sites above, a Phase I ESA was completed for Silverado Towing, located at 501 North Bay Drive (Terracon 2023). This site adjoins the Napa River, Napa River Pet Hospital, and Ace & Vine. As discussed, effects from residual diesel in the soil in the eastern area of the site represent a CREC. The CHIRMS, ERNS, and ERNS PFAS listings related to illegal dumping and spills represent a REC to the site. Additionally, roof shingles, concrete, and building debris at the site potentially contain ACM and represent a BER (Terracon 2023). Based on the Phase I ESA, it is recommended that a Soil Management Plan be prepared prior to future development and earthwork to address potential encounters with hydrocarbon and PFAS impacted soil and unknown subsurface conditions associated with the reported historical tow yard and storage located at 501 North Bay Drive. It is also recommended that suspected ACM be sampled for asbestos and transported off-site per regulatory guidelines (Terracon 2023).

Potentially contaminated soils or groundwater encountered during ground disturbing activities would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES construction general permit thus reducing effects. Additionally, any hazardous materials

encountered, including contaminated soils and groundwater, would be managed and disposed of in accordance with DTSC regulations. Specialty contractors may be required to assess contaminated soils, groundwater, or hazardous materials if encountered during construction and the Sponsor would be required to retain such services. Nonetheless, there is potential contamination in the Proposed Action Area that represents a CREC, REC, and BER, effects during construction would be potentially significant. To minimize effects mitigation measures **MM-HAZ-1** and **MM-HAZ-2** would be implemented, shown in **Table 3.8-3**. The contractor would implement these measures prior to construction and would abide by these measures during construction.

Once the proposed floodwalls are constructed and any potential soil contamination is dealt with accordingly prior to and if encountered during construction, it is not anticipated that O&M activities would encounter hazardous properties or contamination. O&M activities would include routine inspections and minor vegetation trimming. Activities would be performed in conformance with relevant federal, state, and local statutes and regulations related to transport, use, or disposal, of hazardous materials.

Therefore, with the implementation of mitigation measures **MM-HAZ-1** and **MM-HAZ-2**, the Proposed Action Alternative would not be located on a known hazardous materials site and, as a result, would it create a significant hazard to the public or the environment. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect HAZ-4: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Area is located within evacuation zones NAP-EO32 and NAP-EO26 for various hazardous events (Napa County 2023). Major roads such as SR 29 and SR 221 in the City of Napa used for emergency access do not intersect the No Action Area, and construction of the No Action Alternative would not interfere with the use of these routes. In the event of a large flood event, the Sponsor would be responsible for closing existing floodgates in the No Action Area. Construction of the proposed floodwalls and raised berm would be done incrementally and would not interfere with emergency response or access. Thus, the No Action Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The Proposed Action Area is located within evacuation zones NAP-EO32 and NAP-EO26 for various hazardous events (Napa County 2023). There are no designated evacuation routes in the City; however, major roads such as SR 29 and SR 221 are critical corridors for circulation in the event of an emergency (City of Napa 2022). SR 29 and SR 221 do not intersect the Proposed Action Area, and construction of the Proposed Action Alternative would not interfere with the use of these routes.

In the event of a large flood event, the Sponsor would be responsible for closing existing floodgates near the Proposed Action Area.

The proposed floodwall would be constructed in several-hundred-foot segments at a time as it progresses along the alignment. The proposed floodwall alignment runs along the west bank of the Napa River and for the majority does not interfere with local roadways. As stated in Chapter 2, *Project Description*, a mid-block crossing for the proposed trail would be constructed across Lincoln Avenue, and utility work would be required in Lincoln Avenue to relocate utility conflicts with the proposed floodwall. Nighttime work with partial lane closures is proposed for these construction activities to limit traffic and circulation effects along Lincoln Avenue. Traffic flow on access routes would be coordinated by the contractor as construction work progresses along the alignment. It is anticipated that roads used to access the site are wide enough to accommodate all truck and equipment traffic for the Proposed Action Alternative. No road widening would be required.

Three parcels would have emergency access effects, including Escalante Towing, located at 501 N Bay Drive; Ace & Vine, located at 505 Lincoln Avenue; and Napa River Pet Hospital, located at 510 Lincoln Avenue. These businesses would have temporary access detours implemented based on the phasing of the construction and access would be coordinated with the contractor when performing utility and roadway improvements during construction. Furthermore, a traffic management plan would be prepared for the Proposed Action Alternative and would be implemented by the contractor. Based on these factors, construction of the Proposed Action Alternative would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan, and effects would be less than significant.

O&M activities would occur periodically and would require relatively few vehicles that would utilize the 15-foot-wide O&M corridor, which is not accessible by the public. No other O&M activities would impact emergency response plans or emergency evacuation routes.

The Proposed Action Alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Temporary construction activities would occur as described above and a traffic management plan would be carried out to minimize traffic and circulation effects. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Table 3.8-3. Mitigation Measures for Hazards and Hazardous Materials Effects of the Proposed Action

| Mitigation Measure | Description of Measure |
|--|---|
| MM-HAZ-1: Water Quality effects in the Napa River | <p>Aligning with Mitigation Measure WQ-3a through 3c from the 1999 Final SEIS/EIR (Napa County Flood Control and Water Conservation District and U.S. Army Corps of Engineers 1999):</p> <p>WQ-3a. Measures will be implemented to ensure that construction materials are not conveyed into the storm drain system.</p> <p>WQ-3b. All materials that could cause water pollution (i.e., motor oils, fuel, paint, etc.) will be stored and used in a manner that will not cause any pollution. All discarded material and any accidental spills will be removed and disposed of at an approved site.</p> <p>WQ-3c. All required permits will be obtained from the RWQCB prior to any construction activity. The RWQCB is charged with monitoring compliance with, and enforcing, Waste Discharge requirements and NPDES (National Pollution Discharge Elimination System) permits.</p> |
| MM-HAZ-2: Soil Management Plan | <p>The contractor shall prepare a Soil Management Plan prior to future development and earthwork to address potential encounters with hydrocarbon and PFAS impacted soil and unknown subsurface conditions associated with the reported historical tow yard and storage located at 501 North Bay Drive.</p> <p>If potentially contaminated materials are encountered, then regulatory protocols will be followed for testing and disposal before continuation of construction.</p> |
| MM-HAZ-3: Asbestos Containing Materials | <p>Aligning with Mitigation Measure Haz-4a from the 1999 Final SEIS/EIR (Napa County Flood Control and Water Conservation District and U.S. Army Corps of Engineers 1999) an ACM/ lead survey shall be conducted 501 North Bay Drive by the contractor, prior to demolition or modification to confirm that ACM/ lead concentrations are not above regulatory limits. If any ACM materials, such as linoleum, wallboard, mastic and roofing, and/or lead-based paint are discovered at concentrations above the regulatory limits, the required regulatory standards will be implemented, and the material shall be transported off-site per those regulatory guidelines.</p> |

3.9 Hydrology and Water Quality

3.9.1 Existing Conditions

Surface Water

The Proposed Action Alternative is located within the San Francisco Bay Hydrologic Region (Region), which occupies parts of nine counties: Napa, Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. The Region is 4,603 square miles and extends from coastal portions of Marin and San Mateo counties, from Tomales Bay in the north to Pescadero and Butano creeks in the south. Surface waters in the Region consist of non-tidal wetlands, rivers, streams, and lakes, estuarine wetlands known as Baylands, estuarine waters, and coastal waters. In this Region, estuarine waters consist of the Bay system, including intertidal, tidal, and subtidal habitats from the Golden Gate to the Region's boundary near Pittsburg, and the lower portions of streams that are affected by tidal hydrology, such as the Napa and Petaluma rivers in the north and Coyote and San Francisquito creeks in the south. The climate varies dramatically within the Region when going west to east. Coastal areas are typically cool and foggy, while inland valleys are warmer and characteristic of a more Mediterranean climate (SWRCB 2023).

The Proposed Action Alternative is located along the Napa River in the Napa River Watershed in the Napa Valley. The Napa River Watershed is approximately 430 square miles and located in the portion of western Napa County within the San Francisco Bay RWQCB's jurisdiction. Napa River is a significant freshwater tributary to San Francisco Bay and runs 55 miles from Calistoga to San Pablo Bay, with the lower 17 miles being estuarine. Numerous tributaries enter the main stem from the mountains that rise abruptly on both sides of the valley (San Francisco Bay RWQCB 2011). The Napa River forms the trunk of a simple dendritic ("treelike") river system with its tributaries and varies erratically in width, depth, and capacity throughout its length. Upstream from the City of Napa, the channel varies in width from 50 to 300 feet and in depth from 10 to 20 feet. In many stretches, the streambed of the river is composed of erosion-resistant materials, such as heavy clay formations, which result in well-stabilized channel gradients (Napa County Flood Control and Water Conservation District and U.S. Army Corps of Engineers [USACE]1999).

Streamflow in the Napa River changes enormously from season to season; flows are higher from December through March and are reduced in the summer and early fall. Yearly variations are significant, and consecutive dry years with reduced flows are common. During the dry season, much of the river recharges groundwater, which migrates underground through alluvial gravel deposits.

Approximately 85 percent of the county's total water demand is supplied through the Napa River Watershed's surface water and groundwater production. The cities of Napa, Calistoga, American Canyon, and Yountville also receive water from the State Water Project. Wastewater is only discharged to the Napa River during the wet season. During the dry months, 100 percent of wastewater flows are reclaimed (San Francisco Bay RWQCB 2011).

Groundwater

The Proposed Action Alternative is located in the North Napa Valley Groundwater Basin, which extends from the City of Napa up the valley floor to the northwestern end of the valley near the City of Calistoga, covering an area of approximately 60 square miles. The North Napa Valley Groundwater Basin has an estimated usable storage volume of approximately 190,000 acre-feet and

a safe yield of 22,500 acre-feet annually. Groundwater in this aquifer occurs under both confined and unconfined conditions approximately 50-300 feet below ground surface. The unconfined portions of the aquifer in alluvial material can produce up to 3,000 gallons per minute (gpm), while portions of the aquifer in tuffaceous material can produce approximately 32 gpm. Recharge to the alluvial aquifers occurs primarily by direct infiltration of precipitation, and to a lesser extent by the application of applied water from irrigation and infiltration through the stream and lake beds. Groundwater flow is generally towards the south to San Pablo Bay (County of Napa 2007).

The Proposed Action Alternative is located in the Napa Valley Subbasin. A Groundwater Sustainability Plan (GSP) has been developed by the Napa County Groundwater Sustainability Agency (NCGSA) to fulfill the requirements of the Sustainable Groundwater Management Act (SGMA) for the Napa Valley Groundwater Basin (NCGSA 2022). With the most recent prioritization update, completed in 2019, the Napa Valley Subbasin is designated a high priority subbasin. The Subbasin scored highest in categories accounting for the total number of wells, public supply wells, and irrigated acreage. The Subbasin scored lowest for documented adverse effects to groundwater and adverse effects on habitat and streamflow (NCGSA 2022).

Water Quality

The Napa River and its tributaries have been listed under CWA Section 303(d) as having impaired water quality due to pathogens and sedimentation/siltation (County of Napa 2007). The San Francisco Bay RWQCB has adopted Total Maximum Daily Load (TMDL) standards for sediment and pathogens in the Napa River (**Table 3.9-1**) (RWQCB 2023).

The San Francisco Bay RWQCB's Water Quality Control Plan (Basin Plan) covers the San Francisco Bay Estuary and waters flowing into it, which includes the Proposed Action Area. The Basin Plan consists of a designation or establishment for waters of beneficial uses to be protected, water quality objectives to support those protected uses, and a program of implementation needed for achieving the objectives (RWQCB 2023).

The existing beneficial uses assigned to Napa River are listed in the WDR Order #99-074 and are as follows: Agricultural Supply, Cold and Warm Freshwater Habitat, Fish Migration and Spawning, Navigation, Preservation of Rare and Endangered Species, Water Contact Recreation, Noncontact Water Recreation, and Wildlife Habitat (RWQCB 1999). Water quality objectives related to sediment beneficial uses are listed in **Table 3.9-2**. Turbidity of the waters of the State; as measured in Nephelometric Turbidity Units (NTUs), shall not increase above background levels by more than the levels identified below. For in-stream construction activities, this shall apply at any point beyond 1,000 feet downstream of the point of the activity (RWQCB 1999).

Table 3.9-1. Section 303(d)-Listed Pollutants in the Proposed Action Area.

| Pollutant | Potential Sources | TMDL Status |
|-----------|--|----------------------|
| Pathogens | Agriculture, Onsite Wastewater Systems | TMDL in place (2006) |
| Sediment | Construction, Erosion | TMDL in place (2007) |

Table 3.9-2. Basin Plan Water Quality Objectives and Beneficial Use Categories.

| Beneficial Use Category | Pollutant | Water Quality Objective |
|---|-----------|--|
| Cold and Warm Freshwater Habitat Fish Migration Preservation of Rare and Endangered Species Recreation Wildlife Habitat | Turbidity | Turbidity increase from background <10% where natural turbidity is >50 NTU |
| | Sediment | Should not cause a nuisance or adversely affect beneficial uses. |

Tsunami, Seiche, and Flooding

Flood Hazards

The Proposed Action Alternative is located in the Regulatory Floodway/Zone AE subject to the 1 percent annual chance flood (FEMA 2010). Flood hazard conditions exist along the entire length of the Napa River through the City of Napa. The flood hazard area extends well into developed areas and follows the banks of several tributary creeks. The City of Napa regulates development within the flood hazard area in accordance with standards and regulations for flood zones.

Records of damaging floods in the Napa River Basin date back to 1862, but only recently has comprehensive data on the extent of flood damage been obtained. Major flood events were recorded in 1955, 1958, 1963, and 1986. Flood control became a top priority for the City of Napa following the 1987 and 1995 floods. The City of Napa now participates in programs and conducts activities to reduce flood damages and insurance rates, including participation in the NFIP, elevation of homes with Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Funds, support of the USACE Authorized Project as a representative member of the Sponsor and its design of the Preferred Action Alternative, creation of an Emergency Plan, construction of drainage system improvement projects, and monitoring rainfall and stream level gages to provide additional flood preparation time. To support a 100-year level of protection, the USACE Authorized Project has completed the following components on the Napa River (County of Napa 2007):

- South Wetlands Opportunity Area (wetlands restoration),
- Terracing and East Side Trail (from Kennedy Park to Hospital Creek),
- Railroad Realignment (Kennedy Park to 8th Street),
- Maxwell Bridge Replacement, Terracing (from Hospital Creek to 3rd Street),
- Third Street Bridge,
- First Street Bridge over Napa Creek and Bypass, and
- Soscol Avenue-Oxbow Bypass Bridge

Tsunami and Seiche Hazards

According to the California Department of Conservation Tsunami Hazard Area Map, the City of Napa is outside of the Tsunami Hazard Area (DOC 2024). A seiche is a standing wave oscillating in a body of water. Seiches typically occur in large semi- or fully-enclosed bodies of water, such as bays or lakes (NOAA 2024). Because the Proposed Action Area is in an inland area away from oceans or other large waterbodies, a seiche is unlikely to occur.

3.9.2 Effect Analysis

Method of Analysis

The potential effects from construction, operation, and maintenance of the Proposed Action Alternative on hydrology and water quality were evaluated qualitatively using known hydrology and water quality data and quantitatively using regulations that would be applicable to the Proposed Action.

Summary of Effects from 1999 Final SEIS/EIR

Hydrology and water quality effects were evaluated in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. Results of the analysis in the 1999 Final SEIS/EIR indicated that implementation of the USACE Authorized Project would provide protection from the computed 100-year storm event in most of the city of Napa. This is considered a beneficial effect. The 1999 Final SEIS/EIR also indicated that construction activities have the potential to temporarily increase turbidity and suspended sediments in the Napa River, and that degradation of runoff water quality due to point source pollutants that could emanate from the Proposed Action Area during construction activities would add significant water quality effects to Napa River. In the 1999 Final SEIS/EIR Section 3.1.4, *Hydrology Impacts and Mitigation Measures*, and Section 3.2.4, *Water Quality Impacts and Mitigation Measures*, all hydrology and water quality effects were reduced to a less than significant level through mitigation measures WQ-1 through WQ-3 and HYDRO-1a through HYDRO-1c. Along with implementation of the existing WDR Order #99-074, a USACE review of the 1997 Napa River Section 404(b)(1) Analysis, which can be found in Appendix H, concluded that it also remains relevant and sufficient for Increment 2.

Summary of Hydrology and Water Quality Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.9-3**.

Table 3.9-3. Summary of Hydrology and Water Quality Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|---|---|
| <i>No Action Alternative</i> | | |
| HYD-1 | Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. | Less than significant effect with mitigation |
| HYD-2 | Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. | Less than significant effect |
| HYD-3 | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows? | Less than significant effect |
| HYD-4 | In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| HYD-1 | Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. | Less than significant effect with mitigation incorporated |
| HYD-2 | Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. | Less than significant effect |
| HYD-3 | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows? | Less than significant effect |
| HYD-4 | In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | Less than significant effect |

Effect HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Under the No Action Alternative, the degradation of runoff water quality due to non-point source pollutants that could emanate from the Proposed Action Area during construction activities would add to significant water quality impacts to Napa River and Napa Creek. Site grading during construction would expose soils to rain, erosion and transport to the Napa River by runoff, and could also result in increased turbidity in the Napa River and Napa Creek. Other potential sources of water quality degradation that could occur during construction include accidental spills of fuel or chemicals, which are addressed in HAZ-1 of this Draft SEA. Mitigation Measures WQ-1 through WQ-3 from the 1999 Final SEIS/EIR Section 3.2.4, *Water Quality Impacts and Mitigation Measures*, would be implemented to lessen the significance of this effect. USACE reviewed the 1997 Napa River Section 404(b)(1) Analysis, see Appendix H, and concluded that the analysis remains relevant and sufficient. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation**.

Proposed Action Alternative

The Proposed Action Alternative would involve the construction of floodwalls south of Lincoln Avenue, floodwalls north of Lincoln Avenue, scour protection under the Lincoln Avenue Bridge, and two short floodwall closures at the Dry Bypass. Floodwalls at the Dry Bypass would include a new outfall drainage vault structure, which would require dewatering during installation. Dewatering would consist of installing temporary sheet piles around the excavation area and pumping any remanent water in the work area out into a temporary holding area prior to discharge to the low-flow swale to the river.

Rock scour protection would be placed in the river channel bottom around the central footing of the Lincoln Avenue Bridge and on the abutment aprons beneath the Lincoln Avenue Bridge. This area of construction would be accessed from a temporary ramp on the northwest side of the Lincoln Avenue Bridge and work pad that would be constructed on the west bank of the Napa River using approximately 300 tons of rock placed 50 feet by 40 feet by 2 feet thick. Additional temporary access to improvement areas would be constructed on the east bank of the Napa River. BMPs would be installed at the temporary access points, including straw wattles on the temporary access ramp to prevent sediment from eroding into the Napa River.

Water management in the Napa River would be required during construction for placement of rock scour protection under Lincoln Avenue Bridge to control turbidity. A combination of methods, including cofferdams, pipes, supersacks, and turbidity curtains, would be used to control and isolate sediment in the work areas and reduce turbidity in the river. Water and water quality management during construction in the Napa River would be conducted in accordance with the WDR Order #99-074 from the California State Water Quality Control Board as well as any additional permitting requirements imposed on the Proposed Action Alternative to limit any potential water quality effects.

These permitting requirements would be consistent with Mitigation Measures WQ-3a through 3c from 1999 Final SEIS/EIR Section 3.2.4, *Water Quality Impacts and Mitigation Measures*. Appendix H includes the 1997 Napa River Section 404(b)(1) Analysis, which the USACE has concluded remains relevant and sufficient to the Proposed Action Alternative.

With water management measures in place in the Napa River, a work pad would be constructed and approximately 2-5 feet of material would be excavated adjacent to the existing piers (approximately 450 cubic yards of material) and replaced with approximately 1,560 tons of Class V riprap with a D50 of 18-inches on top of a 6-inch thick granular filter to provide pier scour protection beneath the Lincoln Avenue Bridge. The excavated material would be temporarily stockpiled before being hauled off site for disposal.

The rock scour protection would be placed in the Napa River during the dry season (June 1–October 31), in one work window. Initially, the riverbank work area would be prepared utilizing temporary BMPs to prevent erosion and sedimentation, including the installation of a silt fence at the clearing limits following the clearing process. Turbidity curtains would be installed in the Napa River to manage water clarity during construction activities. There are two potential work scenarios, both include a cofferdam with supersacks. After the rock scour protection is placed under either scenario, the access platform and access ramp would be removed. Then permanent BMPs would be applied in place of the temporary BMPs. These water management scenarios, which are part of the Proposed Action Alternative are consistent with Mitigation Measures WQ-1 through WQ-3 from the 1999 Final SEIS/EIR Section 3.2.4, *Water Quality Impacts and Mitigation Measures*, and would effectively minimize turbidity in the Napa River during construction. Therefore, it is anticipated that the Proposed Action Alternative would result in fewer environmental effects on hydrology and water quality than the No Action Alternative. The Proposed Action Alternative would also consist of less area of rock scour protection, and there would be less of an increase in turbidity and suspended sediments due to a smaller footprint of disturbance compared to the No Action Alternative.

The Proposed Action Alternative would be consistent with water quality standards and existing WDR Order #99-074, which was issued for the Napa River/Napa Creek Flood Protection Project in September 1999. Implementation of the SWPPP, BMPs, and **MM-HAZ-1** would be employed to reduce sedimentation and pollution in surface and ground waters during construction activities. As such, the Proposed Action Alternative would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality and effects. The Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative would follow a similar

construction plan to the Proposed Action Alternative. The floodwalls are intended to increase the freeboard capacity of the Napa River channel and to provide a 100-year level of flood protection for the area. The floodwalls are not designed to prevent water movement underneath them. The No Action Alternative would not interfere with groundwater recharge or impede groundwater movement. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The floodwalls are intended to increase the freeboard capacity of the Napa River channel and to provide a 100-year level of flood protection for the area. The floodwalls are not designed to prevent water movement under the concrete T-walls or sheet pile I-walls. Deeper portions of the wall are designed for structural stability on steep slopes and would still allow for groundwater to flow under the walls. As discussed, floodwalls at the Dry Bypass would include a new outfall drainage vault structure, which would require dewatering during installation. Dewatering would consist of installing temporary sheet piles around the excavation area and pumping any remanent water in the work area out into a temporary holding area prior to discharge to the low flow swale to the river and would not decrease groundwater supplies. The Proposed Action Alternative would not interfere with groundwater recharge or impede groundwater movement. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. Therefore, no mitigation is required or recommended.

Effect HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative would exhibit significant bed degradation and aggradation after significant storm events in several areas. Mitigation Measures HYDRO-1a through HYDRO-1C from the 1999 Final SEIS/EIR Section 3.1.4, *Hydrology Impacts and Mitigation Measures*, would be implemented to lessen the significance of this effect. Therefore, the No Action Alternative would result in a **less than significant effect** with mitigation.

Proposed Action Alternative

The proposed floodwalls would vary in height and would be less than two feet wide; they would add negligible new impervious surface to the Proposed Action Area. After construction work, previously paved areas would be re-paved, and previously unpaved areas would be returned to their pre-

construction condition. Rock scour protection under the Lincoln Avenue bridge would involve in-water work. Some water diversions may be constructed to place the scour protection; however, any diversions would be within the existing river channel and temporary and would not permanently alter the course of the Napa River. Dewatering associated with the new outfall drainage vault structure would consist of installing temporary sheet piles around the excavation area and pumping any remanent water in the work area out into a temporary holding area prior to discharge to the low flow swale to the river and would not permanently alter the course of the Napa River. A SWPPP would be implemented to reduce pollution, erosion, and sedimentation resulting from construction activities. The Proposed Action Alternative would not substantially or significantly alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially or significantly increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

Negligible new impervious surfaces would be created by the proposed floodwalls, and no new sources of polluted runoff would be created as a result of the Proposed Action Alternative. As discussed in Section 3.7, *Geology and Soils*, as part of the Proposed Action Alternative, coverage under the NPDES General Permit would be obtained from the RWQCB. The NPDES General Permit would require preparation and implementation of a SWPPP. SWPPP BMPs include measures to reduce erosion from disturbed areas, prevent sediment from migrating off site, provide dust and tracking control, and prescribe good housekeeping practices for material storage and stockpile management. As such, the Proposed Action Alternative would not impact existing drainage patterns that would create or contribute runoff that would exceed the capacity of stormwater drainage systems or provide substantial or significant additional sources of polluted runoff.

Objectives of the Proposed Action Alternative are achieving 100-year level of flood protection and flood damage reduction benefits. Consequently, flood conditions in the Proposed Action Area would improve as a result of the Proposed Action Alternative and the Proposed Action Alternative would redirect flood flows from the Napa River away from existing homes and businesses located in the flood zone. This would be considered a beneficial improvement. As such, the Proposed Action Alternative would not impact existing drainage patterns that would impede or redirect flood flows. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Effect HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative is located in the flood zone along the Napa River and currently risks the release of pollutants from vehicles, businesses, or construction equipment if a flood were to inundate the No Action Area. After construction of the No Action Alternative, the risk of the release of pollutants due to inundation in the No Action Area would

be remedied by the floodwalls and berm. Because the No Action Area is in an inland area away from oceans or other large waterbodies, a seiche is unlikely to occur. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The Proposed Action Alternative is located in the flood zone along the Napa River and currently risks the release of pollutants from vehicles, businesses, or construction equipment if a flood were to inundate the Proposed Action Area. After construction of the Proposed Action Alternative, the risk of the release of pollutants due to inundation in the Proposed Action Area would be reduced by the floodwalls. According to the California Department of Conservation Tsunami Hazard Area Map, the City of Napa is outside of the Tsunami Hazard Area (DOC 2024). Additionally, because the Proposed Action Area is in an inland area away from oceans or other large waterbodies, a seiche is unlikely to occur. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

3.10 Noise and Vibration

3.10.1 Existing Conditions

Overview of Noise and Sound

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health, whereas sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level.

Most humans with typical or average hearing can perceive sounds ranging from approximately 20 microPascals to 20 million microPascals or more. Noise levels are presented on a logarithmic scale to account for the large pressure response range of the human ear and are expressed in units of decibels (dB). A decibel is defined as the ratio between a measured value and a reference value usually corresponding to the lower threshold of human hearing defined as 20 microPascals. Because the human ear does not perceive every frequency with equal loudness, sounds are often adjusted with a weighting filter. The A-weighted filter is applied to compensate for the frequency response of the human auditory system and is known as an A-weighted decibel (dBA).

With respect to how the human ear perceives changes in sound pressure level relative to changes in “loudness,” scientific research demonstrates the following general relationships between sound level and human perception for two sound levels with the same or very similar frequency characteristics, shown in **Table 3.10-1**.

Table 3.10-1. Sound Level Change and Human Perception

| Sound Level Increment Change | Human Perception of An Increase or Decrease per Sound Level |
|------------------------------|--|
| 1 dBA | <ul style="list-style-type: none"> • Practical limit of accuracy for sound measurement systems • Corresponds to an approximate 10 percent variation in the sound pressure level • Imperceptible change in sound. |
| 3 dBA | <ul style="list-style-type: none"> • A doubling (or halving) of acoustic pressure level • Corresponds to the threshold of change in loudness perceptible in a laboratory environment • The average person is not able to distinguish a 3 dBA difference in environmental sound outdoors |
| 5 dBA | <ul style="list-style-type: none"> • Perceptible change in sound level • Discernible change in an outdoor environment. |
| 10 dBA | <ul style="list-style-type: none"> • A tenfold increase or decrease in acoustic pressure level • Perceived as a doubling or halving in loudness • The average person would judge a 10 dBA change in sound level to be twice or half as loud |

Noise levels can be measured, modeled, and presented in various formats. The noise descriptors used in this analysis are described in **Table 3.10-2** below.

Table 3.10-2. Noise Level Descriptors

| Type | Description |
|---|--|
| Equivalent Sound Level (L_{eq}) | L_{eq} is the energy averaged, A-weighted sound level over a specified period. L_{eq} is defined as the steady, continuous sound level over a specified period that has the same acoustic energy as the actual varying sound levels over the specified period. It is a mean average sound level. |
| Maximum Sound Level (L_{max}): | L_{max} is the maximum A-weighted sound level as determined during a specified measurement period. L_{max} can also be described as the maximum instantaneous sound pressure level generated by a piece of equipment or during a construction activity. |
| Day-Night Average Sound Level (L_{dn}): | L_{dn} is the average hourly A-weighted L_{eq} over a 24-hour period with a 10 dB penalty added to sound levels occurring during the nighttime hours (7 p.m. to 10 a.m.) to account for people's increased sensitivity to noise levels during nighttime hours. |
| Community Noise Equivalent Level | The community noise equivalent level is another average A-weighted L_{eq} sound level measured over a 24-hour period; however, this noise scale is adjusted to account for some people's increased sensitivity to noise levels during the evening and nighttime hours. A community noise equivalent level noise measurement is obtained after adding 5 dB to sound levels occurring during evening hours (7 p.m. to 10 p.m.) and 10 dB to noise levels occurring during nighttime hours (10 p.m. to 7 a.m.). |

Overview of Groundborne Vibration

Operation of heavy construction equipment, particularly pile driving equipment, and other impact devices (e.g., pavement breakers), create seismic waves that radiate along the surface of and downward into the ground. These waves can be felt as ground vibration. Vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration (Federal Transit Administration [FTA] 2018). Velocity or acceleration is typically used to describe vibration. The vibration descriptors used in this analysis are described in **Table 3.10-3** below.

Table 3.10-3. Vibration Level Descriptors

| Type | Description |
|------------------------------------|--|
| Peak Particle Velocity (PPV) | The maximum instantaneous positive or negative peak of the vibration signal. The potential for damage to buildings as a result of construction-related vibration is evaluated using PPV. PPV is expressed in inches per second (in/sec). |
| Root Mean Square (RMS) | The square root of the arithmetic average of the squared amplitude of the vibration signal, typically calculated over a one-second period. The potential for annoyance to humans as a result of construction-related vibration is evaluated using RMS. RMS is expressed in in/sec. |
| Vibration Velocity Level (L_v) | Ten times the common logarithm of the ratio of the square of the amplitude of the RMS vibration velocity to the square of the amplitude of the reference RMS vibration velocity. The reference velocity in the U.S. is 1 micro-inch per second. L_v is expressed in vibration decibel (VdB). |

Groundborne vibrations are generally reduced with distance, depending on the local geological conditions. A receiver is a vibration-sensitive building (for example, residence, hospital, or school) where the vibrations may cause perceptible shaking of the floors, walls, and ceilings and a rumbling

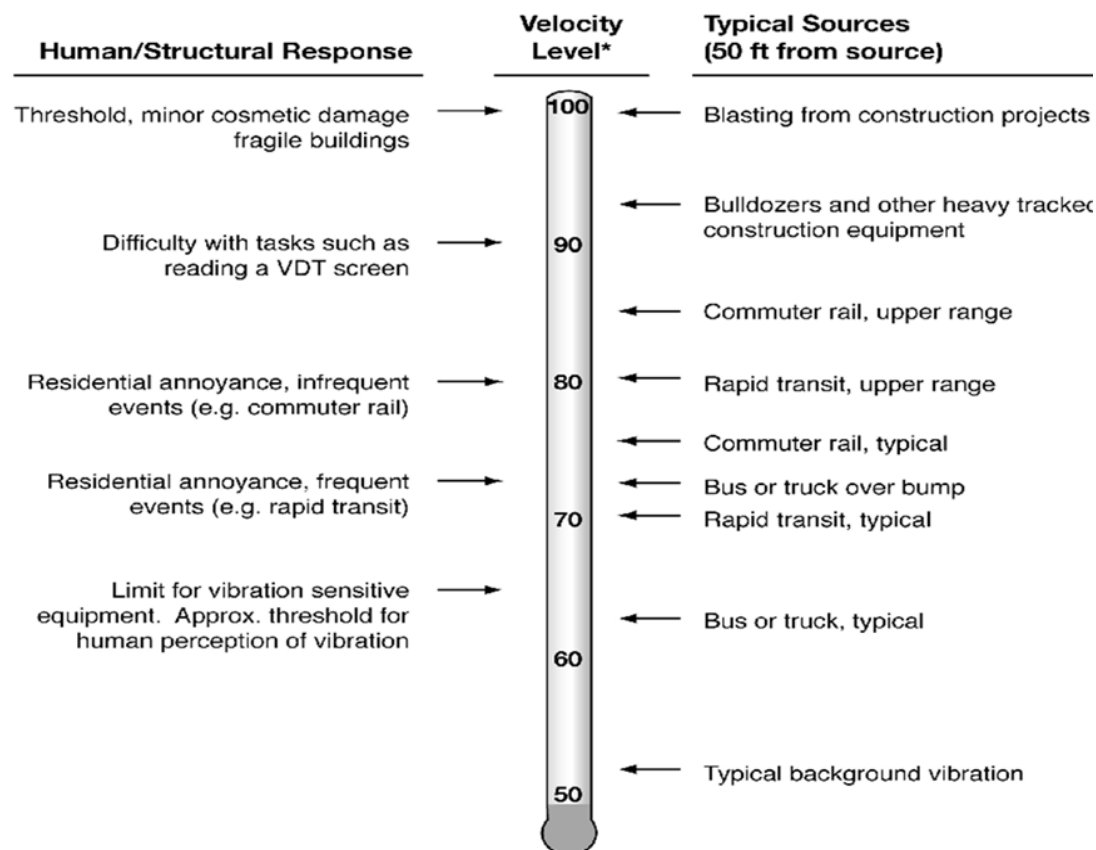
sound inside rooms. Not all receivers have the same vibration sensitivity. Consequently, vibration criteria are established for the various types of receivers. Groundborne noise occurs as a perceptible rumble and is caused by the noise radiated from the vibration of room surfaces.

Vibration above certain levels can damage buildings, disrupt sensitive operations, and cause annoyance to humans within buildings. The response of humans, buildings, and equipment to vibration is most accurately described using velocity or acceleration. In this analysis, vibration velocity (VdB) is the primary measure to evaluate the effects of vibration.

Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of vibration waves that propagate through the ground and create perceptible groundborne vibration in nearby buildings include construction equipment, steel-wheeled trains, and traffic on rough roads.

Figure 3.10-1 illustrates typical groundborne vibration velocity levels for common sources and thresholds for human and structural response to groundborne vibration. As shown, the range of interest is from approximately 50 VdB (below perceptibility) to 100 VdB (threshold of potential damage) in terms of vibration velocity level. The background vibration velocity level in residential areas is usually 50 VdB or lower (FTA 2018). Although the threshold of human perception to vibration is approximately 65 VdB, annoyance in residential areas does not usually occur unless the vibration exceeds 70 VdB.

Figure 3.10-1. Typical Groundborne Vibration Levels



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Source: FTA 2018

Existing Noise Environment

Existing noise sources in the City include vehicle traffic, railroad activity, aircraft operations, and typical activities at commercial and industrial facilities (City of Napa 2022). Existing ambient noise levels in the Proposed Action Area are expected to be moderate due to its urban location. Existing sources of noise in the Proposed Action Area include vehicular traffic on surrounding streets, residential uses, and recreationists utilizing the public trail.

Noise Sensitive Receptors

Noise-sensitive land uses are those uses that are most sensitive to high noise levels, including residences, religious facilities, schools, childcare centers, hospitals, long-term health care facilities, convalescent centers, and retirement homes (City of Napa 2022). There are approximately 25 residences in the vicinity of the Proposed Action Area. The nearest sensitive receptors are residences on Shoreline Drive, Pike Drive, and Trout Way, located approximately 25 feet from the limits of the construction area.

3.10.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze noise characteristics within the Proposed Action Area. The potential effects from construction, operations, and maintenance of the Proposed Action on noise and vibration were evaluated qualitatively and quantitatively using available data and existing regulations that would be applicable to the Proposed Action Alternative.

The Federal Transit Administration (FTA) developed the *Transit Noise and Vibration Impact Assessment Manual* (Noise Manual) in September 2018. The Noise Manual provides technical guidance for conducting noise and vibration analyses for transit projects. While these standards and impact assessment methodologies are not directly applicable to the type of construction activities to occur within the Proposed Action Area, they are routinely used as guidelines for projects in federal, state and local jurisdictions.

The City of Napa has not adopted standards or thresholds for construction noise in its general plan or municipal code. The City of Napa has adopted noise and land use compatibility guidelines in the Noise Element of the General Plan. Acceptable noise exposures are listed for particular land uses depending upon L_{dn} noise exposure. For residential areas in the City of Napa, less than 55 dBA is compatible and acceptable, 55-60 dBA is tentatively compatible and acceptable, 60-75 dBA is normally incompatible and unacceptable, and greater than 75 dBA is completely incompatible and unacceptable.

The City of Napa has also adopted a noise ordinance in Title 8, Health and Safety, Chapter 8.08 of the Municipal Code to control the noise associated with outdoor sound systems, commercial activity, and construction activities. Construction activities are limited to the weekday hours of 7 a.m. and 7 p.m., and 8 a.m. and 4 p.m. on weekends. Further limitations are placed on start-ups, deliveries, and equipment maintenance or cleaning.

Since the City of Napa does not have noise thresholds for construction noise, anticipated Proposed Action Alternative construction equipment noise was assessed quantitatively based on the methodology developed by the FTA. The increase in noise levels during construction of the Proposed Action Alternative and the effect on noise-sensitive receptors were estimated using typical

noise levels associated with Proposed Action Alternative construction equipment, derived from representative data presented in the Noise Manual (FTA 2018). Reference noise levels were used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). FTA has identified a daytime hourly L_{eq} of 90 dBA as the noise level from onsite construction activities at which an adverse community reaction could occur on residential land uses (FTA 2018). Therefore, for the purposes of this analysis, a significant effect would occur if noise generated during construction of the Proposed Action Alternative exceeds 90 dBA at the nearest sensitive receptors (residences).

The City of Napa does not have specific limits or thresholds for groundborne vibration. Therefore, anticipated Proposed Action Alternative groundborne vibration levels during construction were estimated using typical groundborne vibration levels associated with construction equipment obtained from the Noise Manual (FTA 2018).

The Noise Manual provides vibration criteria for structural damage by building/structural category as shown in **Table 3.10-4**.

Table 3.10-4. Groundborne Vibration Structural Damage Criteria

| Building Category | PPV (in/sec) | L_v (VdB) |
|---|--------------|-------------|
| I. Reinforced concrete, steel, or timber (no plaster) | 0.5 | 102 |
| II. Engineered concrete and masonry (no plaster) | 0.3 | 98 |
| III. Non-engineered timber and masonry buildings | 0.2 | 94 |
| IV. Buildings extremely susceptible to vibration damage | 0.12 | 90 |

Source: FTA 2018

Notes: PPV = peak particle velocity, in/sec = inch per second, L_v = vibration velocity level, VdB = vibration decibel

The Noise Manual also includes criteria for acceptable levels of groundborne vibration by vibration-sensitive land uses as shown in **Table 3.10-5**.

Table 3.10-5. Groundborne Vibration Human Annoyance Criteria

| Land Use Category | Maximum L_v (VdB) | Description |
|-------------------------|---------------------|--|
| Workshop | 90 | Vibration is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration. |
| Office | 84 | Vibration can be felt. Appropriate for offices and similar areas not as sensitive to vibration. |
| Residential – daytime | 78 | Vibration is barely felt. Adequate for land uses that are sensitive to vibration. |
| Residential – nighttime | 72 | Vibration is not felt, but groundborne noise may be audible inside quiet rooms. |

Source: FTA 2018

Notes: L_v = vibration velocity level, VdB = vibration decibel

Summary of Effects from 1999 Final SEIS/EIR

Noise effects were evaluated in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. The 1999 Final SEIS/EIR evaluated whether construction of the USACE Authorized Project could generate noise and disturb local receptors. The 1999 Final SEIS/EIR determined that the USACE Authorized Project would result in a significant and unavoidable effect because construction activities would generate noise that would expose residential neighborhoods to sound levels above existing ambient noise levels. Mitigation measures NOISE-1a through 1e were established in the 1999 Final SEIS/EIR Section 3.12.4, *Noise Impacts and Mitigation Measures*, to address construction effects and would be applicable to the Proposed Action evaluated in this SEA as well.

Summary of Noise and Vibration Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.10-6**.

Table 3.10-6. Summary of Noise and Vibration Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|--|
| <i>No Action Alternative</i> | | |
| NOISE-1 | Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. | Significant and unavoidable effect with mitigation incorporated ¹ |
| NOISE-2 | Generation of excessive groundborne vibration or groundborne noise levels. | Less than significant effect |
| NOISE-3 | For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels. | No effect |
| <i>Proposed Action Alternative</i> | | |
| NOISE-1 | Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. | Significant and unavoidable effect with mitigation incorporated ¹ |
| NOISE-2 | Generation of excessive groundborne vibration or groundborne noise levels. | Less than significant effect with mitigation incorporated |
| NOISE-3 | For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels. | No effect |

¹ This finding was previously disclosed in the 1999 Final SEIS/EIR and remains the same. Effects of the Proposed Action would not be greater in scope or intensity than previously disclosed.

Effect NOISE-1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Construction noise levels for the No Action Alternative would exceed accepted standards, and construction may also require nighttime activities, which would lead to a short-term impact. As disclosed in the 1999 Final SEIS/EIR, the No Action Alternative would be expected to generate substantial or significant temporary increases in ambient noise levels in the area in excess of applicable standards of other agencies (FTA). This is not a new effect as a result of the No Action Alternative, and the construction effects in this area are not greater in scope or intensity than was already determined in the 1999 Final SEIS/EIR. Mitigation Measures NOISE-1a through NOISE-1e from the 1999 Final SEIS/EIR Section 3.12.4, *Noise Impacts and Mitigation Measures*, would be implemented to lessen the significance of this effect, but it would remain significant. Therefore, as determined in the 1999 Final SEIS/EIR, **a significant and unavoidable effect with mitigation** would occur.

Proposed Action Alternative

Construction of the Proposed Action Alternative would introduce new sources of noise in the Proposed Action Area in the form of construction traffic and construction equipment. Construction activities, although temporary, could affect existing noise-sensitive receptors. As presented above in Section 3.10.1, approximately 25 residences are located north of Lincoln Avenue in the vicinity of the Proposed Action Area. The nearest sensitive receptors are residences on Shoreline Drive, Pike Drive, and Trout Way, located approximately 25 feet from the limits of the construction area, north of Lincoln Avenue. Additionally, sensitive receptors at the Napa River Terrace Inn would be temporarily located less than 25 feet from the limits of the construction area, south of Lincoln Avenue.

During construction, the traffic noise on roadways in the Proposed Action Area would increase due to commute of construction crews and the transport of equipment and materials on a short-term basis. Although construction traffic would temporarily increase noise along local roadways, the effect of construction traffic on long-term (i.e., hourly or daily) ambient noise levels is expected to be minimal.

During construction of the proposed floodwalls, construction equipment would be utilized that would be audible at existing sensitive receptor locations. Construction equipment required for the Proposed Action Alternative is presented in Appendix C, *Project Construction Details*. The construction noise level at a given sensitive receiver location would vary depending on the construction activity type, equipment type, and distance between noise source and receiver as construction of the proposed floodwalls progresses. **Table 3.10-7** shows typical noise levels produced by various types of construction equipment required for the Proposed Action Alternative.

Table 3.10-7. Construction Equipment Noise Levels

| Construction Equipment | Typical Noise Level (dBA) 50 feet from Source |
|-------------------------|---|
| Backhoe | 80 |
| Compactor | 82 |
| Concrete Truck | 85 |
| Crane | 83 |
| Dozer | 85 |
| Grader | 85 |
| Loader | 80 |
| Paver | 85 |
| Pile Driver (Impact) | 101 |
| Pile Driver (Vibratory) | 95 |
| Pump | 77 |
| Truck | 84 |

Source: FTA 2018

Notes: dBA = A-weighted decibel

As shown in **Table 3.10-7**, construction equipment associated with the Proposed Action Alternative could generate noise levels of up to 101 dBA at 50 feet. However, noise levels from a source decrease at a rate of 6 dB per doubling of distance from the noise source. Thus, at 25 feet, the nearest residences would be exposed to noise levels of up to 107 dBA from construction equipment. The City of Napa has not established quantitative noise standards that are applicable to the Proposed Action Alternative. However, construction of the Proposed Action Alternative would generate noise levels in excess of the aforementioned 90 dBA threshold established by FTA, resulting in a potentially significant effect. To minimize noise effects during construction, mitigation measures NOISE-1a through NOISE-1e in the 1999 Final SEIS/EIR Section 3.12.4, *Noise Impacts and Mitigation Measures*, and mitigation measure **MM-NOISE-1** would be implemented as shown in **Table 3.10-7**. With the implementation of mitigation measure **MM-NOISE-1**, noise effects from construction of the Proposed Action Alternative would be minimized, but it would not be fully reduced to a less than significant level. The Proposed Action Alternative and the No Action Alternative would result in similar effects on noise since the construction equipment to be used and the footprints of each alternative would be similar.

O&M activities would result in a minimal increase in noise levels in the Proposed Action Area from the occasional use of equipment and vehicles. Given the limited and infrequent nature of O&M activities, noise levels from O&M would not significantly increase the ambient noise levels in the Proposed Action Area. Further, noise levels from proposed O&M activities would be similar to existing O&M activities. Therefore, noise effects during O&M of the Proposed Action Alternative would not be significant.

The Proposed Action Alternative would generate substantial or significant temporary increases in ambient noise levels in the Proposed Action Area in excess of applicable standards of other agencies, since the City of Napa does not have established standards for construction. Therefore, as determined in the 1999 Final SEIS/EIR, the Proposed Action Alternative would still result in a **significant and unavoidable effect with mitigation incorporated**, although this effect is not greater in scope or intensity than already determined in the 1999 Final SEIS/EIR. This is not a new effect as a result of the Proposed Action Alternative, and the generation of substantial or significant, temporary construction noise levels in the Proposed Action Area is not greater in scope or intensity than was already determined in the 1999 Final SEIS/EIR. Thus, the effect still remains, as identified and analyzed in the 1999 Final SEIS/EIR, since effects of the USACE Authorized Project were not fully realized because construction of the entirety of the USACE Authorized Project has not occurred. Mitigation that was prescribed previously would be implemented as stated above, as well as additional mitigation to minimize adverse effects due to construction noise to the extent feasible.

Effect NOISE-2: Generation of excessive groundborne vibration or groundborne noise levels.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Due to the proximity of these residences and the type of construction equipment anticipated to be used, the No Action Alternative has the potential to result in construction vibration effects. The No Action Alternative could generate excessive groundborne vibration or groundborne noise levels. Mitigation Measures NOISE-1a through NOISE-1e from the 1999 Final SEIS/EIR Section 3.12.4, *Noise Impacts and Mitigation Measures*, would be implemented to lessen the significance of this effect. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation**.

Proposed Action Alternative

Construction of the Proposed Action Alternative would involve the use of construction equipment such as excavators, dozers, backhoes, trucks, pile drivers, and vibratory compactors, which would generate groundborne vibration. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Approximately 25 residences are located north of Lincoln Avenue in the vicinity of the Proposed Action Area. The nearest sensitive receptors are residences on Shoreline Drive, Pike Drive, and Trout Way, located approximately 25 feet from the limits of the construction area. Additionally, temporary sensitive receptors are located at the River Terrace Inn, south of Lincoln Avenue.

Typical vibration levels associated with Proposed Action Alternative construction equipment at a reference distance of 25 feet are shown in **Table 3.10-8**.

Table 3.10-8. Construction Equipment Vibration Levels

| Construction Equipment | L _v at 25 feet (VdB) | PPV at 25 feet (in/sec) |
|-------------------------|---------------------------------|-------------------------|
| Pile Driver (Impact) | 104 | 0.64 |
| Pile Driver (Vibratory) | 93 | 0.17 |
| Vibratory Roller | 94 | 0.21 |
| Hoe Ram | 87 | 0.089 |
| Large Bulldozer | 87 | 0.089 |
| Loaded Trucks | 86 | 0.076 |
| Small Bulldozer | 58 | 0.003 |

Source: FTA 2018

Notes: L_v = vibration velocity level; VdB = vibration decibel; PPV = peak particle velocity

Due to the proximity of these residences and the type of construction equipment anticipated to be used, the Proposed Action has the potential to result in construction vibration effects. As mentioned above, construction of the Proposed Action Alternative would use a variety of equipment, including a pile driver. As shown in Table 3.11-7, the highest PPV at 25 feet from the anticipated construction sources for the pile driver, would be 0.64 in/sec. Therefore, at 25 feet the nearest residences would be exposed to construction vibration levels of up to 0.64 in/sec PPV. The City of Napa does not have established limits or thresholds for groundborne vibration that are applicable to the Proposed Action. However, 0.64 in/sec PPV exceeds the aforementioned 0.2 in/sec PPV threshold for vibration-related structural damage established by FTA. High vibration levels during construction could lead to cosmetic damage in nearby residences, such as cracks in foundations or pools.

Therefore, groundborne vibration effects during construction of the Proposed Action would be considered potentially significant. To minimize groundborne vibration effects during construction, mitigation measures NOISE-1a through NOISE-1e in the 1999 Final SEIS/EIR Section 3.12.4, *Noise Impacts and Mitigation Measures*, and mitigation measures **MM-NOISE-1** (described under Effect NOISE-1 above) and **MM-NOISE-2** (described below in **Table 3.10-9**) would be implemented.

O&M activities would result in a minimal increase in groundborne vibration levels in the Proposed Action Area from the occasional use of equipment and vehicles. Further, groundborne vibration levels from proposed O&M activities would be similar to existing O&M activities. As such, groundborne vibration effects during O&M of the Proposed Action would not be significant.

With the implementation of mitigation measures NOISE-1a through NOISE-1e in the 1999 Final SEIS/EIR Section 3.12.4, *Noise Impacts and Mitigation Measures*, and **MM-NOISE-1** and **MM-NOISE-2**, the Proposed Action Alternative would not generate excessive groundborne vibration or groundborne noise levels. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect NOISE-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. There are no private airstrips or public airports within two miles of the Proposed Action Area. The No Action Alternative would not expose people residing or working in the area of an airport to excessive noise levels. Therefore, there would be **no effect**, and no mitigation is required or recommended.

Proposed Action Alternative

There are no private airstrips or public airports within two miles of the Proposed Action Area. The nearest public airport to the Proposed Action Area is the Napa County Airport, which is located approximately 7 miles south of the Proposed Action Area. The Proposed Action Alternative would not expose people residing or working in the area of an airport to excessive noise levels. Therefore, there would be **no effect**, and no mitigation is required or recommended.

Table 3.10-9. Mitigation Measures for Noise and Vibration Effects of the Proposed Action

| Mitigation Measure | Description of Measure |
|---|--|
| MM-NOISE-1: Construction Noise Reduction | <p>The Sponsor and USACE would incorporate the following measures into all construction plans and agreements to reduce noise levels during construction:</p> <ul style="list-style-type: none"> • Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. There shall be no start-up of machines and equipment prior to 8:00 a.m., Monday through Friday; no delivery of materials and equipment prior to 7:30 a.m. and past 5:00 p.m., Monday through Friday; no cleaning of machines and equipment past 6:00 p.m., Monday through Friday; no servicing of equipment past 6:45 p.m., Monday through Friday; and no construction on weekends or legal holidays outside the hours of 8:00 a.m. to 4:00 p.m., unless a permit is secured from the City Manager pursuant to Section 8.08.025 of the City of Napa Municipal Code. • All muffler systems on construction equipment shall be properly maintained. • All construction equipment shall not be placed adjacent to developed areas unless said equipment is provided with acoustical shielding. • All construction and grading equipment shall be shut down when not actively in use. • When pile driving is required, the construction contractor shall use a vibratory pile driver (sonic) instead of an impact pile driver. Pile driving would only occur during normal work hours and would not be done at night. • The construction contractor shall deploy moveable temporary construction noise barriers (e.g., blankets, noise shields, and enclosures) as-needed to minimize, to the maximum extent practical, noise from construction equipment and activities at the nearest residences. This could include putting temporary construction noise barriers close to loud construction equipment and moving those barriers as-needed to shield noise from loud equipment, and or installing temporary construction noise barriers close to the nearest homes. |

| Mitigation Measure | Description of Measure |
|---|---|
| | <ul style="list-style-type: none"> • The construction contractor shall limit any unnecessary noise such as the use of public address systems and clanking of construction materials. • The construction contractor shall notify adjacent residents about the type, duration, and frequency of construction activities before the start of construction. The construction contractor shall also provide the residents with the name and phone number of a designated Sponsor representative to be contacted for noise-related concerns during construction. |
| MM-NOISE-2: Vibration Screening Assessment | <p>Prior to the start of construction, the Sponsor would develop a ground vibration monitoring plan and implement the following measures to reduce groundborne vibration during construction:</p> <ul style="list-style-type: none"> • Conduct a vibration screening assessment to estimate potential groundborne vibration levels during construction. • If the results of the screening assessment suggest potential for structural damage, the Sponsor would perform a pre-construction assessment, which involves controlled hammer drops and measurements of resulting groundborne vibration at different locations in the vicinity, to determine efficiency of vibration propagation through soils in the construction area. The measurement results would be used to refine the estimate of potential groundborne vibration levels at each location of concern. • Install real-time groundborne vibration monitoring at the nearest residences and at two locations in the ground between the residence and the construction area. The monitoring system would send text message notifications when measured levels approach a threshold (a warning), and when they equal or exceed a threshold (stop work). • Conduct voluntary pre- and post-construction inspections, with photos and videos and crack gauges. If post-construction structural damage from vibration is detected, the Sponsor and affected landowners would engage in mediation to remedy this situation. |

3.11 Recreation

3.11.1 Existing Conditions

The Proposed Action Alternative is located in and near the downtown portion of the City of Napa. The Proposed Action Area mainly consists of residential and commercial properties, some open space, and the public trail along the west bank of the Napa River. There are some recreational opportunities in and around the Proposed Action Area. The closest public park to the Proposed Action Area is the Oxbow Commons, located on McKinstry Street. The park was created in 2015 as part of the USACE Authorized Project and has a dual purpose to serve as a wet/dry bypass channel. Oxbow Commons is intended to flood with high flows of the Napa River during winter months to prevent high river flows that would normally backup and cause flooding in Downtown Napa. The area is designed to be multi-purpose public space with park and open spaces, an amphitheater, and connections to trails and the Napa River (City of Napa 2022).

The Napa River Trail, a multi-use recreational trail, runs along the west bank of the Napa River and is located within the Proposed Action Area. In addition to the paved Napa River Trail north of Lincoln Avenue, through the dry bypass, and along the west bank of the Napa River from McKinstry Street to the River Terrace Inn, unimproved dirt trails also allow access along the Napa River. These trails are used by walkers and bikers, and as access for fishing and boating in the Napa River.

Lake Park is located off Lakepark Drive approximately 0.15 miles west of the Proposed Action Area. Lake Park is a neighborhood park that has baseball and softball fields, basketball courts, picnic tables, and a playground.

3.11.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze recreation characteristics within the Proposed Action Area. The potential effects from construction, operation, and maintenance of the Proposed Action on recreational facilities were evaluated qualitatively using known recreational facilities data and regulations that would be applicable to the Proposed Action Alternative. Aerial imagery from Google Earth and collection of GIS data from the Napa County GIS Viewer and any applicable GIS open database were utilized to identify parks and recreational facilities within the Proposed Action Area. Imagery was also utilized to measure distance of parks and recreational facilities to Proposed Action construction limits.

Summary of Effects from 1999 Final SEIS/EIR

Recreation effects were evaluated in the 1999 Final SEIS/EIR. The 1999 Final SEIS/EIR determined that the project, post-construction, would have a beneficial effect on recreational resources due to the expansion of the multi-use recreation trail. The 1999 Final SEIS/EIR also evaluated the potential effects of the trail alignment and construction. The 1999 Final SEIS/EIR concluded that the project would result in a less than significant effect after coordination with the California Department of Fish and Wildlife due to the trail alignment and construction. Various mitigation measures are proposed for project-related biological resources effects, presumably for the trail in the 1999 SEIS/EIR. The previous biological resources mitigation measures in the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, still apply.

Summary of Recreation Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.11-1**.

Table 3.11-1. Summary of Recreation Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|------------------------------|
| <i>No Action Alternative</i> | | |
| REC-1 | Increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. | Less than significant effect |
| REC-2 | Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| REC-1 | Increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. | Less than significant effect |
| REC-2 | Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. | Less than significant effect |

Effect REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Limited, short-term disruption to the existing Napa River Trail, north of Lincoln Avenue would occur during construction. Portions of the existing trail would have to be closed during construction for approximately one year, however a detour would be established. Once construction of the No Action Alternative is complete the trail would be reestablished and reopened in this area. Under the No Action Alternative, the trail would cross under Lincoln Avenue Bridge and then run south to the Bypass along the waterside of the floodwall. Construction in the Dry Bypass for the pump station and the floodwalls may result in additional, temporary closures of recreational facilities in this area. The Sponsor would carry out O&M activities after construction of the No Action Alternative, which would not adversely affect the trail. Since construction conditions would be short term, the No Action Alternative is not expected to change the use of existing neighborhood and regional parks or other recreational facilities such that substantial or significant physical deterioration of the facility would occur or be accelerated. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The Proposed Action Alternative would not create new recreational facilities or attract more recreational users to the area. The Oxbow Commons, which is the closest public park within the vicinity of the Proposed Action Area, would be avoided during construction, and access to the park would remain open. The Proposed Action Alternative would also not generate an increase in population that would affect Oxbow Commons.

A new 10- to 12-foot-wide multi-use recreational trail would be constructed on the water side of the floodwall starting at the high ground at River Terrace Inn and running north to Wall Street, where the trail would then cross the wall through a 15-foot-wide stop log pedestrian gate. Continuing north, the floodwall would jog to the land side of the Ace & Vine and Napa River Pet Hospital businesses along Lincoln Avenue. The 10- to 12-foot-wide recreational trail would tie into the sidewalk along Lincoln Avenue and then cross Lincoln Avenue with a new, with a mid-block crossing crosswalk with activatable yellow lights. The trail would then run east along the north side of Lincoln Avenue until it ties into a reconstructed waterside 10-foot-wide recreation trail on the waterside of the floodwall by crossing the wall through a new 15-foot-wide stop log pedestrian and emergency access gate.

Within the northern section of the Proposed Action Area the existing Napa River Trail along the west bank of the Napa River would be closed to the public and a trail detour would be coordinated with the City of Napa along Soscol Avenue for recreational trail users during construction. A 15- to 25-foot-wide swing gate to provide pedestrian and O&M access would be constructed in the floodwall on the north and south sides of the RiverPointe property to maintain access to the reconstructed Napa River Trail. Post-construction, the No Action Alternative would result in an overall permanent beneficial effect with construction of the new trail, and the Proposed Action Alternative would have a temporary effect on recreation due to trail closure during construction.

After construction, the realigned trail would serve as a maintenance corridor and would be repaved in areas that were previously paved. Any damage to the existing Napa River Trail because of construction would be repaired as necessary. Disturbed areas would be seeded and restored after construction. A combination of native and adaptive drought tolerant plant varieties would be used along the trail network. Disturbed areas would be seeded to minimize erosion from construction effects, stabilize soil, and maximize usable recreational space along the trail. As discussed in the 1999 Final SEIS/EIR Section 2.6.2, *Floodwall Treatments*, the concrete floodwalls would be covered with aesthetic treatments to improve the appearance of the floodwalls as part of the project design. Maintenance activities for the Proposed Action include routine inspections and minor vegetation trimming.

The Proposed Action Alternative would not expose nearby existing neighborhood and regional parks and other recreational facilities to more users that would cause substantial, significant or accelerated physical deterioration. Construction, operations, and maintenance of the Proposed Action Alternative would not have an effect on the use of existing neighborhood and regional parks or other recreational facilities such that substantial or significant physical deterioration of the facility would occur or be accelerated. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Effect REC-2: Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Action Alternative

As discussed above, under the No Action Alternative, the Napa River Trail and unimproved recreational trail in the Proposed Action Area would need to be closed temporarily during construction and a detour would be provided north of Lincoln Avenue. After construction is complete the recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. South of Lincoln Avenue the trail would run along the waterside of the floodwall. Construction in the Dry Bypass for the pump station and the floodwalls may result in additional, temporary closures of recreational facilities in this area. The Sponsor would carry out O&M activities after construction of the No Action Alternative, which would not adversely affect the trail. Since construction conditions would be short term, the No Action Alternative is not expected to change the use of existing neighborhood and regional parks or other recreational facilities such that substantial or significant physical deterioration of the facility would occur or be accelerated. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

As discussed above, the Napa River Trail and unimproved recreational trail in the Proposed Action Area would need to be closed and a detour would be provided during construction north of Lincoln Avenue. The floodwalls north of Lincoln Avenue would be constructed in one construction season, so the trail closure and detour would only be in place temporarily. The trail would be re-constructed in its same general location after construction of the floodwalls north of Lincoln Avenue. The trail would also be connected through the mid-block crossing on Lincoln Avenue and south along the proposed floodwall alignment to the River Terrace Inn. Any adverse physical effects on the environment and the biological habitat in the Proposed Action Area because of the trail re-construction would be offset through mitigation measures presented in Section 3.12, *Terrestrial Biological Resources*. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

3.12 Terrestrial Biological Resources

3.12.1 Existing Conditions

This section discusses federal special-status plant and terrestrial wildlife species that might be affected by the Proposed Action Alternative and proposes mitigation measures to avoid or reduce effects on these species. For more information about state-listed species, see the 2025 SEIR prepared in accordance with CEQA for this Proposed Action. For details on aquatic biological resources, such as fish, please see Section 3.6, *Fisheries and Aquatic Biological Resources*. Appendix G, *Biological Resources*, contains the Reinitiation of Consultation with USFWS and the Informal Consultation/No Formal Consultation required with NMFS for the Proposed Action Alternative.

The Proposed Action Area used to assess potential biological effects consists of the Proposed Action alignment, all associated construction work areas including staging areas, and access roads, and a 100-foot buffer around each of these features. The 100-ft buffer was used to identify and protect biological resources that could be affected during construction.

The Proposed Action Alternative is located in the City of Napa along the western bank of the Napa River within the California Floristic Province. Napa County has a Mediterranean climate, and the vegetation is a mosaic of oak woodland, annual grasslands, upland scrubs, wetland communities, and riparian forests. Annual grasslands, riparian forest, saline emergent wetlands, freshwater emergent wetlands, ruderal and landscaped plantings characterize the vegetated portions of the Proposed Action Area. For many years, the principal land uses of the region were cattle grazing and dry-land farming. Increased development and introduction of vineyards have fragmented portions of the landscape, restricting once widespread plant and wildlife habitats. Current principal land uses within the Proposed Action Area include residential and commercial development.

As previously stated, the main drainageway in the region is the Napa River. This riverine system is perennial with headwaters originating at Mt. St. Helena. Surface waters then flow 55 miles along the valley floor to San Pablo Bay (Koehler 2002). Downstream near the confluence with the Bay, the Napa River turns into a large marshland, a complex of approximately 47,000 acres of existing and historic salt marshes known as the Napa Marsh (City of Napa 2022). In the Proposed Action Area, the entire river reach is tidally influenced by Bay waters approximately 7 river miles downstream.

To assess terrestrial biological resources with the potential to occur within the Proposed Action Area, nine USGS quads were queried in the CDFW's CNDDb (CDFW 2023a). These USGS quads included Mt. George, Cordelia, Capell Valley, Sonoma, Yountville, Rutherford, Napa, Cuttings Wharf, and Sears Point. Information on federally listed species was obtained from a query of the USFWS Information for Planning and Consulting (IPaC) database (USFWS 2023a) (Appendix G - *Biological Resources*). In addition, the following references were reviewed:

- USFWS Critical Habitat Portal (USFWS 2023b);
- USFWS National Wetland Inventory (USFWS 2023c);
- California Native Plant Society (CNPS) species list query for the Proposed Action Area (CNPS 2023)
- (Appendix G - *Biological Resources*);

- California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB) species list query for a 5-mile buffer around the Proposed Action Area (CDFW 2023a) (Appendix G -*Biological Resources*);
- CDFW Spotted Owl Database (CDFW 2023b);
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2023c);
- CDFW Special Animals List (CDFW 2023d);
- Soil map unit descriptions for the Proposed Action Area (NRCS 2023);
- eBird records for the Proposed Action Area (eBird 2023); and
- Previous reports and memos addressing biological resources in the Proposed Action Area

A delineation of aquatic resources was conducted in July 2023 by HDR. For the purposes of the aquatic resources delineation, the “field delineation survey area” was equal to the Proposed Action Area and included the footprint of floodwall components where the Proposed Action Alternative would be constructed within and adjacent to the Napa River, including access routes and staging areas plus a 100-foot buffer. A biological reconnaissance survey was also conducted in the Proposed Action Area in July 2023 and April 2024 by HDR to create a baseline biological resources map with vegetation communities, observed special-status species, and special-status species habitat.

Field observations of vegetation communities and special-status species were digitized into a GIS and georeferenced to produce land cover maps shown in Appendix G, *Biological Resources*. Descriptions of all vegetation communities and land cover types found to occur throughout the Proposed Action Area (Sawyer et al. 2009; CDFW 2023e) can also be found in Appendix G - *Biological Resources*.

Some vegetation communities are deemed sensitive communities/habitats and are identified in local or regional plans, policies, or regulations, or by the USFWS or the CDFW. CDFW’s Rarity Ranking follows NatureServe’s Heritage Methodology (Faber-Langendoen et al. 2012; CDFW 2023f) in which communities are given a G (global) and S (State) rank ranging from 1 (very rare and threatened) to 5 (demonstrably secure). Natural Communities with ranks of S1-S3 are considered sensitive. Several sensitive communities were identified in the Proposed Action Area including oak woodland, valley foothill riparian, fresh emergent wetland, and saline emergent wetland (**Table 3.12-1**).

Table 3.12-1. Vegetation and Land Cover Types Present in the Proposed Action Area

| Land Cover | Total Acreage |
|-------------------------|---------------|
| Annual Grassland | 8.96 |
| Disturbed | 1.78 |
| Fresh Emergent Wetland | 0.05 |
| Landscaped | 2.53 |
| Oak Woodland | 0.23 |
| Riverine | 9.96 |
| Ruderal | 124 |
| Saline Emergent Wetland | 0.21 |
| Urban | 38.86 |

| Land Cover | Total Acreage |
|--------------------------|---------------|
| Valley Foothill Riparian | 13.94 |
| Shaded Riparian Area | 0.22 |
| Total | 77.98 |

The term *waters of the United States* is an encompassing term used by the USACE for areas that are subject to federal regulation under CWA Sections 404 and 10, which refer to wetlands and non-wetland features. In addition, the RWQCB regulates, under California's Porter-Cologne Act, *waters of the state*. Waters of concern in the Proposed Action Area include the Napa River, Napa Creek, and the dry bypass flow channel. Appendix G, *Biological Resources*, provides more detailed information on wetlands and other waters.

Special-Status Species

Special-status plant and wildlife species refers to those species that meet one or more of the criteria specified in Appendix G, *Biological Resources*. Generally, these include species listed or proposed for listing under the Endangered Species Act, 16 U.S.C. §§ 1531-1544 or other special lists maintained by federal agencies. Special-status species were identified through a search of CNDDB database, USFWS Critical Habitat Portal, the CNPS database, and other sources as being historically reported to occur within the general project vicinity and Proposed Action Area. A list of species with potential to occur, within a 5-mile radius of the project site and Proposed Action Area is provided in Appendix G, *Biological Resources Attachments*.

The USFWS and NMFS maintain areas of critical habitat for federally regulated species to safeguard the continued existence of such species. Designated critical habitat for federally regulated species in the Proposed Action Area exists within the Napa River for the Central California Coast steelhead (70 FR 52487; September 2005). For more information, see Section 3.6, *Fisheries and Aquatic Biological Resources*. Two special-status species with high potential or are known to occur in or near the Proposed Action Area (shown below in **Table 3.12-2**) were identified and include: monarch butterfly (*Danaus plexippus*) and Northwestern pond turtle (*Actinemys marmorata*). These are the only special-status species described below. All other special-status species are discussed in Appendix G.

Table 3.12-2. Special-Status Wildlife Species Potentially Occurring within or near the Proposed Action Area

| Species ¹ | Common Name | Federal Status ² | State/CRPR Status ³ | Critical Habitat Designated? |
|-----------------------------|----------------------------|-----------------------------|--------------------------------|--|
| <i>Invertebrates</i> | | | | |
| <i>Danaus plexippus</i> | Monarch butterfly | FPT | None | No |
| <i>Amphibians</i> | | | | |
| <i>Rana draytonii</i> | California red-legged frog | FT | SSC | Yes, but not present in the Proposed Action Area |

| Species ¹ | Common Name | Federal Status ² | State/CRPR Status ³ | Critical Habitat Designated? |
|----------------------------|--------------------------|-----------------------------|--------------------------------|------------------------------|
| Reptiles | | | | |
| <i>Actinemys marmorata</i> | Northwestern pond turtle | FPT | SSC | No |

1 DPS – Distinct Population Segment

2 Federally endangered (FE); Federally Threatened (FT), Federally Proposed Threatened (FPT); Federal candidate for listing (FC)

3 State Species of Special Concern (SSC); State Candidate Endangered (CE); State Fully Protected (FP)

Source: Species and Listing Status (CDFW 2023a), Critical Habitat (USFWS 2023b)

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. The Napa River is the primary wildlife corridor in the Proposed Action Area. For more information on existing conditions, please see Appendix G, *Biological Resources*.

3.12.2 Effect Analysis

Method of Analysis

The section describes the methods used to analyze terrestrial biological resources within the Proposed Action Area. The potential effects from construction, operations, and maintenance of the Proposed Action Alternative on terrestrial biological resources were evaluated qualitatively and quantitatively using field survey data, desktop analysis, and available data and literature reviewed materials as well as reviewing the regulations that apply to the Proposed Action Alternative.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the USACE prepared a Supplemental Biological Assessment and reinitiated consultation with the USFWS for the Proposed Action Alternative's effects to special status species on July 1, 2024. The USFWS issued a response to the reinitiation request, on November 26, 2024, determining the implementation of the Proposed Action Alternative will not jeopardize the continued existence of the federally listed delta smelt and longfin smelt or adversely modify designated critical habitat for these two species. See, also, Section 3.6, *Fisheries and Aquatic Biological Resources*, above. All terms and conditions, conservation measures, and reasonable and prudent alternatives and measures resulting from this reinitiated consultation as well as the previous 1999 biological opinion and 2000 supplemental biological opinion for the USACE Authorized Project would be implemented in order to minimize take of listed, endangered, or threatened species and avoid jeopardizing the species.

At the time of the Endangered Species Act Section 7 Supplemental Biological Assessment submission, USFWS was not issuing consultations on northwestern pond turtle and Monarch butterfly. Nonetheless, the USFWS concurred with the findings of the Supplemental Biological Assessment that the Proposed Action Alternative is not likely to adversely affect the northwestern pond turtle and Monarch butterfly. During surveys, three milkweed host plants within the Proposed Action Area were observed. Only one milkweed host falls within the construction footprint of the proposed floodwall, so effects to Monarch butterfly would be negligible.

A Supplemental Fish and Wildlife Coordination Act report for the Proposed Action Alternative was provided by USFWS on December 12, 2024. The Supplemental Fish and Wildlife Coordination Act report is included as Appendix I.

Summary of Effects from 1999 Final SEIS/EIR

Effects to terrestrial biological resources were evaluated in the 1999 Final SEIS/EIR, but impact criteria have changed since the previous analysis. The 1999 Final SEIS/EIR evaluated the effects of construction and operation activities on terrestrial species. In the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, mitigation was provided for some aspects, and those mitigation measures still apply. The 1999 Final SEIS/EIR concluded that there would be impacts including of loss of important habitat, loss of woody vegetation, and effects to terrestrial species, but the effects would be less than significant after implementation of mitigation and the various permitting requirements associated with the USACE Authorized Project.

Summary of Terrestrial Biological Resources Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.12-3**.

Table 3.12-3. Summary of Terrestrial Biological Resources Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|---|---|
| <i>No Action Alternative</i> | | |
| BIO-T-1 | Have 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 the USFWS or CDFW | Less than significant effect with mitigation incorporated |
| BIO-T-2 | Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the USFWS, NMFS, or CDFW | Less than significant effect with mitigation incorporated |
| BIO-T-3 | Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means | Less than significant effect with mitigation incorporated |
| BIO-T-4 | Interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites | Less than significant effect with mitigation incorporated |
| <i>Proposed Action Alternative</i> | | |
| BIO-T-1 | Have 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 or by the USFWS, NMFS or CDFW | Less than significant effect with mitigation incorporated |
| BIO-T-2 | Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the USFWS, NMFS, or CDFW | Less than significant effect with mitigation incorporated |
| BIO-T-3 | Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means | Less than significant effect |

| Effect Number | Effect Statement | NEPA Effect Determination |
|---------------|---|------------------------------|
| BIO-T-4 | Interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites | Less than significant effect |

Effect BIO-T-1: Would the Proposed Action have 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 the CDFW or USFWS?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would modify habitats and have effects to special-status species under the ESA and USFWS jurisdiction. Effects BIO-1, BIO-3, BIO-4, BIO-6, BIO-7, and BIO-9 from the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, address the No Action Alternative effects to various habitat types and species. Implementation of mitigation measures BIO-1a through 1c, BIO-3a through 3b, BIO-4, BIO-6a through 6d, BIO-7a through 7c, and BIO-9 would effectively reduce effects on habitats and special-status species under the ESA and USFWS jurisdiction and CESA and CDFW jurisdiction for the No Action Alternative. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects would occur. Through the implementation of mitigation measures BIO-1a through 1c, BIO-3a through 3b, BIO-4, BIO-6a through 6d, BIO-7a through 7c, and BIO-9 in the 1999 Final SEIS/EIR, the No Action Alternative would not be expected to have a substantial or significant 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 the USFWS or CDFW. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

Construction and operation of the Proposed Action Alternative could result in permanent habitat loss of suitable habitat for two special-status wildlife species with the potential to occur in the Proposed Action Area: monarch butterfly and northwestern pond turtle. Suitable habitat types include riverine, riparian, grasslands, disturbed, freshwater emergent wetlands, and saline emergent wetlands. **Table 3.12-4** shows the breakdown of habitat types that would be affected by the Proposed Action Alternative. Figure 3 shows the effects of the Proposed Action Alternative to each habitat type in Appendix G, *Biological Resources*.

Table 3.12-4. Land Cover Permanent and Temporary Effects Anticipated from the Proposed Action

| Land Cover | Temporary Effects (acres) | Permanent Effects (acres) |
|------------------|---------------------------|---------------------------|
| Annual Grassland | 6.476 | 0.188 |
| Disturbed | 0.955 | 0.798 |

| Land Cover | Temporary Effects (acres) | Permanent Effects (acres) |
|--------------------------|---------------------------|---------------------------|
| Fresh Emergent Wetland | 0.049 | 0 |
| Landscaped | 1.166 | 0.404 |
| Oak Woodland | 0.105 | 0.046 |
| Riverine | 0.891 | 0.042 |
| Ruderal | 0.767 | 0.124 |
| Saline Emergent Wetland | 0.201 | 0.005 |
| Urban | 6.702 | 0.823 |
| Valley Foothill Riparian | 1.998 | 0.184 |
| Shaded Riverine Aquatic | 0.159 | 0 |
| Total | 19.47 | 2.613 |

The 1999 Final SEIS/EIR provided for the mitigation of vast quantities of wetlands, riparian habitat, and riverine habitat. Compensatory mitigation for the USACE Authorized Project was initiated and implemented in 2000 and included planting trees and creating various habitats for the areas to be affected by the USACE Authorized Project including future phases such as the Proposed Action.

The USACE Authorized Project Mitigation and Monitoring Plan stipulated that 503 acres of brackish emergent marsh and 17.68 acres of riparian forest above the oxbow would need to be created by the end of the 40-year monitoring period that began in 2004 (Jones and Stokes 2001). As of 2022, 341.3 acres of brackish emergent marsh have been created (Rincon 2022). At 20 years through the monitoring period, the restoration is on track to exceed the required acreage. The minimal effect on wetlands that would be incurred through the Proposed Action Alternative would not require additional mitigation. Approximately 287 total trees would need to be removed in the Proposed Action Area to allow construction and equipment clearance; 170 of which are located along the west bank of the Napa River and in the riparian corridor. The mitigation measures listed in **Table 3.12-6** below would ensure that the Proposed Action Alternative effects remain within the limits of the USACE Authorized Project Mitigation and Monitoring Plan and as minimal as possible. Therefore, no additional compensatory mitigation is included in the Proposed Action. Trees would be replanted in the Proposed Action, where permitted and feasible. The City of Napa-approved trees and hardy and herbaceous perennials would be planted along disturbed roadways to match the planting seen along the southwest side of Lincoln Avenue. Along the riparian corridor, planting would include native trees and shrubs near the top of bank and herbaceous perennials and wattles with live stake plantings near the ordinary high-water line.

The effects analyses of construction and O&M activities for each species are described below in **Table 3.12-5** with mitigation measures listed at the end of this section.

Table 3.12-5. Species Effects Analysis

| Species | Discussion |
|-------------------|---|
| Monarch Butterfly | <p>Monarch butterflies utilize milkweed plants for feeding and egg deposition. Three host plants for monarch butterflies were observed within the Proposed Action Area, within grassland and landscaped habitats but no individual butterflies were documented. Monarch butterfly is currently a candidate for listing under the federal ESA, so it is not yet formally protected. Under the Proposed Action Alternative, one milkweed plant is slated to be removed as it is within the proposed footprint of the floodwall to be constructed between Soscol Avenue and the Napa Valley Wine Train. The removal of this plant would result in the loss of suitable habitat for monarch butterflies. Fugitive dust from construction could create temporary negative adverse effects for butterflies within the Proposed Action Area. Construction equipment has the potential to directly injure individuals that may be nectaring on plants within or flying through the Proposed Action Area. The loss of one milkweed plant in an area where Monarchs are not overwintering would be considered a less than significant effect to the species. Mitigation for the loss of one plant would not be required. As there is potential for monarch butterflies to deposit eggs on the milkweed plants, MM BIO-T-1a must be instituted to survey for eggs or individuals prior to the start of construction to avoid and minimize effects to this species, shown in Table 3.12-6. During the O&M phase of the Proposed Action Alternative, periodic vegetation clearing around the floodwall would be necessary to ensure any repairs could be made. Milkweed grows well in disturbed soils. If any milkweed plants colonize the maintenance corridor, there would be potential for permanent, significant effects to monarch butterflies if these plants were removed while eggs are maturing, or larvae are pupating. MM BIO-T-1a listed for the construction phase of the Proposed Action Alternative would sufficiently curb any effect results from ongoing O&M activities. In addition, BMP-1 through BMP-5 would also be implemented to further reduce effects to a less than significant level by reducing the introduction of invasive species and by restricting activities to a small footprint to avoid effects to suitable habitats. Therefore, the Proposed Action Alternative would result in a less than significant effect with mitigation.</p> |

| Species | Discussion |
|--------------------------|---|
| Northwestern Pond Turtle | Northwestern pond turtles are the only native freshwater turtle in California. Napa River is tidally influenced within the Proposed Action Area (USFWS 2023c) and as such is not well suited for Northwestern pond turtle, but the species may migrate through the area. The use of construction equipment to install rock scour protection along the bridge piers within the river may directly injure or kill turtles within the Proposed Action Area. The placement of rock scour protection beneath the bridge also can directly harm or injure Northwestern pond turtles. Sediment release during construction would result in a temporary increase in turbidity within the river, which would affect any Northwestern pond turtle within the Proposed Action Area. Northwestern pond turtle is very sensitive to human disturbance, so proposed activities could result in interrupted basking through diving or evasion. The banks of the Napa River are very steep within the Proposed Action Area, so it is unlikely that this species would utilize the upland areas where floodwall construction is proposed. There is no new or continued in-water or bridge work proposed for the O&M phase of the Proposed Action Alternative. All O&M work would occur along the flood wall in the upland area. The banks of the Napa River within the Proposed Action Area are too steep for Northwestern pond turtle to access upland areas. It is unlikely that Northwestern pond turtle would be near the floodwall during the O&M phase of the project and as such they would not be affected during this phase. By implementing of MM BIO-T-1b , effects to Northwestern pond turtle would remain less than significant as preconstruction surveys would ensure that no Northwestern pond turtle are present in the work area and exclusion fencing excludes additional individuals from accessing the work area. O&M activities are not expected to occur within or adjacent to potential habitat for Northwestern pond turtle and therefore would have no effects on the species. In addition, BMP-1 through BMP-5 would also be implemented to further reduce effects to a less than significant level by reducing the introduction of invasive species and by restricting activities to a small footprint to avoid impacts to suitable habitats. Therefore, the Proposed Action Alternative would result in a less than significant effect with mitigation . |

Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect BIO-T-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would modify habitats and have effects to sensitive communities under USFWS and CDFW jurisdiction. Effects BIO-1, BIO-3, BIO-4, and BIO-9 from the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, address the No Action Alternative effects to various habitat types and sensitive communities. Implementation of mitigation measures BIO-1a through 1c, BIO-3a through 3b, BIO-4, and BIO-9 would effectively reduce effects on habitats and sensitive communities under USFWS jurisdiction and CDFW jurisdiction for the No Action Alternative. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects would occur. Through the implementation of mitigation measures BIO-1a through 1c, BIO-3a through 3b, BIO-4, and BIO-9 in the 1999 Final SEIS/EIR, the No Action Alternative would not be expected to have a substantial or significant adverse effect on any riparian habitat or other sensitive natural community identified in

local or regional plans, policies, and regulations or by the USFWS or the CDFW. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

Effects to the aquatic environment are discussed in Section 3.6, *Fisheries and Aquatic Biological Resources*.

The Proposed Action Alternative includes building a floodwall along the western bank of the Napa River and installing rock scour protection along the Lincoln Avenue bridge abutments and supports. **Table 3.12-3** above shows the amount of land in riparian habitat that the proposed construction would permanently and temporarily effect. Approximately 1.998 acres of temporary effects and 0.184 acres of permanent effects are anticipated within Valley foothill riparian. Effects due to possible erosion or sedimentation could occur within the riparian habitat as a result of construction. However, the Proposed Action Alternative would result in fewer environmental effects on terrestrial biological resources than implementation of the No Action Alternative. The Proposed Action Alternative would feature a smaller project footprint due to a reduction in proposed rock scour and the absence of a berm proposed in the No Action Alternative.

Upon completion of the Proposed Action Alternative, the current riparian areas where the floodwall is proposed would be transformed into developed areas. The addition of the maintenance corridor would allow for a swath of developed area around the floodwall for accessibility during O&M activities. This corridor would need to be periodically mowed to maintain access. It is possible that riparian plants could occupy the corridor during the O&M phase that would need to be removed. Additionally, the maintenance corridor is adjacent to riparian habitats that could be affected during O&M activities. The same avoidance and minimization measures listed for the construction phase would be relevant for the O&M. **BMP-1** would be implemented to ensure that the area of potential effects on the riparian environment is as small as possible during construction. **MM BIO-T-2** would require fencing of sensitive habitats to discourage accidental disturbance during construction and O&M activities. Additionally, **BMP-4**, which would include the implementation of a SWPPP, would protect water quality during construction activities, and BMPs would be installed prior to maintenance activities that may cause erosion or sedimentation.

As stated above, a large mitigation component of the project has already been implemented to compensate for loss of riparian habitat that would result from the Proposed Action Alternative. The habitat restoration component has already exceeded the 40-year goal set for riparian habitat restoration. Additional habitat mitigation is not anticipated. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect BIO-T-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would modify habitats and have effects to sensitive communities under USFWS and CDFW jurisdiction. Effect BIO-4 from the 1999 Final SEIS/EIR

Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, address the No Action Alternative effects to emergent wetland and saline emergent wetland habitats. Implementation of mitigation measure BIO-4 would effectively mitigate these effects to wetland habitats by creating an equal amount of jurisdictional wetlands thereby ensuring the No Action Alternative's effects do not result in a net decrease in wetlands. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects would occur. Through the implementation of mitigation measure BIO-4 in the 1999 Final SEIS/EIR, the No Action Alternative would not be expected to have a substantial or significant adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

The Proposed Action Alternative would permanently directly affect 0.005 acres of saline emergent wetland and would temporarily directly affect 0.049 acres of fresh emergent wetland and 0.201 acres of saline emergent wetland. Saline emergent wetland occurs near the floodwall closures at the dry bypass. This area would be filled to complete the remaining floodwall section. The temporarily affected areas include the staging and access areas near the dry bypass for the saline emergent wetland. The fresh emergent wetland effects would occur in a separate staging area in the Lake Park subdivision, north of Lincoln Avenue. The fresh emergent wetland is of low quality and is frequently mowed by the City of Napa.

Construction of the Proposed Action Alternative has the potential to affect adjacent wetlands through erosion and sedimentation. **BMP-1 through BMP-5**, which would include the implementation of a SWPPP, would protect wetland habitats during construction activities, and BMPs would be installed prior to maintenance activities that may cause erosion or sedimentation adjacent to wetland habitats. Additionally, the listed construction BMPs in the project description and those presented in Section 3.6, *Fisheries and Aquatic Biological Resources*, would control the introduction of invasive species which could degrade habitat quality.

O&M activities would only take place within the designated maintenance corridor that would be established during construction. This area would be converted to a developed/disturbed area upon completion of construction. There would not be any wetland areas within the O&M corridor and as such O&M activities are not anticipated to directly affect wetlands. **BMP-1 through BMP-5** would be implemented during O&M activities to ensure erosion, sedimentation, or the introduction of invasive species would not affect adjacent wetland communities. A very small area of wetland would be permanently affected by the Proposed Action Alternative. This area is smaller than the 0.1-acre threshold that triggers compensatory mitigation. All temporarily affected areas would be revegetated with native wetland vegetation upon completion of construction activities.

Additionally, the previously required federal and state wetland mitigation for the USACE Authorized Project has already been implemented by the Sponsor and already exceeded the 10-year goal set for wetland habitat restoration (Rincon 2022). The mitigation implemented to date is detailed in Appendix G – *Biological Resources* and encompasses the mitigation needs for the Proposed Action Alternative. Additional habitat mitigation is not anticipated. Therefore, the Proposed Action Alternative would result in a **less than significant effect** and no additional mitigation is required or recommended.

Effect BIO-T-4: Would the project 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 wildlife nursery sites?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would modify habitats, have effects to special-status species, and therefore may disrupt the movement of native resident or migratory fish and wildlife species in the Action Area. Effects BIO-1, BIO-3, BIO-4, BIO-6, BIO-7, and BIO-9 from the 1999 Final SEIS/EIR Section 3.4.4, *Biological Resources Impacts and Mitigation Measures*, address the No Action Alternative effects to various habitat types and species. Implementation of mitigation measures BIO-1a through 1c, BIO-3a through 3b, BIO-4, BIO-6a through 6d, BIO-7a through 7c, and BIO-9 would effectively reduce effects on habitats and special-status species. These mitigation measures would also minimize disruption and interference of the movement of native resident or migratory fish and wildlife species in the Action Area, specifically in the Napa River, for the No Action Alternative. The Sponsor would carry out O&M activities after construction of the No Action Alternative and no long-term effects would occur. Through the implementation of mitigation measures BIO-1a through 1c, BIO-3a through 3b, BIO-4, BIO-6a through 6d, BIO-7a through 7c, and BIO-9 in the 1999 Final SEIS/EIR, the No Action Alternative would not be expected to interfere with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors or impede the use of wildlife nursery sites. Therefore, the No Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Proposed Action Alternative

The effects of the implementation of the Proposed Action Alternative on fish species and aquatic migration are discussed in Section 3.6, *Fisheries and Aquatic Biological Resources*. The Napa River is the main migratory route that runs through the Proposed Action Area. The special-status birds discussed above that have the potential to nest within the Proposed Action Area do migrate throughout the region but are not solely reliant on the Napa River corridor.

Northwestern pond turtle has the potential to be affected by the Proposed Action Alternative. The Proposed Action Area is at the downstream edge of suitable habitat for the species, but it does have the potential to move throughout the proposed construction area during times of high flows and low salinities. During in-water work, water would pass beneath the temporary work platform allowing pond turtles access through the area. Exclusion fencing would be placed to ensure that Northwestern pond turtles do not enter the work area. This may temporarily impede Northwestern pond turtle's ability to travel through the work area during active construction, but flows would be present and similar to pre-project conditions that if a turtle were present, it could migrate up or down stream during construction. Exclusion fencing and the diversion would be removed following the completion of construction.

No in-water work would be required during the O&M phase of the Proposed Action Alternative. There would be no effect to resident or migratory wildlife corridors during this phase of the Proposed Action Alternative. The Proposed Action Alternative has the potential to temporarily disrupt the migration of northwestern pond turtle. However, the Proposed Action Area is at the downstream

edge of habitat suitability for this species. It is unlikely that this species would travel downstream through the Proposed Action Area during the proposed work period which is during the dry season. For this reason, effects to Northwestern pond turtle migration would be less than significant and no additional mitigation measures would be required other than those already described under Effect BIO-T-1. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Table 3.12-6. Mitigation Measures for Terrestrial Biological Resources Effects of the Proposed Action

| Mitigation Measure | Description of Measure |
|--|--|
| MM BIO-T-1a: Implement Measures to Avoid and Minimize Effects on Monarch Butterfly | Prior to ground disturbance, a biological monitor shall conduct preconstruction surveys for milkweed (<i>Asclepias</i> spp.). The biologist shall flag all existing milkweed plants or patches and, where feasible, instruct the crew to avoid mowing or removal during the monarch breeding season which occurs from March 15 to October 31. If milkweed plants are identified within the Proposed Action Area, surveys for adult and larval monarchs should be conducted both before and after the proposed Action. A 2-foot buffer shall be maintained around all milkweed plants during construction and ground disturbing activities to protect breeding habitat. Include USFWS recommended pollinator plants into mitigation site planting plans when possible. No milkweed shall be cut or mowed during the monarch breeding season as specified above. All mower operators shall be trained by a biological monitor to recognize milkweed and other important native nectar plants to reduce accidental mowing. |
| MM BIO-T-1b: Implement Measures to Avoid and Minimize Effects to northwestern pond turtle | Prior to ground disturbing activities, exclusionary fencing shall be used to ensure northwestern pond turtles are kept out of the construction area. This fencing would be maintained throughout the duration of construction. The integrity of the exclusion fencing would be checked daily by a Biological Monitor. Additionally, a biological monitor would check the work area every morning before construction begins to ensure that no turtles are within the exclusion area. If a Northwestern pond turtle individual or nest is observed in the impact area, construction activities would stop until the biological monitor establishes an appropriate buffer, or the turtle is no longer in the impact area. If work is performed between May-July during Northwestern pond turtle nesting season, surveys for nesting females would be required no more than 48 hours prior to ground disturbance activities. A qualified biologist shall survey the work site and 400 m up and downstream for signs of nesting and occupation. If nests are encountered, an exclusion buffer would be delineated around the nest area where no work shall occur until the end of nesting season. If work must occur within the nesting area, contact USFWS for relocation authority and procedures. |

| Mitigation Measure | Description of Measure |
|---|--|
| SEIR-MM-BIO-T-1c: Preconstruction Nesting Bird Surveys | <p>If clearing and/or construction activities would occur during the nesting season (March 1 to August 31), then preconstruction surveys to identify active migratory bird and/or raptor nests shall be conducted by a qualified biologist no more than 7 days prior to construction initiation. Focused surveys shall be performed by a qualified biologist for the purpose of determining the presence or absence of active nest sites within the following distances from the disturbance footprint:</p> <ul style="list-style-type: none"> • Passerines: Disturbance footprint only, or at the biologist's discretion • Raptors: 500 feet, or within sight of the disturbance footprint, whichever is smaller • Special-status Raptors: ½ mile, or within sight of the disturbance footprint, whichever is smaller. <p>If a lapse in project activities of 7 days or greater occurs for any reason during the nesting season, a qualified biologist shall perform another survey for nesting birds and raptors prior to resuming project activities. If feasible, tree and vegetation clearing would be conducted outside the nesting season. If active nest sites are identified within the survey distances defined in the Nesting Bird and Raptor Surveys measure, a no-disturbance buffer shall be established for all active nest sites prior to commencement of any project-related activities to avoid disturbances to nesting activities. A no-disturbance buffer constitutes a zone in which project-related activities such as vegetation removal, earth moving, and construction cannot occur. The size of no-disturbance buffers would be determined by a qualified biologist based on the species, activities in the vicinity of the nest, and topographic and other visual barriers. A qualified biologist shall monitor all active nests during construction activities until the nest(s) is deemed inactive. The amount and duration of monitoring would be determined by the qualified biologist and would depend on the same factors mentioned above when determining the size of the no disturbance buffer. If active special-status raptor nests are detected and an appropriately sized no-disturbance buffer (per current federal guidelines) is not feasible, the biologist may monitor the nest full time depending on the nest location, or only when noise are above background levels tolerated by raptors. Monitoring shall occur until the nestlings have fledged, or the nest is deemed inactive. If disturbance resulting from project activities is observed, construction may be delayed until the nest is no longer active, as determined by a qualified biologist, or the appropriate agency can be consulted.</p> |
| SEIR-MM-BIO-T-1d: Preconstruction Rare Plant Surveys | <p>Prior to ground disturbance, a qualified botanist would complete botanical surveys for delta tule pea. If this species is found, the Sponsor would avoid all plants by 50 feet. If avoidance is not possible, the Sponsor would consult with CDFW to address effects to the species</p> |

| Mitigation Measure | Description of Measure |
|--|--|
| SEIR-MM-BIO-T-1e: Conduct Preliminary Field Assessment for Bats | An initial daytime field assessment on anthropogenic structures such as bridges, road- and stream-associated culverts, or other transportation structures that are found in or within 100 feet of the Proposed Action Area should be investigated by a qualified biologist for the presence of roosting bats (Caltrans 2021). The preliminary field assessment can be completed at any time of the year, so long as recent or current weather conditions allow the biologist to perform the survey without erasure of signs of bat use (i.e., rain or flooding). The initial survey should provide documentation to the type of roost present (day, night, maternity, or wintering) and the species where possible. If initial surveys either a) document the presence of bats or b) cannot categorically rule out the presence of bats on any structure in or within 100 feet of the Proposed Action Area, a Bat Mitigation Plan should be developed. Initial surveys should be planned to allow appropriate time for follow up surveys, if warranted, prior to proposed activities commencing. |
| SEIR-MM-BIO-T-1f: Bat Mitigation Plan Development | If it is discovered that bats utilize structures as roosting habitat in or within 100 feet of the Proposed Action Area, or that their presence cannot be categorically ruled out, then a Bat Mitigation Plan shall be developed with guidance from <i>California Bat Mitigation: Techniques, Solutions, and Effectiveness</i> and <i>Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions</i> along with the best available science by a qualified biologist (Johnston et al. 2004, Caltrans 2021). This plan would address the need for follow up surveys prior to Proposed Action Alternative activities commencing, documentation of use, minimization of impacts, temporal and physical buffer zones beyond those established here, and monitoring of activities. |
| SEIR-MM-BIO-T-1g: Bat Mitigation Plan Development of Temporal and Physical Buffer Areas | In addition to any temporal and physical buffer zones established in a Bat Mitigation Plan, a buffer of 200 feet should be established at any structures that could serve as potential roosting sites for bats. The Bat Mitigation Plan would document buffer zones for night, day, maternity, and wintering roosts and specific species where applicable. These buffers should remain in place unless the Preliminary Field Assessment can categorically rule out any potential for use of an individual structure by roosting bats. |
| SEIR-MM-BIO-T-1h: Minimization of Light | Temporary lighting within the Proposed Action Area should be directed away from suitable roosting habitat regardless of documented species presence in or within 100 feet of the Proposed Action Area. |
| MM-BIO-T-2: Sensitive Community Fencing | If sensitive natural communities occur within 100 feet of proposed ground-disturbing activities, including construction access routes and temporary work areas, with no pre-existing barrier between them and the proposed ground disturbance, protective fencing, such as silt fencing, would be installed between habitats that are to be avoided and the construction limits to prevent accidental disturbance and to protect water quality during construction. |

3.13 Traffic/Transportation

3.13.1 Existing Conditions

Napa Valley Transportation Authority (NVTa) is the Countywide Transportation Agency that programs state and federal funds for local projects. NVTa, in coordination with the City and other Napa County jurisdictions, has prepared a variety of transportation-related plans, including the Napa Countywide Bicycle Plan, Countywide Transportation Plan, Community Based Transportation Plan, Napa Countywide Pedestrian Plan, Imola Corridor Complete Streets Improvement Plan, and State Route (SR) 29 Comprehensive Multimodal Corridor Plan. These plans are described in greater detail below.

Roadway System

The streets and highways of the City of Napa are the primary elements of the transportation system and serve pedestrians, bicycles, transit vehicles, automobiles, and trucks. The street network in the City of Napa is connected to the larger region via State Routes, including SR 29, SR 12, SR 221, and SR 121 (City of Napa 2022). Major roadways in the Proposed Action Area and vicinity include 1st Street, Lincoln Avenue, Silverado Trail, and Soscol Avenue; these are described in greater detail in **Table 3.13-1** below.

Table 3.13-1. Major Roadways in Proposed Action Area

| Major Roadways | Description of Roadways |
|--------------------------|--|
| Soscol Avenue | The avenue is four-lane arterial street with a posted speed limit of 40 mph. There are two lanes each direction, with raised median islands separating northbound and southbound traffic between 1st and 3rd streets. There are striped bike lanes in both directions on Soscol Avenue. Soscol Avenue has also been designated as a boulevard, a designation that identifies streets that are intended to foster a memorable image by including elements such as a landscaped median, shade trees, and wide sidewalks (City of Napa 2022). |
| Silverado Trail (SR 121) | The trail bounds the Proposed Action Area to the east. SR 121 is a two-lane arterial street which runs between the cities of Napa and Calistoga. It has one lane in each direction and the posted speed limit is 35 mph. |
| 1st Street | The street is a two-lane arterial street, with one lane each direction east of Main Street and two lanes westbound between Main Street and California Boulevard. Between Jefferson Street and Soscol Avenue, the posted speed limit is 25 mph. |
| Lincoln Avenue | The avenue is a four-lane arterial street with a posted speed limit of 35 mph. There are two lanes in each direction. The Lincoln Avenue bridge traverses the Napa River and is a continuous reinforced concrete T-girder bridge on big pier walls and a 40-degree skew. The bridge carries two traffic lanes, a bicycle lane, and a sidewalk in each direction. |

Level of Service for City-Owned Roadways

Level of Service (LOS) is a qualitative measure of roadway operating conditions that relates to a driver's perception of comfort, convenience, and efficiency. A LOS letter grade of A represents free flow conditions, while F reflects severe delay or stop-and-go traffic (City of Napa 2022). **Table 3.13-2** includes a summary of peak hour LOS for intersections near the Proposed Action Area.

Table 3.13-2. Peak Hour LOS for Intersections in the Proposed Action Area

| Intersection Locations | AM (observed conditions) | PM (observed conditions) |
|--|--------------------------|--------------------------|
| Trancas St/Soscol Ave | D | D |
| Lincoln Ave/California Blvd | C | E |
| Lincoln Ave/Jefferson St | D | D |
| Lincoln Ave/Soscol Ave | E | D |
| 1st St/Jefferson St | D | E |
| Soscol Ave/Pearl St | - | - |
| 1st St/Soscol Ave | C | C |
| 1st St/Silverado Trail (SR-121) | B | C |
| 3rd St/Soscol Ave | D | D |
| 3rd St/East Ave/Silverado Trail (SR-121) | B | C |
| Coombsville/Silverado Trail (SR-121) | - | - |
| Soscol Ave/Silverado Trail (SR-121) | C | B |

Bike and Pedestrian Facilities

As described in the City of Napa 2040 General Plan (City of Napa 2022), bicycle facilities fall into the following four categories:

Table 3.13-3. Bicycle Facility Classes

| Major Roadways | Description of Roadways |
|----------------|--|
| Class I | Multi-use paths provide a completely separated right-of-way for the exclusive use of bicycles and pedestrians. |
| Class II | Bike lanes provide an exclusive space for bicyclists in the roadway and are established by striping and markings on the roadway surface. |
| Class III | Bike routes are designated with pavement markings and/or signage to indicate a shared lane environment between bicyclists and vehicles. |
| Class IV | Separated bike lanes provide an exclusive space for bicyclists that is physically separated from motor vehicle traffic by a vertical element and that is distinct from the sidewalk. |

Based on the City of Napa Bicycle Plan, there are approximately 49 miles of existing bicycle facilities in the City, including 15 miles of Class I paths, 28 miles of Class II bike lanes, and 6 miles of Class III bike lanes (City of Napa 2022). Bicycle traffic within the Proposed Action Area primarily uses the travel lane with vehicular traffic. However, there are marked bike lanes on Soscol Avenue throughout the Proposed Action Area and on 3rd Street between Soscol Avenue and Silverado Trail. Pedestrian facilities within the Proposed Action Area consist predominantly of sidewalks on both sides of the street.

The Napa River Trail is a Class I bicycle and pedestrian trail that runs along the west bank of the Napa River between Lincoln Avenue and Trancas Street in the Proposed Action Area.

Parking

According to the City of Napa 2040 General Plan, the Downtown Napa Parking Management Plan guides City policy and decisions regarding management of the current supply of public parking spaces in Downtown and the Oxbow District (City of Napa 2022). Within the Proposed Action Area, the City of Napa maintains a number of public parking lots, along with some areas where parking is allowed on-street.

Transit and Transit Network

NVTA provides local public transit through the Vine Bus System and operates as an on-demand bus system within the City of Napa. Regional routes that cross the Proposed Action Area are described below (City of Napa 2022).

- Route 10 (Up Valley Connector) – provides service to Calistoga; runs along Soscol Avenue in the Proposed Action Area.
- Route 11 (Napa-Vallejo Express) – provides service to Vallejo; runs along Soscol Avenue in the Proposed Action Area.
- Route E Vintage – provides service within the northern portion of the City of Napa; runs along a portion of Soscol Avenue in the Proposed Action Area.

Rail Transport

The Napa Valley Railroad operates a historic rail line called the Napa Valley Wine Train that serves the Napa Valley. The rail line runs from Vallejo to Calistoga. As of this SEA, the train serves mostly tourists and makes multiple round trips per day. The main terminal is located in the City of Napa on McKinstry Street, north of 1st Street (City of Napa 2022).

South of the City and extending to Vallejo, the rail line is owned by California Northern Railroad (CNR), a shortline freight operator. The CNR Schellville subdivision connects to a rail right-of-way that is owned by the Sonoma Marin Rail Transit in American Canyon (City of Napa 2022).

Emergency Evacuation

Napa County is located in the Governor's Office of Emergency Services Coastal Region and Mutual Aid Region II. There are approximately 55 evacuation zones in the City, which are roughly drawn along major streets and are based on an algorithm that takes into account fire history and population density. As described in Section 3.8-1, the Proposed Action Area is located within evacuation zones NAP-EO32 and NAP-EO26 for various hazardous events (Napa County 2023). There are no designated evacuation routes in the City; however, major state roadways such as SR 29 and SR 221 are critical corridors for circulation in the event of an emergency (City of Napa 2022).

3.13.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze transportation characteristics within the Proposed Action Area. The potential effects from construction, operation, and maintenance of the Proposed Action Alternative were evaluated quantitatively and qualitatively using known transportation data and quantitatively using regulations that would be applicable to the Proposed Action Alternative.

Summary of Effects from 1999 Final SEIS/EIR

Traffic and transportation effects were evaluated in the 1999 Final SEIS/EIR, but effect criteria have changed since the previous analysis. The 1999 Final SEIS/EIR concluded that after implementation of the 1999 Preferred Alternative, a number of intersections and roadways would operate at unacceptable levels of service or that detours would result in unacceptable operations. The 1999 Final SEIS/EIR also concluded that after implementation of the 1999 Preferred Alternative, loss of parking in downtown Napa would result in a potentially significant effect. Mitigation Measures TRAFFIC-1 through TRAFFIC-9 were provided to reduce these effects to less than significant. These effects were not identified within the Proposed Action Alternative Area evaluated in this SEA, and therefore, are not generally applicable.

Summary of Traffic/Transportation Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.13-4**.

Table 3.13-4. Summary of Traffic/Transportation Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|---|---|
| <i>No Action Alternative</i> | | |
| TRA-1 | Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. | Less than significant effect |
| TRA-2 | Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). | Less than significant effect |
| TRA-3 | Result in inadequate emergency access | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| TRA-1 | Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. | Less than significant effect with mitigation incorporated |
| TRA-2 | Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). | Less than significant effect |
| TRA-3 | Result in inadequate emergency access | Less than significant effect |

Effect TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Traffic effects were identified in TRAFFIC-1 through TRAFFIC-9 in the 1999 Final SEIS/EIR Section 3.8.4, *Traffic Impacts and Mitigation Measures*, and associated Mitigation Measures TRAFFIC-1 through TRAFFIC-9 were provided to reduce effects of the No Action Alternative to less than significant. However, no traffic effects were identified in the 1999 Final SEIS/EIR within the Action Area evaluated in this SEA, and therefore, Mitigation Measures TRAFFIC-1 through TRAFFIC-9 in the 1999 Final SEIS/EIR are not generally applicable here. The No Action Alternative could create short-term effects due to construction traffic, but would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action

The Proposed Action Alternative includes construction of floodwalls, along with the construction of new circulation system features that include the extension and reconstruction of the Napa River Trail and a new pedestrian crossing for the Napa River Trail across Lincoln Avenue. Construction of the floodwall north of Lincoln Avenue would require the Napa River Trail to be closed from Lincoln Avenue to Trancas Street. A trail detour would be coordinated with the City of Napa along Soscol Avenue for recreational users to minimize effects to pedestrians and cyclists. After the floodwall is installed in this reach, the waterside Napa River Trail would be installed. Similarly, south of Lincoln Avenue the Napa River Trail would be constructed on the waterside once the floodwall is installed and would connect to the existing trail that ends near the River Terrace Inn.

The northern portion of the paved trail through the Dry Bypass between McKinstry Street and West Street near Napa Creek would also need to be closed during construction of the floodwall closures in this area. A trail detour would be coordinated with the City of Napa along McKinstry Street and 1st Street for recreational users to minimize effects to pedestrians and cyclists.

Construction traffic would utilize the Proposed Action Area city roadways discussed above, specifically Soscol Avenue and Lincoln Avenue. Traffic flow on access routes would be coordinated by the contractor as construction work progresses along the alignment. It is anticipated that roads used to access the site are wide enough to accommodate all truck and equipment traffic for the Proposed Action. No road widening would be required. Construction along Lincoln Avenue would require traffic control measures and a flagger as well as potential lane closures for the utility relocations in this area. Installation of the pedestrian crossing across Lincoln Avenue would require traffic to be controlled across Lincoln Avenue for a brief period. The Proposed Action Alternative would result in fewer environmental effects on traffic/transportation resources than the No Action Alternative. Construction of the Proposed Action Alternative would require fewer truck trips for materials than the No Action Alternative.

Floodwalls would be installed along Lincoln Avenue in front of the Ace & Vine and Napa River Pet Hospital properties, with openings left in the floodwall for access to these properties. Swing gates would be constructed that tuck behind the floodwall when not in use. The sidewalk along the south side of Lincoln Avenue in this area would be relocated away from the floodwall to provide a separation between the floodwall, driveways, and the sidewalk. The floodwall on either side of the Ace & Vine and Napa River Pet Hospital driveways would be lowered to 3 feet and a temporary stop log structure would be constructed on top of the floodwall and only in place during a flood event. Therefore, the visible floodwall in this area would be 3 feet in normal conditions. This would improve sight lines for vehicles utilizing the Ace & Vine and Napa River Pet Hospital driveways compared to the No Action Alternative, which consists of a higher floodwall. The driveway openings would also be enlarged to help improve sight lines.

The Sponsor, in coordination with the USACE and the City of Napa, agreed to an acceptable design for the proposed floodwalls and driveway openings on Lincoln Avenue to meet the local sight lines and standards for ingress and egress onto an arterial roadway. Therefore, the Proposed Action would not conflict with federal or City standards, or the General Plan policies related to transportation safety.

Three parcels could have emergency access potentially impeded during construction: Escalante Towing, located at 501 N Bay Drive; Ace & Vine, located at 505 Lincoln Avenue; and the Napa River Pet Hospital, located at 510 Lincoln Avenue. However, these businesses would have temporary access detours implemented during construction based on the phasing of the closure structures, and access would be coordinated with the Sponsor in advance of construction to assure the contractor's performance of utility and/or roadway improvements during construction.

The Proposed Action Area includes a 15-foot-wide future O&M corridor on the land side of the floodwall alignment to allow vehicular access for inspection and maintenance activities. No full or partial road closures would be required for O&M. O&M activities would occur periodically and would require relatively few vehicles so they would not alter the traffic volumes on access roads for the Proposed Action Alternative.

With the implementation of mitigation measure **MM-TRA-1** and **MM-TRA-2**, the Proposed Action Alternative would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, shown in **Table 3.13-5**. Therefore, the Proposed Action Alternative would result in a **less than significant effect with mitigation incorporated**.

Effect TRA-2: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Traffic effects were identified in TRAFFIC-1 through TRAFFIC-9 in the 1999 Final SEIS/EIR Section 3.8.4, *Traffic Impacts and Mitigation Measures*, and associated Mitigation Measures TRAFFIC-1 through TRAFFIC-9 were provided to reduce effects of

the No Action Alternative to less than significant. However, no traffic effects were identified in the 1999 Final SEIS/EIR within the Action Area evaluated in this SEA, and therefore, Mitigation Measures TRAFFIC-1 through TRAFFIC-9 in the 1999 Final SEIS/EIR are not generally applicable here. The majority of the improvements constructed under the No Action Alternative would not result in geometric design hazards or incompatible uses since they would generally be located off local roadways. The No Action Alternative would not substantially or significantly increase hazards due to a geometric design feature or incompatible uses. Therefore, the No Action Alternative would have a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The Proposed Action Alternative includes the construction of floodwalls, installation of scour protection under the Lincoln Avenue Bridge, and construction of a new recreational trail on the water side of the floodwall. The majority of the improvements constructed under the Proposed Action Alternative would not result in geometric design hazards or incompatible uses since they would generally be located off local roadways. Only a short segment of the proposed floodwalls would be along local roadways (Lincoln Avenue and Wall Street).

As described under Effect TRA-1, the Sponsor coordinated with the USACE and the City of Napa on an acceptable design for the proposed floodwalls and driveway openings at Ace & Vine and the Napa River Pet Hospital on Lincoln Avenue to meet the federal, state, and local sight lines and standards for ingress and egress onto an arterial roadway. During construction, operation, and maintenance all street legal trucks and labor force vehicles would use existing roadways to enter and exit the Proposed Action Area and staging areas. The Proposed Action Alternative would not substantially or significantly increase hazards due to a geometric design feature or incompatible uses. Therefore, the Proposed Action Alternative would have a **less than significant effect**. No mitigation is required or recommended.

Effect TRA-3: Result in inadequate emergency access.

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. Traffic effects were identified in TRAFFIC-1 through TRAFFIC-9 in the 1999 Final SEIS/EIR Section 3.8.4, *Traffic Impacts and Mitigation Measures*, and associated Mitigation Measures TRAFFIC-1 through TRAFFIC-9 were provided to reduce effects of the No Action Alternative to less than significant. However, no traffic effects were identified in the 1999 Final SEIS/EIR within the Action Area evaluated in this SEA, and therefore, Mitigation Measures TRAFFIC-1 through TRAFFIC-9 in the 1999 Final SEIS/EIR are not generally applicable here. The No Action Alternative could create short-term effects due to construction traffic to emergency access for some businesses. These businesses would have temporary access detours implemented based on the phasing of the closure structures and access would be coordinated with the Sponsor in advance of construction to assure the contractor's performance of utility and roadway improvements during construction. Based on these factors, construction of the No Action Alternative would not result in inadequate emergency access and effects would be less

than significant. Therefore, the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

As discussed in Section 3.8, *Hazards and Hazardous Materials*, the Proposed Action Alternative would not interfere with emergency response and emergency evacuation routes, as none intersect the Proposed Action Area. The proposed floodwalls would be constructed in several-hundred-foot segments at a time as it progresses along the alignment. Traffic flow on access routes would be coordinated by Sponsor and/or the contractor, as applicable, as construction work progresses along the alignment. It is anticipated that existing roadways used to access the site are wide enough to accommodate all truck and equipment traffic for the Proposed Action Alternative. No road widening would be required. Where possible, a 35-foot-wide construction corridor would be used for access and staging for construction work.

As discussed in Effect TRA-1, emergency access effects could occur at three parcels: Escalante Towing, located at 501 N Bay Drive; Ace & Vine, located at 505 Lincoln Avenue; and Napa River Pet Hospital, located at 510 Lincoln Avenue. These businesses would have temporary access detours implemented based on the phasing of the closure structures and access would be coordinated with the Sponsor in advance of construction to assure the contractor's performance of utility and roadway improvements during construction. Based on these factors, construction of the Proposed Action Alternative would not result in inadequate emergency access and effects would be less than significant.

The Proposed Action Area also includes a 15-foot-wide future O&M corridor on the land side of the floodwall alignment to allow vehicular access for inspection and maintenance activities. No full or partial road closures would be required for O&M. O&M activities would occur periodically and would require relatively few vehicles so they would not alter the traffic volumes on access roads for the Proposed Action Alternative. The Proposed Action would not result in inadequate emergency access. Therefore, the Proposed Action Alternative would have a **less than significant effect**. No mitigation is required or recommended.

Table 3.13-5. Mitigation Measures for Traffic/Transportation Effects of the Proposed Action

| Mitigation Measure | Description of Measure |
|--|---|
| MM-TRA-1: Establish detours, signage and a notification system for the Napa River Trail closure between Lincoln Avenue and Trancas Street and the northern paved trail in the dry bypass. | The Sponsor in coordination with the City would establish detour routes that meet the area needs during construction. The Sponsor would install signage and develop a notification system to residences and businesses in the area to warn them of the closure and detours. |
| MM-TRA-2: Prepare and Implement a Traffic Control Plan | Before the start of project-related construction activities, USACE and the Sponsor would require the contractor to prepare a Traffic Control and Road Maintenance Plan. This plan would describe the methods of traffic control to be used during construction. All on-street construction traffic would be required to comply with USACE and City's standard construction specifications. The items listed below would be included in the plan and as terms of the construction contracts: |

| Mitigation Measure | Description of Measure |
|--------------------|--|
| | <ul style="list-style-type: none"> Follow the standard construction specifications of affected jurisdictions and obtain the appropriate encroachment permits, if required. Incorporate the conditions of the encroachment permit into the construction contract. Encroachment permit conditions would be enforced by the agency that issues the encroachment permit by contacting the Sponsor who oversees construction and construction contract enforcement, who in turn will inform the USACE. 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 would 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. Proposed lane closures would be coordinated with the City and be minimized to the extent possible during the morning and evening peak traffic periods. Construction specifications would limit lane closures during commuting hours where feasible, and lane closures would be kept as short as possible. If a road must be closed, detour routes and/or temporary roads would be made to accommodate traffic flows. Signs would 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 are able to avoid traveling through affected areas during these times. Provide bicycle detours to allow for continued use by bicycle commuters. Maintain safe pedestrian and bicyclist access around the construction areas at all times. Construction areas would be secured as required by the Sponsor in coordination with the City to prevent pedestrians and bicyclists from entering the work site, and all stationary equipment should be located as far away as possible from areas where bicyclists and pedestrians are present. Notify (e.g., physical signage, internet postings, letters, or telephone calls) and consult with emergency service providers 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 would be made available at all times. The construction contractor would document pre- and post-construction conditions on roadways used during construction. This information would be used to assess damage to roadways used during construction. To the extent required by applicable law, the contractor would repair any damages to the roadway caused by contractor negligence during construction of the Proposed Action Alternative. |

3.14 Utilities and Service Systems

3.14.1 Existing Conditions

The following utility services will be discussed in the section and are summarized in **Table 3.14-1** below: electric power and natural gas (including substations, electrical power lines, and gas lines); solid waste and recycling; sewer and septic systems; stormwater and drainage; water supply; utility conflicts.

Table 3.14-1. Utility Services

| Service | Discussion |
|--------------------------------|--|
| Electric power and natural gas | The Pacific Gas and Electric Company (PG&E) is the primary provider of electricity within Napa County, including the generation and transmission of electricity, customer service, meter reading, billing, emergency response, and other services to commercial and residential developments located within its service area. Electricity is provided through the PG&E grid, making it vulnerable to Public Safety Power Shutoffs during extreme weather conditions (City of Napa 2022). |
| Solid Waste and Recycling | Napa County currently has five solid waste providers and two joint powers agencies/authorities. Solid waste providers include the Upper Valley Disposal Service, Berryessa Garbage Service, Napa Recycling and Waste Services, Napa County Recycling and Waste Services (NCRWS), and Recology American Canyon. The joint power agencies/authorities in the county, which do not provide solid waste collection or disposal services, include the Upper Valley Waste Management Agency and the Napa Vallejo Waste Management Authority. Residential and commercial solid waste collection in the City of Napa is currently provided by NCRWS, which is located approximately 7.7 miles from the Proposed Action Area. This facility also provides electronic waste disposal and recycling services (Napa County 2009). Hazardous waste disposal is provided by Napa Vallejo Household Hazardous Waste Collection Facility, a separate facility located approximately 4.7 miles from the Proposed Action Area. |
| Sewer and Septic Systems | According to the Napa County General Plan Update - Draft Environmental Impact Report, there are several wastewater service providers in Napa County serving various portions of the County including: the Napa Sanitation District (NapaSan), Lake Berryessa Resort Improvement District, Napa Berryessa Resort Improvement District, Napa River Reclamation District #2109, Spanish Flat Water District, Circle Oaks County Water District, and American Canyon Public Works Department (Napa County 2007). The City of Napa uses a community wastewater system that is managed by the NapaSan. The wastewater treatment facility is located south of the Proposed Action Area along the Napa River. There are four ponds linked together by gate valves, with a total area of 342 acres and a capacity of about 665 million gallons (NapaSan 2023). |
| Stormwater and Drainage | The storm water drainage system for the City of Napa uses a network of open ditches, culverts, and underground pipes of various sizes and capacities, all of which is maintained by the City's Public Works Department. On the northern portion of the Project alignment, along Trout Lane, is an existing 72-inch storm drain outfall and a 36-inch steel waterline that crosses beneath the trail. The two would intersect within the Proposed Action Alternative construction area (City of Napa 2022). |

| Service | Discussion |
|-------------------|---|
| Water Supply | <p>The City of Napa's current water demands are met by three sources: Lake Hennessey, Milliken Reservoir, and through the State Water Project (SWP). Each source has its own separate water treatment plan. Hennessey Water Treatment Plant (WTP) treats water from Lake Hennessey. Milliken WTP treats water from Milliken Reservoir. Edward I. Barwick Jamieson Canyon WTP treats the SWP water (City of Napa 2020).</p> <p>Lake Hennessey is the City's primary local water source. Water from Conn Creek is captured in the lake's dam, Conn Creek Dam, and stored in the impoundment to a capacity of 31,000 acre-feet of water. The City does not obtain its water supply from groundwater sources and is an insignificant user of irrigation water from groundwater sources (City of Napa 2020).</p> |
| Utility Conflicts | Construction of the Proposed Action Alternative would require the removal and relocation of some utilities in the Proposed Action Area. Anticipated utility conflicts for the Proposed Action Alternative are included in Table 3.14-2 below. |

Table 3.14-2 below shows the existing utilities within the Proposed Action Area and whether those utilities will be relocated, abandoned, or removed as part of the Proposed Action Alternative.

Table 3.14-2. Utilities Within the Proposed Action Area

| Utility Description | APN | Action |
|---|----------------|--|
| North of Lincoln Avenue | | |
| Landside of wall, Two Utility poles and OH Electrical | Lincoln Ave | To be Relocated By Utility Companies |
| 30" RCP Drain (RiverPointe) | 0442 0400 3000 | Wall Penetration to provide outfall through wall |
| Abandoned Steel Water Line, Size unknown likely 36" | 0443 1400 8000 | Demo/Remove |
| Abandoned Steel Water Line, Size unknown likely 36" | 0443 1400 8000 | Demo/Remove |
| 36" Steel Water Line under floodwall alignment | 0443 0103 0000 | Relocate |
| | 0443 0102 3000 | Relocate |
| 36" Drain, Type Unknown | 0443 0102 1000 | Wall Penetration to provide outfall through wall |
| 36" Steel Water Line under floodwall alignment | 0443 0101 8000 | Relocate |
| | 0443 0101 7000 | Relocate |
| 72" CMP Drain | Trout Way | Pipe located below sheetpile wall |
| South of Lincoln Avenue | | |
| 10" PVC Drain | 0442 4200 4000 | Wall Penetration to provide outfall through wall |
| Storm Drain, Unknown size and type. | 0442 4200 7000 | Wall Penetration to provide outfall through wall |

| Utility Description | APN | Action |
|--|----------------|---|
| Waterside of wall, ICVx2, Unknown Water Line Supply | 0442 3000 6000 | Demo/Remove |
| Waterside of wall, Elec Vault, Unknown Electrical Supply | 0442 3000 6000 | Demo/Remove |
| Landside of wall, Elec Vault, Unknown Electrical Supply | 0442 3000 6000 | Protect-In-Place |
| Waterside of wall, Utility pole and OH Electrical | 0442 2001 7000 | To be Relocated By Utility Companies |
| 18" Drain (Unknown Pipe Type) | 0442 2001 7000 | Wall Penetration to provide outfall through wall |
| Hydrant and Water Line, Unknown size and type, Service to Ace & Vine (Potentially Abandoned) | Wall Street | Relocate Hydrant and waterline in Wall Street, Demo/Remove abandoned service line under wall. |
| Waterside of wall, Utility pole and OH Electrical | Wall Street | To be Relocated By Utility Companies/Protect-In-Place |
| Sewer Manhole and Main line in Wall Street | Wall Street | Replace/Relocate MH and Service Lines |
| Sewer Service Lateral to Ace & Vine, Pipe Type and Size unknown | Wall Street | Wall Penetration to provide service through wall |
| Waterside of wall, Utility pole and OH Electrical | Wall Street | To be Relocated By Utility Companies/Protect-In-Place |
| Sewer Service Cleanout, Lateral Location, Pipe Type and Size unknown | Wall Street | Replace/Relocate CO and Service Line |
| Landside of wall, Utility pole and OH Electrical | Wall Street | To be Relocated By Utility Companies |
| Electrical Vault, Unknown Electrical Supply, Ace & Vine Parking Lot | 0442 2000 8000 | Demo/Remove |
| Double Check Valve (DCV) Backflow Preventor | 0442 2000 8000 | Demo/Remove |
| Fire Hydrant | 0442 2000 8000 | Wall Penetration to Relocate to Water Side of Wall |
| Waterside of wall, ICVx2, Unknown Water Line Supply, Ace & Vine | 0442 2000 8000 | Demo/Remove |
| Waterside of wall, Water Vault, Unknown Water Line Supply, Ace & Vine | 0442 2000 8000 | Demo/Remove |
| Waterside of wall, ICVx2, Unknown Water Line Supply, Ace & Vine | 0442 2000 8000 | Demo/Remove |
| Water Service to Ace & Vine from Lincoln Ave. Size & Type Unknown w/DCV Backflow Preventor | 0442 2000 8000 | Wall Penetration to provide service through wall |
| Gas Service to Ace & Vine from Lincoln Ave. Size & Type Unknown | 0442 2000 8000 | Wall Penetration to provide service through wall |
| 2" Gas Line Parallel to Lincoln Avenue along Ace & Vine | Lincoln Ave | Relocate |
| | Lincoln Ave | Relocate |

| Utility Description | APN | Action |
|---|----------------|--|
| Landside of wall, Utility pole and OH Electrical | Lincoln Ave | To be Relocated By Utility Companies |
| 18" DIP Water Service to Ace & Vine (Abandoned?) | 0442 2000 8000 | Demo/Remove |
| Sewer Manhole, Main Line, Service Lateral and Cleanout | 0442 2000 4000 | Relocate MH into Lincoln Ave. Wall Penetration to provide service through wall |
| Gas Service to Pet Hospital from Lincoln Ave. Size & Type Unknown | 0442 2000 4000 | Wall Penetration to provide service through wall |
| 36" Drain (ADS Polyethylene) | 0442 2000 4000 | Wall Penetration to provide outfall through wall |
| Water Service to Pet Hospital | 0442 2000 4000 | Wall Penetration to provide service through wall |

3.14.2 Effect Analysis

Method of Analysis

This section describes the methods used to analyze utility characteristics within the Proposed Action Area. The potential effects from construction, operations, and maintenance of the of the Proposed Action on utilities were evaluated qualitatively using known utility locations and services in the Proposed Action Area.

A list of known utilities in the Proposed Action Area was obtained and reviewed to determine the potential conflicts of the proposed floodwalls with these utilities. Coordination with the City of Napa, PG&E, and other service providers in the area was conducted to incorporate any utility relocations, modifications, protection, removals, or abandonments within the Proposed Action Alternative design. Chapter 2 describes the anticipated utility relocations.

Summary of Effects from 1999 Final SEIS/EIR

Utilities effects were evaluated in the 1999 Final SEIS/EIR but impact criteria have changed since the previous analysis. The 1999 Final SEIS/EIR evaluated removal, abandonment, modification, relocation or protection existing of gas, water, sewer, power, communication and storm drainage lines in the USACE Authorized Project. The 1999 Final SEIS/EIR stated where possible, required relocations would be accomplished prior to construction of the 1999 Preferred Alternative and some utility relocations would require the work to be phased with construction of the flood management facilities to preclude construction delays. Project construction was to be coordinated with service provides to ensure that disruptions in utility services are not significant. This assessment and the utility service provider coordination efforts are still applicable to the Proposed Action Alternative evaluated in this SEA.

The 1999 Final SEIS/EIR concluded that the Preferred Alternative would not require a substantial amount of energy and therefore would not impact energy resources. For the Proposed Action, energy consumption would be short term and temporary. The Sponsor would coordinate with PG&E to relocate overhead power poles that fall within the Proposed Action Area footprint and would conflict with the proposed floodwall construction. These power poles would be relocated outside of the proposed floodwall construction area but still within the Proposed Action Area. Once the

construction of the Proposed Action Alternative is completed, O&M activities for the proposed floodwalls would not require the use of substantial amounts of energy. Therefore, no impacts or additional impacts to energy would occur and the effects analysis in the 1999 Final SEIS/EIR remains unchanged.

Summary of Utilities and Service Systems Effects

The No Action Alternative and Proposed Action Alternative effects are summarized in **Table 3.14-3**.

Table 3.14-3. Summary of Utilities and Service Systems Effects

| Effect Number | Effect Statement | NEPA Effect Determination |
|------------------------------------|--|------------------------------|
| <i>No Action Alternative</i> | | |
| UTIL-1 | Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects | Less than significant effect |
| UTIL-2 | Generate solid waste in excess of federal, state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals | Less than significant effect |
| <i>Proposed Action Alternative</i> | | |
| UTIL-1 | Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects | Less than significant effect |
| UTIL-2 | Generate solid waste in excess of federal, state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals | Less than significant effect |

Effect UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. Under the No Action Alternative, utility work consists of removal, abandonment, modification, relocation or protection existing of gas, water, sewer, power, communication and storm drainage lines. The No Action Alternative would require relocation of utilities and service systems, but those relocations would be properly coordinated and consistent with existing law, regulations and land uses. Effects would be short-term and temporary. Therefore,

the No Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

As shown in **Table 3.14-2**, construction of the Proposed Action Alternative would require the removal and relocation of some utilities in the Proposed Action Area. Utility conflicts north of Lincoln Avenue would include 4 waterlines (including the 36-inch waterline described in Section 2.2.2), 3 storm drains, and 1 electrical line. Utility conflicts south of Lincoln Avenue would include 8 waterlines, 4 storm drains, 1 fire hydrant, 8 electrical lines, 3 sewer lines, 1 sewer cleanout, 1 backflow protector, and 3 gas lines. Utilities would either be protected in place, demolished and removed, abandoned in place, relocated, or maintained through the proposed floodwalls.

All utility relocations would be coordinated with the respective utility providers and would be relocated outside of the footprint of floodwalls while still being consistent with applicable law, regulations, and existing land uses. All potential utility relocations would be limited to those needed for the proposed floodwalls; no other utility relocations or new or expanded service connections would be required. The Proposed Action Alternative and the No Action Alternative would result in similar effects on utilities and would require the same utility relocations since the footprints of each alternative are similar.

The Proposed Action Alternative would require relocation of utilities and service systems, but those relocations would be properly coordinated and consistent with existing regulations and land uses. Temporary construction activities would occur related to these utility relocations, which are analyzed in this Draft SEA. Therefore, the Proposed Action Alternative would result in a **less than significant effect**. No mitigation is required or recommended.

Effect UTIL-2: Generate solid waste in excess of federal, state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No Action Alternative

Under the No Action Alternative, floodwalls would be constructed, rock scour protection would be added, the berm around the Lake Park Subdivision would be raised, pump station would be installed at the Dry Bypass, and a recreational trail would run along the floodwalls and the berm as described in the 1999 Final SEIS/EIR. Construction effects would be temporary and similar to the Proposed Action Alternative because the footprints are the same. The Sponsor would carry out O&M activities after construction of the No Action Alternative. The No Action Alternative would generate a minor amount of solid waste during construction activities that would require disposal. However, solid waste generated during construction would be limited and would not impair legally permissible federal, state or local solid waste reduction goals. Therefore, the Proposed Action would have a **less than significant effect**. No mitigation is required or recommended.

Proposed Action Alternative

The Proposed Action Alternative would generate a minor amount of solid waste during construction activities that would require disposal. However, solid waste generated during construction would be limited and would not impair federal, state, or local solid waste reduction goals. During construction, organics, trash, and demolished material would be off-hauled, and material would be imported and

disposed of at facilities within 30 miles of the Proposed Action Area. Any hazardous soil encountered by the Proposed Action Alternative would be disposed off-site at an approved facility with adequate capacity. The Proposed Action Alternative would comply with federal, state and/or local solid waste standards, to the extent permissible, during construction and operation. Additionally, long-term project operations would not generate solid waste.

The Proposed Action Alternative would not generate solid waste in excess of federal, state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of legally permissible solid waste reduction goals. Some solid waste would be generated temporarily during construction, but this would not be in excess of legally permissible standards or otherwise impair legally permissible reduction goals. Therefore, the Proposed Action would have a **less than significant effect**. No mitigation is required or recommended.

4 Combined Effects of Other Projects

4.1 Introduction

The effects analysis below considers the effects of the Proposed Action Alternative when combined with other projects in the area. The projects included within this section would affect similar habitats or resources as the Proposed Action Alternative, both temporally and geographically. If the projects, when combined, are not expected to contribute to an effect on a resource area, then that resource area is not included in the analysis.

4.2 Past, Present, and Reasonably Foreseeable Future Projects

This section briefly describes other similar or related projects, focusing on development, flood-risk reduction, and habitat restoration projects that have similar effect mechanisms and affect similar resources as the Proposed Action Alternative, with project refinements. Reasonably foreseeable future projects are considered in this analysis.

Major past, present, and probable future projects were considered for this analysis, including projects under the county and regional plans and regional projects for which USACE has provided approval or is in the process of considering Section 408 permission.

After consideration, the projects determined to be relevant for this analysis include Increment 3, Riverside Drive – Imola Avenue to the Hatt Building Floodwalls, as well as the Cinedome Master Plan. Previous segments of the USACE Authorized Project are described in Appendix A, *Project Background*. A subsequent NEPA document will be prepared to evaluate Increment 3, Riverside Drive – Imola Avenue to the Hatt Building Floodwalls design changes when they become available (as part of the USACE Authorized Project to be constructed by the Sponsor under Section 204 as noted in Chapter 1.0, *Introduction*, above), hence it is reasonably foreseeable. These relevant projects are discussed in detail below in **Table 4.2-1**.

Table 4.2-1. Other Relevant Projects

| Project | Description |
|---|---|
| Increment 3, Riverside Drive – Imola Avenue to the Hatt Building Floodwalls | This future phase involves construction of Increment 3, Riverside Drive – Imola Avenue to the Hatt Building along the west bank of the river on Riverside Drive, south of downtown to Imola Avenue. This increment was included in the USACE Authorized Project and evaluated in the 1999 Final SEIS/EIR. Environmental effects of design changes will be evaluated in a future environmental document. |
| Cinedome Master Plan | The City of Napa Cinedome Master Plan is a guide for development in the Cinedome Focus Area, a 4.5-acre collection of parcels in downtown Napa along the Napa River around Main Street and First Street. If each site in the Cinedome Master Plan were developed to the full potential outlined in the plan, up to an additional 22,000 square feet of new retail and restaurant space, 45 new housing units, 65,000 square feet of office space, and 500 new off-street parking spaces would be developed. This plan does not have a defined timeline, but it has geographical overlap with the Proposed Action Alternative (City of Napa 2018). |

4.3 Combined Effects

Some resources were not analyzed in detail in this SEA, either because environmental impacts would be negligible, or because the Proposed Action Alternative would not create new or significantly or substantially more environmental effects from those analyzed in the 1999 Final SEIS/EIR. Due to the negligible environmental effects of the resources not discussed in detail described in Appendix E, *Resource Topics Not Discussed in Detail*, these resources are not analyzed. The resource-specific combined effect analysis is provided in **Table 4.3-1** below. These analyses consider the potential effects of the activities described in Section 4.2, combined with those of the Proposed Action Alternative discussed in Chapter 2.

Table 4.3-1. Combined Effects

| Resource Area | Combined Effects Analysis |
|--|---|
| Aesthetics/ Visual Resources | The Proposed Action has either no effect or a less than significant effect to aesthetics. While the projects identified above could cause a temporary loss of visual quality during construction, they are unlikely to permanently degrade the visual quality of the area. Therefore, the Proposed Action Alternative does not contribute to an effect to aesthetics or visual resources. |
| Air Quality | Air pollutant emissions from the Proposed Action Alternative would combine with other construction scheduled for the same construction seasons to create an effect. However, neither Increment 3 nor the Cinedome Master Plan construction timelines overlap with the Proposed Action Alternative and therefore would not contribute to air pollutant emissions. The Proposed Action Alternative would have a less than significant effect on air quality after the implementation of mitigation. As a result, the Proposed Action Alternative would not contribute a combined effect to air quality. |
| Fisheries and Aquatic Biological Resources | Activities associated with the reasonably foreseeable future projects and the Proposed Action Alternative could result in potentially significant combined effects on aquatic biological resources and fisheries. Fisheries and Aquatic Biological Resources, the implementation of BMPs and avoidance, minimization and mitigation measures would lessen any potentially significant effects of the Proposed Action Alternative to less than significant. Effects from the other projects considered in this analysis would be similar and would require similar environmental review to identify and mitigate specific effects. Therefore, the Proposed Action Alternative would not contribute to a combined effect to fisheries and aquatic biological resources. |
| Cultural Resources | Ground disturbance associated with each of the aforementioned projects and the Proposed Action Alternative could result in potentially significant effects on previously recorded and/or newly discovered cultural resources if identified within the footprint of each project. As described in Section 3.5, <i>Cultural Resources</i> , the Proposed Action Alternative has a significant and unavoidable effect even with mitigation. Implementing the mitigation measures outlined in that section would minimize, to the extent possible, the contribution of the Proposed Action Alternative's effects to effects on cultural resources resulting from these other projects. |

| Resource Area | Combined Effects Analysis |
|---------------------------------|---|
| Geology and Soils | Projects identified in this chapter could result in damage to life and property from geologic and soils-related hazards during construction activities such as grading, excavations, or other ground disturbing activities. These hazards would be project-specific, and it is not anticipated that these effects would combine across projects to create additional public risk. Other projects would require individual environmental review, with project-specific analysis to evaluate the geologic- and soils-related hazard risks. Other projects would be subject to applicable laws, regulations, building codes, and construction standards that are designed to reduce geology and soils-related hazards. Additionally, none of the other projects include septic tanks or alternative wastewater disposal systems. Therefore, the Proposed Action Alternative would not contribute a combined effect to geology and soils. |
| Hazards and Hazardous Materials | Effects associated with hazardous wastes would be site-specific and would not combine with effects from other projects to create an effect. Effects from the other projects considered would require similar environmental review to identify and mitigate specific effects. Therefore, the Proposed Action Alternative would not contribute a combined effect to hazards and hazardous materials. |
| Hydrology and Water Quality | The reasonably foreseeable future projects could contribute to effects to water quality resulting from the combined effects of waterside construction on the Napa River. Any potential effects from the Proposed Action Alternative would be less than significant. Effects from other projects would be subject to appropriate permitting and environmental review within this context and are not anticipated to significantly affect hydrology and water quality. Therefore, the Proposed Action Alternative would not contribute a combined effect to water quality. |
| Noise | The future projects identified in this chapter are not planned to be constructed at the same time or in the same location as the Proposed Action Alternative and O&M of the Proposed Action Alternative is not expected to create a noise effect; therefore, the Proposed Action Alternative would not contribute a combined effect to noise. |
| Recreation | There are no known, planned projects that would impact recreation in the vicinity of the Proposed Action Alternative. The Proposed Action Alternative would result in the temporary closure of the Napa River Trail, and a detour would be set up during construction. The Napa River Trail would be reconstructed on the waterside after the floodwalls are constructed. No long-term effects would occur to recreational facilities; therefore, the Proposed Action Alternative would not contribute a combined effect to recreation. |

| Resource Area | Combined Effects Analysis |
|----------------------------------|--|
| Terrestrial Biological Resources | Activities associated with the reasonably foreseeable future projects and the Proposed Action Alternative could result in potentially significant effects on terrestrial biological resources, including special-status species, sensitive natural communities, and federal or state protected wetlands. Implementing the mitigation measures listed in Section 3.12, Terrestrial Biological Resources, would reduce the Proposed Action Alternative's potential contribution to effects to a less than significant level. Effects from the other projects considered would be similar, and they also would require similar environmental review that would identify and mitigate for specific effects. Therefore, the Proposed Action Alternative would not contribute a combined effect to terrestrial biological resources. |
| Traffic/ Transportation | The reasonably foreseeable future projects would not temporally overlap with the Proposed Action Alternative. Therefore, it is reasonable to assume that temporary transportation effects would not conflict with or overlap each other. Other projects, combined with the Proposed Action Alternative, would not include any permanent effects to emergency response routes. Therefore, the Proposed Action Alternative would not contribute a combined effect to traffic/transportation. |
| Utilities | The Proposed Action Alternative would result in less than significant effects to utilities. Other projects would involve ground-disturbing work that could encounter utility infrastructure. However, it is assumed that other projects could avoid, restore, or replace electrical or telecommunications infrastructure or stormwater drainage facilities, and that exposed ground from construction activities would be restored to its pre-construction condition. Therefore, the Proposed Action Alternative would not contribute a combined effect to utilities. |

5 Compliance with Federal Laws and Regulations

The Proposed Action Alternative would be in compliance with all relevant federal laws, regulations, and executive orders. A summary of relevant laws and regulations, along with compliance status, is presented in **Table 5.1-1**. For further details regarding compliance, see Appendix D, *Regulatory Framework*. Appendix G, *Biological Resources*, contains the Reinitiation of Consultation with USFWS and the Informal Consultation/No Formal Consultation required with NMFS for the Proposed Action.

5.1 Federal Laws and Regulations

Table 5.1-1. Compliance with Federal Laws and Regulations

| Law/Regulation | Compliance |
|---|-------------|
| Federal Laws | |
| Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668 <i>et seq.</i>) | N/A |
| Clean Air Act of 1972, as amended (42 U.S.C. §7401 <i>et seq.</i>) | Yes |
| Clean Water Act (33 U.S.C. §1344 <i>et seq.</i>) | Yes |
| Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. §9601 <i>et seq.</i>) | Yes |
| Endangered Species Act of 1973, as amended (16 U.S.C. §1531 <i>et seq.</i>) | Yes |
| Farmland Protection Policy Act of 1984 (7 U.S.C. §4201 <i>et seq.</i>) | N/A |
| Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. §661 <i>et seq.</i>) | Yes |
| Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended (16 U.S.C. §1801 <i>et seq.</i>) | Yes |
| Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §703 <i>et seq.</i>) | Yes |
| National Environmental Policy Act of 1969, as amended (42 U.S.C. §4321 <i>et seq.</i>) | In progress |
| National Historic Preservation Act of 1966, as amended (54 U.S.C. §300101 <i>et seq.</i>) | Yes |
| Noise Control Act of 1972, as amended (42 U.S.C. §4901 <i>et seq.</i>) | Yes |
| Occupational Safety and Health Act of 1970 (29 U.S.C. §651 <i>et seq.</i>) | Yes |
| Plant Protection Act of 2000 (7 U.S.C. §7701 <i>et seq.</i>) | Yes |
| Resource Conservation and Recovery Act of 1976 (42 U.S.C. §6901 <i>et seq.</i>) | Yes |
| Rivers and Harbors Appropriation Act of 1899 (22 U.S.C. §403 <i>et seq.</i>) | N/A |
| Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. § 4601) | Yes |
| Wild and Scenic Rivers Act of 1968 (16 U.S.C. §1273 <i>et seq.</i>) | N/A |

| Law/Regulation | Compliance |
|---|------------|
| Executive Orders | |
| E.O. 11988, Floodplain Management | Yes |
| E.O. 11990, Protection of Wetlands | Yes |
| E.O. 13112, Invasive Species | Yes |
| E.O. 13751, Safeguarding the Nation from the Impacts of Invasive Species | Yes |
| E.O. 14148, Initial Rescissions of Harmful Executive Orders and Actions | Yes |
| E.O. 14173, Ending Illegal Discrimination and Restoring Merit-Based Opportunity | Yes |

6 List of Preparers

| Name | Title | Role/Contribution |
|--------------------|---|---|
| USACE | | |
| Dave Fluetsch | Environmental Manager | NEPA Technical Review |
| Miranda Douth | Environmental Manager | NEPA Technical Review |
| Robert Gudiño | Cultural Resource Specialist | NEPA Technical Review |
| HDR | | |
| Anna Clabaugh | Biologist | Aquatic Biological Resources |
| Ariel Cohen | Environmental Planner/ Air Quality Specialist | Air Quality; Geology; Noise; Seismicity; Soils; Topography; Traffic and Circulation |
| Brian Fedrow | Technical Editor | Document Editing |
| Danielle Tannourji | Senior Biologist | Biological Resources Technical Review |
| David Clinnick | Cultural Resources Specialist | Cultural Resources and Tribal Cultural Resources |
| Eliza Schlein | Biologist | Special-status Species; Vegetation and Wildlife |
| Hillary Rolf | Environmental Planner | Purpose and Need; Alternatives; Regulatory Setting |
| John Lloyd | Senior Cultural Resources Specialist | Cultural Resources and Tribal Cultural Resources Review |
| John Spranza | Senior Biologist | Aquatic Biological Resources Review |
| Linda Fisher | Environmental Project Manager | CEQA/NEPA Technical Review |
| Matthew Galbraith | GIS Specialist | Geographical Data and Mapping |
| Natalie Bogan | Senior Environmental Planner | Aesthetics and Visual Resources;; Hazardous, Toxic, and Radiological Waste; Land Use and Agriculture; Recreation; Socioeconomics; Water Resources; Water Quality and Wetlands; Water Rights |
| Hannah Sanders | Environmental Planner | Documentation preparation and coordination |

The Napa County Flood Control and Water Conservation District Staff have also contributed to the preparation of this SEA.

7 References

Chapter 1

No references are included in this Chapter.

Chapter 2

RWQCB 1999. Napa River Basin Plan and Waste Discharge Requirements Order (NO. 99-074)

Chapter 3

3.3 Aesthetics

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Chapter 5

No references are included in this Chapter.

Appendix A. Project Background

Appendix A – Project Background

Original Project Authorization

The Napa River/Napa Creek Flood Protection Project (U.S. Army Corps of Engineers (USACE) Authorized Project) was authorized by Congress in Section 204 of the Flood Control Act of 1965 (Pub. L. No. 89-298, 79 Stat. 1073, 1084) (October 27, 1965) for the purposes of flood control and recreation substantially in accordance with the 1965 Chief of Engineers Report for the Napa River Basin (H. Doc. 89-222). The Act reads in relevant part as follows:

Section 204. The following works of improvement for the benefit of navigation and the control of destructive floodwaters and other purposes are hereby adopted and authorized to be prosecuted under the direction of the Secretary of the Army and supervision of the Chief of Engineers in accordance with the plans of the respective reports hereinafter designated and subject to the conditions set forth therein: ...

The project for the Napa River, California, is hereby authorized substantially in accordance with the recommendations of Chief of Engineers in House Document Numbered 222, Eighty-ninth Congress, ...

The Chief of Engineers' recommendations contained in House Document 222 are based on the 1963 report "Review and Report for Flood Control and Allied Purposes." In House Document 222, the project authorization is for an 11-mile segment of the Napa River extending from Edgerly Island south of SR 29 to Trancas Street in the City of Napa. The development of recreational facilities is included as part of the original 1965 authorization. This design was transmitted in a General Design Memorandum (GDM) on December 8, 1970, by the District Engineer, San Francisco District, USACE, to the state Director of Water Resources. This plan met with considerable resistance from local citizens and was substantially altered to alleviate environmental problems regarding aesthetics, recreation, and river access.

During the 1972–73 session of the California Legislature, the Assembly passed an urgency measure, AB 60, which authorized state funding for the 1970 GDM version of the Project. This bill also granted local authority to the Project's non-Federal Sponsor, the Napa Valley Flood Control and Water Conservation District (Sponsor) to implement the Project. Key to this implementation was that local authorities accepted responsibility, as stipulated in the 1965 Flood Control Act, for easements, rights-of-way, liability, operation and maintenance costs, utilities and bridge modifications, water rights, access land donation, shared recreational costs, mitigation costs, and operating responsibilities, among others.

In a subsequent GDM in 1975, USACE developed a new design for the USACE Authorized Project (the 1975 proposal) that incorporated input from local interests. An Environmental Impact Statement (EIS) for the USACE Authorized Project, based on this 1975 proposal, was completed in 1975.

The 1975 proposal consisted of straightening (also known as "rectification") the Napa River channel and channel widening and deepening. The existing oxbow was to be eliminated entirely. Riverbanks were to be lined with riprap in most areas. This project alternative was analyzed in depth in the 1975 EIS.

Napa County held a referendum in 1976 to determine the acceptability of the 1975 proposal, which was narrowly defeated. In another referendum in 1977, Project construction was opposed by a

slightly wider margin. Consequently, in 1977, the USACE Authorized Project was placed on inactive status by USACE at the request of the Sponsor.

Authorization for Mitigation Lands and Napa Creek Flood Damage Reduction

Prior to the above-referenced referendum, the Project was subsequently modified by Section 136 of the Water Resources Development Act of 1976 (Pub. L. No. 94-587, 90 Stat. 2917, 2929 (October 22, 1976)) to include the addition of Napa Creek and the acquisition of 577 acres of land for the purpose of mitigating adverse impacts to fish and wildlife caused by the project. The law reads in relevant part as follows:

Section 136. (a) The project for flood control on the Napa River, Napa County, California, authorized by section 204 of the Flood Control Act of 1965, is hereby modified to authorize and direct the Secretary of the Army, acting through the Chief of Engineers, to acquire approximately 577 acres of land for the purpose of mitigating adverse impacts on fish and wildlife occasioned by the project....

(b) Such project is further modified to include construction...of the Napa Creek watershed project of the Soil Conservation Service approved June 25, 1962....

In 1987, after the devastating flood of 1986, the District petitioned USACE and Congress to reactivate the Napa River Flood Protection Project in letters dated February 9 and April 9, 1987. In response, USACE generated a Plan of Action in December 1988 that presented descriptions, cost estimates, background information, and scheduling of Preconstruction and Engineering Design (PED). In 1989, a Notice of Intent to prepare an EIS was posted in the Federal Register. During a General Design Conference held on January 12, 1989, USACE decided that a federal interest in the project still existed. Consequently, USACE initiated PED activities in fiscal year 1989.

This effort culminated in the preparation of a first Draft Supplemental General Design Memorandum (SGDM). A Notice of Preparation to prepare an EIR was developed in 1994, and scoping was conducted at this time to solicit agency and public input. In April 1995, a Draft SEIS/EIR was released for public review. The 1995 SGDM relied primarily on channel bottom deepening and widening as means of flood control, and it also incorporated a “wet bypass” that would divert the Napa River from the downtown oxbow at all times.

The 1995 proposal generated numerous comments from both citizens and resource protection agencies. The major comments dealt with salinity intrusion due to deepening the channel, degradation of water quality in the river oxbow due to constructing the wet bypass channel, disposal of contaminated dredge material, and deficiencies in the environmental analysis. Because of these concerns, four public agencies (U.S. Department of the Interior, California Department of Fish and Game [now Wildlife], San Francisco Bay Regional Water Quality Control Board, and California State Lands Commission) specifically requested that the SEIS/EIR be reissued for additional public review to comply with NEPA and CEQA.

The 1995 project alternative, which was analyzed in depth in the 1995 Draft SEIS/EIR, was summarized and compared with the new Preferred Alternative, proposed in the 1998 Draft SGDM, in the 1999 Final SEIS/EIR.

1999 Final SEIS/EIR

Because of the large amount of public concern regarding the 1995 proposal, the District and local groups created a community-wide coalition to foster community consensus regarding the project design and to initiate a collaborative process with the local community and resource agencies to refine the USACE Authorized Project. The 1995 Draft SEIS/EIR was reissued for public review from December 1997 to February 1998. A public meeting was held in 1998.

The community coalition, with the assistance of outside consultants, resource agency personnel, City of Napa and Napa County staff, and USACE, developed the major concepts of the 1999 Final SEIS/EIR's Preferred Alternative, which meets the dual objectives of flood damage reduction and environmental restoration, to eliminate the primary concerns related to the 1995 proposal.

The 1999 Final SEIS/EIR's Preferred Alternative was described in detail in the 1998 Final SGDM. The 1998 Final SGDM presents the results of engineering and design studies conducted for flood control improvements along the Napa River and serves as the official project description in the 1999 Final SEIS/EIR. The design and studies in the 1998 Final SGDM were conducted to determine the most economical plan for conveying the computed 100-year flood event, minimizing environmental impacts, and meeting applicable government standards for the flood-control improvements.

The 1999 Final SEIS/EIR's Preferred Alternative (USACE Authorized Project) is significantly different from the 1975 and 1995 proposals. South of Imola Avenue, the 1999 Final SEIS/EIR's Preferred Alternative consists of lowering dikes on the west side of the Napa River south of downtown and setting back dikes and levees on the east side of the river to increase conveyance. It also includes widening the river up to Third Street through creation of marshplain and floodplain terraces, both of which would also provide additional floodway capacity. In addition, the 1999 Final SEIS/EIR's Preferred Alternative includes constructing a Dry Bypass at the oxbow of the river, constructing new flood-walls and levees along the Napa River north of Imola Avenue, and adding flood management features to Napa Creek downstream of Jefferson Street. The 1999 Final SEIS/EIR's Preferred Alternative as developed to provide protection from the computed 100-year flood water surface elevation in most of the City of Napa.

Previous Environmental Documentation

Below is a list of previously completed environmental documentation relating to the Project, the No Action Alternative, and the Proposed Action Alternative.

- USACE 1975 Napa River Flood Control Project EIS. San Francisco District, California.
- USACE 1995 Napa River Flood Control Project Draft EIS.
- USACE 1997 Napa River Flood Control Project Revised Draft EIS/EIR.
- USACE and the District 1999 Napa River/Napa Creek Flood Protection Project Final SEIS/EIR. Sacramento District, California.
- USACE and the District 2001 Napa River Flood Protection Project Railroad Relocation and Detour Final Revised Supplemental EA/EIR.
- USACE and the District 2001 Napa River Flood Protection Project Contract 2 East Part A Final Supplemental EA/EIR.
- USACE and the District 2002 Napa River/Napa Creek Flood Protection Project Part B Contract 2 East Petroleum Hydrocarbon Remedial Action.
- The District 2005 Addendum to the Napa River/Napa Creek Flood Protection Project Final SEIS/EIR Ghisletta Fill Site Boundary Adjustment.

- USACE and the District 2009 Napa River/Napa Creek Flood Protection Project Napa Creek Improvement Project Final EA/IS.

Current Status of the Overall Project and Construction

Project Status Post 1999 Final SEIS/EIR

Construction of the USACE Authorized Project began in 2000 but, due to shortfalls in federal appropriations, construction has been intermittent. In 2011, USACE determined that construction of any additional elements of the remaining Project were not economically justifiable. In July 2012 USACE completed a Limited Reevaluation Report (LRR) for the USACE Authorized Project. Recommendations from the LRR included the following:

“18. Recommendations. I recommend that the South Pacific Division approve this LRR as the current economic analysis for the Napa River/Napa Creek Flood Protection Project.

I further recommend that the Sacramento District be allowed to complete construction of the current approved plan based on the remaining benefit/remaining cost ratio of 1.2 to 1 (using the FY2011 water resources discount rate of 4 1/8%), and consistent with Corps economic investment policy per ER 1105-2-100. Completion of the project should be given high budget priority based on the remaining economic net benefits, as well as social and environmental benefits.

In the event that completion of the entire remaining project is not given high budget priority, the Sacramento District should be authorized to identify the features of the approved plan that are incrementally-justified under current budget criteria, and other features that may be necessary to make the project safe, operable and maintainable. These features would be included in future budget submittals, while the other remaining features would be deferred until circumstances warrant further action. Identifying the most cost-effective remaining features of the approved plan would require much less time and expense than reformulating the entire project through a General Reevaluation Report (GRR). Because of the advanced state of construction of the approved plan, it is unlikely that reformulation of the project would provide significant additional net benefits, compared to implementing the justified portions of the approved plan, particularly if the additional delay in project completion that would be caused by the reformulation process is taken into consideration.”

Due to budget constraints, the USACE could not complete a comprehensive incremental analysis (IA) of the remaining features. However, the USACE was able to determine that the Dry Bypass segment of the Project was incrementally justified and was funded by the USACE in the fiscal year 2014 Budget/Work Plan at \$16.8 million. Construction of the Dry Bypass began in 2014 and was completed in 2015. In addition to completion of the Dry Bypass, prior USACE construction included restoring and establishing over 1,200 acres of restored wetland and riparian habitats throughout the Project area including the South Wetlands Opportunity Area; replacing and elevating the Third Street Bridge, First Street Bridge, Maxwell Avenue Bridge (SR 121/Imola Avenue), and the railroad bridge over the Napa River near Soscol Avenue; constructing the new Soscol Avenue Bridge, First Street Bridge, and railroad bridge over the Dry Bypass channel; cleaning up contaminated properties in the Oil Company Road area; terracing the east bank of the Napa River to create new floodplains and marshplains; constructing the Hatt Building to First Street floodwall and promenade, including renovating Veterans Memorial Park in downtown Napa; making improvements along Napa Creek, including removing bridges; and relocating the railroad tracks and building a flood control dike from

Kennedy Park to Imola Avenue and a levee from Imola Avenue to Tulocay Creek on the East side of the river.

While the Dry Bypass element was being constructed in 2014-2015, the Sponsor conducted a Value Engineering and Incremental Analysis (VEIA) and demonstrated that, with value engineering modifications, some of the remaining elements of the USACE Authorized Project could be made economically viable pending subsequent confirmation by the USACE. The Sponsor's 2017 VEIA consisted of several analyses including Sponsor-prepared hydraulic analysis to identify discrete increments of the remaining elements of the USACE Authorized Project. Four discrete increments were identified and are also shown in Figure 1.2-1 of the Draft Supplemental Environmental Assessment (SEA):

- Increment 1: Oxbow East Bank and Oxbow West Bank Floodwalls;
- Increment 2: Lincoln Avenue Floodwalls;
- Increment 3: Riverside Drive - Imola Avenue to the Hatt Building Floodwalls; and,
- Increment 4: Tulocay Floodwalls

The VEIA identified design modifications to Increments 2 and 3 that, if implemented, would meet federal economic criteria, assuming subsequent confirmation by the USACE during pre-construction, engineering, and design. The design modification among those proposed by the Sponsor that most significantly reduced the cost of the USACE Authorized Project to document federal interests was eliminating pump stations within Increments 2 and 3.

In 2019, USACE concurred with the Sponsor's VEIA determination and value engineering modifications with some exceptions, issued a Federal Interest Determination (FID) validating remaining federal interest in the design and construction of Increments 2 and 3, as those increments were modified by the VEIA, thereby superseding the 1998 SGDM Preferred Alternative design for these two elements of the USACE Authorized Project, and the Sponsor lobbied Congress for additional funds. The Sponsor's efforts lead to the appropriation of a \$48,300,000 cap on federal funding to complete the USACE Authorized Project which ultimately led to the Proposed Action as presented in this SEA. Documentation of authority for the proposed design changes/modifications consistent with the FID and related findings, including the validity of hydraulic modeling to assess the potential for induced flooding in accordance with USACE law and policy, is the subject of the Design Recommendation Report prepared by USACE and the District in accordance with 33 U.S.C. § 2232 (Section 204) to which this SEA relates.

Although USACE determined Increments 1 and 4 of the USACE Authorized Project are not economically justified and are ineligible for federal funding at this time, there are no present plans to deauthorize Increments 1 and 4 of the USACE Authorized Project.

The purpose of this SEA is to supplement the 1999 Final SEIS/EIR and disclose design informed changes associated with Increment 2 only. A subsequent NEPA and CEQA document will be prepared to evaluate Increment 3, Riverside Drive – Imola Avenue to the Hatt Building Floodwalls, design changes when they become available.

For the purposes of this SEA, the USACE Authorized Project's Sponsor proposes to construct one of the two remaining federally justified increments of the USACE Authorized Project – Increment 2, Floodwalls North of the Bypass – pursuant to Section 204 of the Water Resources Development Act of WRDA 1986, as amended (33 U.S.C. 2232) (Section 204).

Appendix B. Alternatives History and Development

Appendix B – Alternatives History and Development

USACE Authorized Project Background

As noted in SEA Chapter 1.0, *Introduction*, and Appendix A, *Project Background*, the USACE Authorized Project was authorized by the Flood Control Act of 1965. The original approved plan is outlined in the 1975 GDM, updated in the 1995 SGDM, and re-analyzed in the Final SGDM dated October 1998. The plan was designed to provide a 100-year level of flood protection to the City of Napa downstream to Imola Avenue, while maintaining or enhancing the river's natural processes.

The 1998 SGDM identifies and screens alternatives for the entire extent of the Project. The plan intends to provide flood protection via a combination of channel excavation, floodwalls and levee construction between Trancas Street and Kennedy Park by identifying, by reach, the least costly channel improvement feature that would provide flood protection to the City of Napa and result in minimal environmental impacts. This plan included construction of a dry bypass channel at the oxbow just upstream of Third Street and preservation of the existing oxbow channel for low flows for most of the year.

The 1998 SGDM alternatives analysis includes a number of structural alternatives to increase the level of flood protection in the Napa River Basin. In the 1998 SGDM and the 1999 Final SEIS/EIR, the no-action plan and non-structural alternatives were also evaluated, as well as a re-examination of the 1975 GDM channel and levee plans, and of the 1975 GDM alternatives of upstream reservoir plans.

The 1999 Final SEIS/EIR Preferred Alternative which is consistent with the 1998 SGDM included offset levees, open bypass channel, underground bypass channel, a downstream flood basin, an upstream detention basin, flood protection for Napa Creek, and the separable downstream elements of Edgerly Island and the Napa Pipe Industrial Complex.

With each iteration and re-examination, the flood protection project design was altered. The comparison of plan features between the versions (specific to the areas in the 1999 Final SEIS/EIR that overlap with the current Proposed Action Area) are summarized in **Table 0-1** below.

Table 0-1. Comparison of Previous USACE Authorized Project Features for the SEA Proposed Action Area

| Area | 1975 GDM | 1995 SGDM | 1998 SGDM/ 1999 Final SEIS/EIR Preferred Alternative |
|----------------------------------|--|---|---|
| Randean Way to Lincoln Avenue | <ul style="list-style-type: none"> Riprap with berm and levees (except in areas of high ground) | <ul style="list-style-type: none"> Excavation and levees (except in areas of high ground) | <ul style="list-style-type: none"> Setback floodwall (west) Residual floodway to high ground (east) |
| Lincoln Avenue to Trancas Street | <ul style="list-style-type: none"> Riprap with berm and levees | <ul style="list-style-type: none"> Flowage easement (east) Levees and high ground | <ul style="list-style-type: none"> Setback floodwall (west) Raise existing levees (west) Residual floodway to high ground (east) |

1999 Final SEIS/EIR Alternatives

The 1999 Final SEIS/EIR for the Napa River/Napa Creek Flood Protection Project identified other alternative methods of reducing flood damage along the Napa River. The following alternative methods of flood risk reduction identified below were rejected early in the process because -they did not meet project purpose and need and objectives in that they were too costly, did not provide 100-year flood protection in the City of Napa, resulted in significant environmental impacts; and/or would hinder economic development in Napa. As a result, these following alternatives were not subjected to the detailed alternative analysis contained in the 1975 EIS, the 1995 Draft Supplemental EIS, and the 1999 Final SEIS/EIR:

Modification in Operations of Existing Reservoirs

Total or partial operation of existing dams in the Napa River watershed for flood control purposes would not meet Project purpose, need, and objectives since it would provide less than the needed flood storage. It would also impair water supply in Napa County, which would be environmentally problematic and a hindrance to economic development.

New Upstream Hard Storage

Creating upstream flood storage would not meet Project purpose, need, and objectives because it would cause significant environmental impacts, result in prohibitive construction costs, and fail to provide 100% protection for the city of Napa from the 100-year flood.

Improved Upstream Watershed Management and Storage

This approach would provide a "best-case" reduction in the 100-year peak flood flow of just 36.5%, which would leave flows in downtown Napa 30% to 40% above damaging levels. This level of flooding would be inconsistent with Project purpose, need, and objectives. Extensive downstream flood control measures similar to those proposed in the 1999 Final SEIS/EIR Preferred Alternative would still be required, without any significant savings in downstream improvement costs or impacts.

Moreover, each of the individual components would create significant additional economic impacts, particularly with regard to existing land uses and agriculture, as described above. This is also inconsistent with the Project purpose, need, and objectives.

Downstream Basin

This alternative would not meet project purpose, need, and objectives for 100-year event flood protection for two reasons. First, there is insufficient land available downstream of the city of Napa to create a detention facility that would lower water surface elevations by more than one foot during the 100-year storm. Second, even if a reduction in water surface elevations of more than one foot during the 100-year event were possible, this reduction would have relatively little impact upstream in the city of Napa. Therefore, this alternative would not meet Project purpose, need, and objectives for 100-year flood protection.

Relocation of Buildings in the Flood Plain

This alternative would not meet Project purpose, need, and objectives since it would be financially infeasible. It would also result in significant disruption to the economic, social, and cultural life of Napa, because the entire downtown would have to be relocated. Numerous historic structures would

be lost, and it is not clear whether an acceptable site in Napa Valley on vacant land and outside the floodplain could be found.

Alternatives Previously Considered Prior to the 1999 Final SEIS/EIR but Eliminated

In combination, the 1975 EIS, the 1995 Draft SEIS/EIR, the 1999 Final SEIS/EIR, and this SEA feature detailed analyses of a range of alternatives to provide flood control to the City of Napa. The following alternatives were considered but eliminated prior to the 1999 Final SEIS/EIR and are summarized in **Table 0-2**.

Table 0-2. Alternatives Previously Considered but Eliminated

| Alternative | Description | Meets Purpose, Need, and Objectives? |
|------------------------|---|---|
| Modified 1975 GDM Plan | The 1975 GDM was approved as an alternative to the 1965 plan authorized for the Napa River Flood Control Project. The 1975 GDM Plan consists of approximately 11 miles of channel improvements, including channel enlargement, rectification, dredging, and levees from Trancas Street to the downstream reaches of Edgerley Island. The 1975 GDM Plan includes improvements from the south edge of Edgerley Island north to the Oxbow. | The 1975 GDM alternative complies with the primary purpose, need, and objectives of the Project, including the achievement of 100-year level of flood protection, and providing recreational facilities in the Project area. However, the Project objectives developed by the local sponsor, including attaining an environmentally restored Napa River and approaching aesthetic and environmental excellence, would not be met with the 1975 GDM Plan. Further, it is unlikely that all impacts to fish and wildlife can be feasibly mitigated by the Project. For this reason, the 1975 GDM Plan would not meet a significant number of the Project's purpose, need, and objectives. |
| 1995 GDM Plan | The 1995 GDM was developed by USACE after reactivation of the Napa River Flood Control Project was requested following the devastating flood of 1986. The 1995 GDM proposes channel improvements beginning at Kennedy Park and extending upstream approximately 5.7 miles to Trancas Street. Flood protection up to a 100-year level for the City of Napa and adjacent areas would be provided by a combination of channel excavation and deepening, vertical sheetpile walls, concrete floodwalls, set-back earth levees and a "wet" bypass channel constructed for the Oxbow. | The 1995 GDM alternative complies with the primary purpose, need, and objectives of the Project, including the achievement of 100-year level of flood protection, and providing recreational facilities in the Project area. However, the Project objectives developed by the local sponsor, including attaining an environmentally restored Napa River and approaching aesthetic and environmental excellence, would not be met with the 1995 GDM Plan. |

Appendix C. Project Construction Details

Appendix C – Project Construction Details

Construction Schedule

Construction of the Proposed Action is expected to begin in the fall of 2025 and end in 2028. In water work at the Lincoln Avenue Bridge is anticipated to last occur in one 4-month construction season, during allowable work windows for aquatic species (June 1 through October 31). Work hours would be Monday through Friday for 10 hours per day. The sequence and duration of construction activities is shown in **Table C-1** below.

Table C-1. Anticipated sequence of construction activity

| Construction Activity | 2025 | 2026 | | | | 2027 | | | | 2028 |
|-------------------------------------|------|------|----|----|----|------|----|----|----|------|
| | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| North of Lincoln Ave | | | | | | | | | | |
| Trail Closure, Lincoln Ave | | | | | | | | | | |
| Tree Clearing, Lincoln Ave | | | | | | | | | | |
| Floodwalls, RiverPointe | | | | | | | | | | |
| Floodwalls, Lake Park | | | | | | | | | | |
| Floodwalls, River Glen | | | | | | | | | | |
| Water Main, Lake Park | | | | | | | | | | |
| Landscaping, Lincoln Ave | | | | | | | | | | |
| Bridge Protection, Lincoln Ave | | | | | | | | | | |
| South of Lincoln Ave | | | | | | | | | | |
| Tree Clearing, Lincoln Ave | | | | | | | | | | |
| Floodwalls, Wall St | | | | | | | | | | |
| Roadwork & Utilities, Wall St | | | | | | | | | | |
| Floodwalls, Wall St | | | | | | | | | | |
| Utilities, Lincoln Ave | | | | | | | | | | |
| Floodwalls, Lincoln Ave | | | | | | | | | | |
| Bridge Protection, Lincoln Ave | | | | | | | | | | |
| Dry Bypass Floodwall and Structures | | | | | | | | | | |
| Landscaping, Lincoln Ave | | | | | | | | | | |

Site Preparation

Site preparation would consist of mobilization and delivery of equipment, followed by installation of traffic control and sediment control measures. Because no road closures are anticipated for construction traffic, K-rail would be installed along public roadways that are shared with public traffic. Due to construction work on the Napa River Trail, a trail detour would be coordinated with the City of Napa along Soscol Avenue for recreational trail users. Clearing and grubbing as well as topsoil stripping would be completed prior to excavation and construction of the floodwalls.

Construction Methods

Where possible, a 35-foot-wide temporary construction corridor would be provided for access and staging for the construction work of the floodwall. This corridor includes a 15-foot-wide future O&M corridor on the land side of the floodwall alignment. Relocating the 36-inch diameter steel water pipe in the Lake Park subdivision would be addressed early in construction, followed by constructing the floodwall and in-water work associated with the Lincoln Avenue bridge, as permitted. The floodwall will be constructed in segments as it progresses. The “T” wall can be constructed at approximately a production rate of 15 linear feet per day, and the “I” wall is estimated at around 340 square feet each day. Approximately 25 trees would need to be removed and replaced in the Proposed Action Area to allow construction and equipment clearance.

As construction progresses along the alignment, suitable excavated material would be side-cast and reused as backfill. Any unsuitable material discovered during construction would be removed and hauled off to the main staging area. The material would be balanced on-site to the extent possible. Organics, trash, contaminated, and demolished material would be off-hauled and disposed of at facilities within 30 miles of the Proposed Action Area. In some areas, backfill material would have to be imported from a commercial source; no local borrow site would be required. During the pouring of concrete, concrete trucks with pumps would be transported to the site.

Staging activities would generally include stockpiling, material and equipment staging, construction parking, BMP storage, field office, and miscellaneous items. Staging areas are included in the Proposed Action Area shown in Figures 2-2a-e.

Temporary construction entrances and exits would be provided to prevent construction equipment or vehicles from tracking mud, concrete, and dirt onto public and private roads within the Proposed Action Area. In addition, water trucks would be used daily to prevent dust by watering the staging and work zones. No nighttime work or installation of lighting is anticipated or analyzed.

After construction, the realigned trail would serve as a maintenance corridor and would be repaved in areas that were previously paved. A new crosswalk at Lincoln Avenue would be installed. The concrete wall could be covered with aesthetic treatments to improve the appearance and gate closure structures would be installed. Disturbed areas would be seeded and restored after construction. A combination of native and adaptive drought tolerant plant varieties would be used along the trail network. Disturbed areas would be seeded to minimize erosion from construction impacts, stabilize soil, and maximize usable recreational space along the trail.

Vegetation would be kept to a minimum within 15 feet from the floodwall and low growing grasses and perennials requiring minimal maintenance would be used in this area to satisfy USACE standards. Between the 15-foot zone of minimal vegetation and the riparian zone, native California shrubs would be planted to increase screening, habitat functionality, and stabilize slopes. City of Napa-approved trees and hardy and herbaceous perennials would be planted along disturbed

roadways to match the planting seen along the southwest side of Lincoln Avenue. Along the riparian corridor, planting would include native trees and shrubs near the top of bank and herbaceous perennials and wattles with live stake plantings near the ordinary high-water line. Compost, soil amendments, mulching, erosion control blankets, and straw wattles may be used in all planting areas impacted by construction to facilitate vegetation growth.

Construction Equipment and Materials

The following construction equipment in **Table C-2** and materials in **Table C-3** are anticipated for use during construction of the Proposed Action. There would be daily deliveries of equipment and materials including concrete, aggregate, rebar, asphalt, pipe, and sheet piles. Construction traffic would utilize the Proposed Action Area and paved roads, as identified. Construction traffic would flow throughout the respective work areas – north of Lincoln Ave and south of Lincoln Ave and between staging areas. It is anticipated that a maximum of 30 workers, and personal vehicles, would be at the construction site at a given time. The anticipated area of disturbance associated with the Proposed Action is 14.37 acres in construction work areas and 5.39 acres in staging areas.

Table C-2. Construction equipment

| Equipment | Quantity |
|---------------------------|----------|
| Haul Truck | 3 |
| Forklift | 1 |
| Dozer | 1 |
| Loader | 1 |
| Water Truck | 1 |
| Dump Truck | 16 |
| Excavator | 1 |
| Crane | 1 |
| Concrete Truck | 1 |
| Pump | 1 |
| Pile Driver | 1 |
| Vibratory Compactor | 1 |
| Motor Grader | 1 |
| Asphalt Paver | 1 |
| Hydroseed Truck | 1 |
| Backhoe | 1 |
| Man-lift | 1 |
| Marooka Tracked Carrier | 1 |
| Striping Truck/ Equipment | 1 |
| Scraper | 1 |
| Pickup Truck | 1 |

Table C-3. Construction materials

| Material | Quantity |
|---|---------------------------------------|
| Clearing and Grubbing | 14.2 acres |
| Topsoil Stripping | 5,800 cubic yards |
| Foundation Excavation/Structural Backfill | 22,500 cubic yards/14,100 cubic yards |
| Concrete | 6,790 cubic yards |
| Rebar Reinforcement | 660 tons |
| Sheetpile Wall | 20,900 square feet |
| Floodwall Closure Gates | 5 |
| Aggregate Base | 8,000 tons |
| Asphalt | 1,000 tons |
| Drain Rock | 260 tons |
| Erosion Control Seeding | 13.9 acres |
| PVC Water Pipe | 60 linear feet |
| Storm Drain Pipe | 10 linear feet |
| Sanitary Sewer Pipe | 360 linear feet |
| 2-Inch Water Service Line | 60 linear feet |
| 36-Inch Cement Lined Steel Pipe | 820 linear feet |
| Channel Excavation | 4,830 cubic yards |
| Granular Filter | 107 cubic yards |
| Filter Fabric | 2,430 square yards |
| Rock Scour Protection | 3,980 tons / 2,400 cubic yards |

Utilities

Construction of the Proposed Action would require the removal and relocation of some utilities in the Proposed Action Area. Utility conflicts north of Lincoln Avenue would include 4 waterlines (including the 36-inch waterline described in Section 2.2.2), 3 storm drains, and 1 electrical line. Utility conflicts south of Lincoln Avenue would include 8 waterlines, 4 storm drains, 1 fire hydrant, 8 electrical lines, 3 sewer lines, 1 sewer cleanout, 1 backflow protector, 3 gas lines. Utilities would either be protected in place, demolished and removed, abandoned in place, relocated, or maintained through the proposed floodwall.

Operations and Maintenance

After construction, all O&M activities would be undertaken by the District indefinitely, for as long as the Project remains authorized, as part of law applicable to the Project/Proposed Action and the District's areawide O&M activities. The 15-foot-wide O&M corridor on the land side of the floodwall and the existing Napa River Trail on the water side of the floodwall would serve as maintenance corridors. The reconstructed and realigned Napa River Trail, north and south of Lincoln Avenue would serve as a maintenance corridor. Ongoing maintenance activities for the Proposed Action include routine inspections and minor vegetation trimming.

Appendix D. Federal Regulatory Framework

Appendix D – Federal Regulatory Framework

Regulatory Framework for Environmental Resources

The regulatory framework related to the Chapter 3 environmental resources sections is listed below, titled in accordance with their respective section number in the SEA. Compliance with all applicable federal regulations are discussed below in this appendix as well as in SEA Table 5.1-1.

3.3 Aesthetics/Visual Resources

National Scenic Byways Program

The Federal Highway Administration (FHWA) administers the National Scenic Byways Program of 1991, as amended, (23 U.S.C. § 162, *et seq.*) that recognizes roads with “intrinsic qualities” that includes archeological, cultural, historic, natural, recreational, and scenic. These roads are recognized by the U.S. Department of Transportation.

Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act of 1968, as amended, (16 U.S.C. § 1231, *et seq.*) was enacted to “protect selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values.” Protected rivers are designated as wild, scenic, or recreational rivers and segments of a given river may be designated with one or all these classifications. As noted in Chapter 3, Section 3.3.1., the Napa River is not a designated wild and scenic river and, as a result, regulation under the Wild and Scenic Rivers Act does not apply to the Proposed Action Area or the Proposed Action Alternative.

National Trails Systems Act

The National Trails System Act of 1968, as amended, (16 U.S.C. § 1241, *et seq.*) allows Congress to establish national historic trails to identify and protect routes of travel with national historic importance. National historic trails connect sites of interest related to a significant historical event, often crossing multiple jurisdictions and land uses, and permitting auto traffic where roads overlap the historic trail route.

As described in the National Park Service’s Reference Manual #45 (DOI NPS 2019), one of the route selection criteria for a national historic trail relates to tour route quality that optimizes visitor experience by directing views to landscapes and features that might have been viewed by historic trail travelers. This criterion further encourages local projects to avoid design features that would inhibit an appreciation of the adjacent landscape values when alternatives exist. As noted in Chapter 3, Section 3.3.1., no national trails exist in the Proposed Action Area, as a result, regulation under the National Trails Systems Act does not apply to the Proposed Action Alternative.

3.4 Air Quality

Clean Act and National Ambient Air Quality Standards

The Clean Air Act (CAA), as amended (42 U.S.C. § 7401, *et seq.*) is the primary federal law governing air quality. The CAA is regulated by USEPA, which sets standards for the concentration of pollutants in the air. At the federal level, these standards are called NAAQS. NAAQS have been established for six criteria air pollutants that have been linked to potential health concerns: O₃, PM₁₀, PM_{2.5}, CO, NO₂, and SO₂. Additionally, national standards exist for Pb. The NAAQS are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. The federal regulatory schemes also cover TACs.

The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (an area that was previously nonattainment and is currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in **Table D-1**.

The CAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). USEPA is responsible for implementing the programs established under the CAA, programs such as establishing and reviewing the federal ambient air quality standards and judging the adequacy of SIPs. If a state contains areas that violate the national standards, the CAA requires the State to revise its SIP to incorporate additional control measures to reduce air pollution. USEPA has authorized States such as California with air programs that meet or exceed federal standards to implement many of the federal programs while retaining an oversight role.

Table D-1. National and California Ambient Air Quality Standards

| Pollutant | Averaging Time | National Standards ¹ | | California Standards ² |
|-------------------|------------------------|---------------------------------|--------------------------|-----------------------------------|
| | | Primary ³ | Secondary ⁴ | |
| O ₃ | 1 hour | - | Same as Primary Standard | 0.09 ppm |
| | 8 hour | 0.07 ppm | | 0.07 ppm |
| PM ₁₀ | 24 hour | 150 µg/m ³ | Same as Primary Standard | 50 µg/m ³ |
| | Annual | - | | 20 µg/m ³ |
| PM _{2.5} | 24 hour | 35 µg/m ³ | Same as Primary Standard | - |
| | Annual Arithmetic Mean | 12 µg/m ³ | 15 µg/m ³ | 12 µg/m ³ |
| CO | 1 hour | 35 ppm | - | 20 ppm |
| | 8 hour | 9 ppm | - | 9 ppm |
| | 8 hour (Lake Tahoe) | - | - | 6 ppm |
| NO ₂ | 1 hour | 100 ppb | - | 0.18 ppm |
| | Annual Arithmetic Mean | 0.053 ppm | Same as Primary Standard | 0.03 ppm |
| SO ₂ | 1 hour | 75 ppb | - | 0.25 ppm |

| Pollutant | Averaging Time | National Standards ¹ | | California Standards ² |
|-------------------------------|-------------------------|---------------------------------|--------------------------|-----------------------------------|
| | | Primary ³ | Secondary ⁴ | |
| | 3 hour | - | 0.5 ppm | - |
| | 24 hour | 0.14 ppm | - | 0.04 ppm |
| | Annual Arithmetic Mean | 0.03 ppm | - | - |
| Pb | 30-day Average | - | - | 1.5 µg/m ³ |
| | Calendar Quarter | 1.5 µg/m ³ | Same as Primary Standard | - |
| | Rolling 3-month Average | 0.15 µg/m ³ | | - |
| Visibility Reducing Particles | 8 hour | No National Standards | | -. ⁵ |
| Sulfates | 24 hour | No National Standards | | 25 µg/m ³ |
| Hydrogen Sulfide | 1 hour | No National Standards | | 0.03 ppm |
| Vinyl Chloride | 24 hour | No National Standards | | 0.01 ppm |

Source: CARB 2016

Notes: O₃ = ozone; PM₁₀ = particles of 10 micrometers and smaller; PM_{2.5} = particles of 2.5 micrometers and smaller; CO = carbon monoxide; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide; Pb = lead; ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb = parts per billion

1. National standards (other than O₃, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

2. California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

5. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

General Conformity Rule

USEPA enacted the General Conformity rule (40 Code of Federal Regulations (C.F.R.) Parts 5, 51, and 93) in 1993. Established under the CAA (section 176(c)(4)), the purpose of the General Conformity rule is to ensure that federal actions do not generate emissions that interfere with state and local agencies' SIPs and emission-reduction strategies to ensure attainment of the NAAQS.

Emission Standards for Non-Road Diesel Engines

USEPA has adopted multiple tiers of emission standards for non-road (or off-road) diesel engines. The non-road standards cover mobile non-road diesel engines of all sizes used in a wide range of

construction, agricultural and industrial equipment. The first federal standards, Tier 1, were adopted in 1994. Tier 2 standards were adopted in 2001, Tier 3 in 2006, and final Tier 4 standards in 2014. The federal emission standards for non-road diesel engines are established in advancing tiers that progressively become more stringent (i.e., the higher the tier, the lower the emissions). Currently, the most stringent is Tier 4. The Tier 4 emissions standards have more stringent NO_x, particulate matter, and hydrocarbon limits than the lower tiers. The CO emission limits for Tier 4 standards remain unchanged from the Tier 2 and Tier 3 standards.

On-Road Diesel Fuel Rule

On December 20, 2022, USEPA adopted the *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards* (USEPA 2023) that set stronger emissions standards to lower emissions of NO_x, CO, and PM_{2.5} from heavy-duty vehicles and engines starting in model year 2027. Under this rule, NO_x emissions from heavy-duty vehicles would be reduced by 44 percent in 2040 and by 48 percent in 2045. PM_{2.5} emissions from heavy-duty vehicles are estimated to decrease by 7 percent in 2040 and by 8 percent in 2045. Emissions of CO from heavy-duty vehicles are estimated to decrease by 16 percent in 2040 and by 18 percent in 2045 (USEPA 2023).

National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants are stationary source standards for hazardous air pollutants (40 C.F.R. Part 63). Hazardous air pollutants are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects (USEPA 2022). The standards define a stationary source as any building, structure, facility, or installation which emits or may emit any air pollutant. As noted in Chapter 3, Section 3.4.1., no stationary sources are located in the Proposed Action Area and the Proposed Action Alternative would not create a new stationary source of air pollutants. As a result, regulation under the National Emission Standards does not apply to the Proposed Action Alternative.

3.5 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. § 300101, as recodified in 2014, formerly 16 U.S.C. § 470 *et seq.*), requires any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking to “take into account the effects of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in” the National Register of Historic Places (NRHP) that the Secretary of the Interior is authorized to expand and maintain under Section 101(a)(1)(A) of the NHPA (16 U.S.C. § 470a(a)(1)(A)).

Federal regulations implementing the NHPA are in 36 C.F.R. Part 800. 36 C.F.R. § 800.4(a)(1) requires the federal agency whose proposed undertaking is subject to the NHPA determine and document the “area of potential effects,” and 36 C.F.R. § 800.16(d) defines this area as “the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Section 800.16(d) also provides that the “area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” Section 800.16(y) defines “undertaking” as “a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those

carried out with federal financial assistance; and those requiring a federal permit, license or approval.” Historic properties are any prehistoric or historic district, site, building, structure, object, or traditional cultural property (TCP) included in or eligible for inclusion in the NRHP maintained by the Secretary of the Interior (36 C.F.R. § 800.16(l)(1) and (2)). In most cases, cultural resources less than 50 years old are not considered eligible for the NRHP; however, a property achieving significance within the past 50 years is eligible if it is of exceptional importance. Cultural resources also must retain their integrities (i.e., the ability to convey their significance) to qualify for listing in the NRHP. For example, dilapidated structures or heavily disturbed archeological sites may not retain enough integrity to relay information relative to the context in which the resource is considered to be important and, therefore, may not be eligible for listing on the NRHP.

The quality of significance in American history, architecture, archaeology, engineering, and culture must be present in districts, sites, buildings, structures, and objects that possess integrity of design, setting, materials, workmanship, feeling, and association. They must also meet one or more of the four following criteria for inclusion on the NRHP (see, 36 C.F.R. § 60.4):

- Criterion A, Association with events that have made a significant contribution to the broad patterns of history;
- Criterion B, Association with the lives of persons significant in the past;
- Criterion C, Embodiment of distinctive characteristics of a type, period, or method of construction, the work of a master, high artistic values, or a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D, History of yielding, or the potential to yield, information important in prehistory or history.

If a cultural resources professional meeting the Secretary of Interior’s Qualification Standards determines a particular resource meets one of these criteria, it is considered as an eligible historic property for listing in the NRHP. Among other criteria considerations, a property that has achieved significance within the last 50 years is not considered eligible for inclusion in the NRHP unless certain exceptional conditions are met.

Under the NHPA Section 106 process, federal agencies and their representatives are required to participate in consultation on any findings and determinations regarding an undertaking’s effect on historic properties (36 C.F.R. § 800.2(a)(4)). Consulting parties include: 1) the State Historic Preservation Officer (SHPO); 2) Native American tribes; 3) local governments; and 4) individuals and organizations with a demonstrated interest in the project. Section 106 requires that federal agencies seek concurrence from the SHPO on any determinations of NRHP eligibility and findings of effect to historic properties and notify the Advisory Council on Historic Preservation on any finding of adverse effects. Additionally, federal agencies must make a reasonable and good faith effort to identify Native American tribes, Native Hawaiian organizations, and other consulting parties that might attach religious and cultural significance to historic properties that may be affected by the undertaking (36 C.F.R. § 800.3(f)(2)), and gather information to assist in the identification of such properties (36 C.F.R. §§ 800.4(a)(3) and (4)). The analysis of this federal requirement can be found in Section 3.5, *Cultural Resources*, of the SEA.

Native American Graves Protection and Repatriation Act of 1990

Under the Native American Graves Protection and Repatriation Act (NAGPRA), as amended (25 U.S.C. 3001, *et seq.*) and implementing regulations 43 C.F.R Part 10, federal agencies are

responsible for the protection of Native American (as defined in 43 C.F.R. § 10.2) human remains, funerary objects, sacred objects, and objects of cultural patrimony that are discovered on federal lands (as defined in 43 C.F.R. § 10.) All human remains and potential human remains must be treated with respect and dignity at all times.

Archaeological Resources Protection Act (ARPA) of 1979

The Archaeological Resources Protection Act (ARPA) of 1979, as amended (16 U.S.C. § 470aa, *et seq.*) and implementing regulations 43 C.F.R. Part 7 and 32 C.F.R. Part 229 specify that archaeological resources excavated on public or Indian land remain the property of the federal government or Indian tribe, respectively. ARPA further specifies that the location of archaeological resources remain confidential.

American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act of 1978, as amended (42 U.S.C. §§ 1996 and 1996a) protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

American Antiquities Act of 1906

The American Antiquities Act of 1906, as amended (54 U.S.C. § 320101, recodified in 2014, formerly 16 U.S.C. 431) protects cultural property owned or managed by the U.S. government, authorizes the President of the United States to designate cultural resources and resources of scientific interests situated on public land as national monuments, enables the Secretaries of the Interior, Army, and Agriculture to issue permits for the study of archaeological sites, and grants the aforementioned secretaries to issue regulations to enforce the American Antiquities Act.

Executive Order 13007 (Indian Sacred Sites) of 1996 (Federal Register Vol. 61, No. 104:26771-26772)

Under Executive Order 13007 (Indian Sacred Sites) of 1996, federal agencies with the responsibility for managing federal land are to accommodate access by tribal members to Indian sacred sites on federal land.

Executive Order 11593 (Protection and Enhancement of the Cultural Environment) of 1971

Under Executive Order 11593 (Protection and Enhancement of the Cultural Environment) of 1971, federal agencies shall administer cultural resources under their management in such a way that preserves these resources for future generations, initiate measures to maintain and preserve cultural resources under their management, and consult with the Advisory Council of Historic Preservation to enact procedures so that federal actions contribute to the preservation of non-federally owned or managed resources of historical or archaeological significance.

3.6 Fisheries and Aquatic Biological Resources

Endangered Species Act of 1973

Pursuant The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531, *et seq.*) is the primary law in the United States for protecting endangered or threatened species and critical habitat. All federal agencies are required to comply with the ESA, but USFWS and NMFS have

delegated authority and responsibility for implementing its provisions including over Actions that may result in “take” of a species listed as threatened or endangered under the ESA. In accordance with implementing regulations found at 50 C.F.R. Part 17, a “take” is defined, in part, as killing, harming, or harassing, and also includes habitat modification or degradation that results, or is reasonably expected to result, in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If a likelihood exists that an Action would result in take of a federally listed species, either an incidental take permit, under Section 10(a) of the ESA, or a federal interagency consultation, under Section 7 of the ESA, is required to avoid take liability.

The USFWS and NMFS maintain areas of critical habitat for federally regulated species to safeguard the continued existence of such species by restricting the type and extent of activities proposed under Section 7 of the ESA. Section 7 of the ESA requires federal agencies to consult with USFWS and/or NMFS for actions that may take a listed species or their habitat. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7, the federal agency conducting, funding, or permitting an action—the federal lead agency—must consult with USFWS and/or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed action “may affect” a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment (BA), evaluating the nature and severity of the expected effect. In response, USFWS and/or NMFS issues a biological opinion (BO), with a determination that the proposed action results in one of the following.

- Jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding)
- Not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The BO issued by USFWS and/or NMFS may stipulate discretionary “reasonable and prudent” conservation measures. If the proposed action would not jeopardize a listed species, USFWS and/or NMFS will issue an incidental take statement to authorize the proposed activity.

For construction of the Proposed Action, Section 7 consultation may be initiated by the USACE, who would be the lead federal agency, and would complete the consultation under Section 7 related to permits for Action elements that affect wetland or waters within their jurisdiction.

Fish and Wildlife Coordination Act of 1958

The Fish and Wildlife Coordination Act (FWCA) of 1958, as amended (16 U.S.C. § 661, *et seq.*), was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal agencies to take into consideration the effect that water-related Actions would have on fish and wildlife resources. Consultation and coordination with USFWS and CDFW are required to address ways to prevent loss of and damage to fish and wildlife resources, and to further develop and improve these resources.

Magnuson-Stevens Fishery Conservation and Management Act of 1976

The Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended (16 U.S.C. § 1801, *et seq.* (MSA) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult with NMFS regarding all

actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. Department of Commerce guidelines for implementing the EFH coordination and consultation provisions are found in 50 C.F.R. Part 600. The consultation process includes preparing an EFH assessment to determine whether a proposed action “may adversely affect” designated EFH for relevant commercial, federally managed fisheries species within the Proposed Action Area. It also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects on designated EFH resulting from the proposed action.

The phrase *adversely affect* refers to the creation of any effect that reduces the quality or quantity of EFH. Federal activities that occur outside EFH but may nonetheless influence EFH waters and substrate must also be considered in the consultation process.

The MSA states that consultation regarding EFH should be consolidated, where appropriate, with the interagency consultation, coordination, and environmental review procedures required by other federal statutes, such as the NEPA, FWCA, the CWA, and the ESA. EFH consultation requirements can be satisfied through concurrent environmental compliance if the lead agency provides NMFS with timely notification of actions that may adversely affect EFH, and the notification meets requirements for EFH assessments. The analysis of this federal requirement can be found in SEA Section 3.6, *Fisheries and Aquatic Biological Resources*.

Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act (33 USC Sections 403) requires authorization from USACE for the construction of any structure, dredging or disposal of dredged materials, excavation, filling, rechannelization, or any other modification in or over any defined navigable current or historical waters of the United States. Historical waters are defined by diked areas that used to be part of a tidal navigable system that are still at or below the mean high water elevation.

Clean Water Act (formerly Federal Water Pollution Control Act of 1972)

The Clean Water Act (CWA), as amended (33 U.S.C. § 1251, *et seq.*) is the primary federal law that protects the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands. The CWA directs states to establish water quality standards for all “waters of the United States” and to review and update such standards on a triennial basis. The U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the NPDES program (discussed below), to the SWRCB and the RWQCBs. Implementing regulations are found at 40 C.F.R. Part 230 and 33 C.F.R. Part 323. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The analysis of this federal requirement can be found in SEA Section 3.6, *Fisheries and Aquatic Biological Resources*. Key sections of the CWA include the following.

SECTION 303(D)

The CWA contains two strategies for managing water quality. One is a technology-based approach that includes requirements to maintain a minimum level of pollutant management using the best available technology (BAT). The other is a water quality-based approach that relies on evaluating the condition of surface waters and setting limitations on the amount of pollution that the waters can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the CWA bridges these two strategies. Section 303(d)

requires that the states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the EPA Administrator deems they are appropriate), the states are to develop total maximum daily loads (TMDLs). TMDLs are established at the level necessary to implement the applicable water quality standards. The CWA does not expressly require the implementation of TMDLs. However, federal regulations require that an implementation plan be developed along with the TMDLs and Sections 303(d), and 303(e) and their implementing regulations require that approved TMDLs be incorporated into basin plans. EPA has established regulations (40 Code of Federal Regulations [CFR] 122) that require that NPDES permits be revised to be consistent with any approved TMDL.

SECTION 401

CWA Section 401 requires that an applicant pursuing a federal permit to conduct an activity that may result in a discharge of a pollutant obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States. The CWA Section 401 program follows a general approach of: (1) impact avoidance as a first priority, (2) minimization of impacts if avoidance is not possible, and (3) mitigation to compensate for unavoidable permanent impacts and ensure no net loss of water resources occurs. Water Quality Certifications are issued by one of the nine geographically separated Regional Water Quality Control Boards (RWQCBs) in California. Under the CWA, the RWQCB must issue or waive a Section 401 Water Quality Certification for an Action to be permitted under CWA Section 404. The Proposed Action would require a Section 401 Water Quality Certification from the San Francisco RWQCB for its work within the Napa River, which would involve discharges to these water bodies and require a Section 404 permit from the USACE.

SECTION 402

CWA Section 402 regulates stormwater discharges to surface waters through the NPDES, which is officially administered by the EPA, which has granted the State of California (SWRCB and RWQCBs) primacy in administering and enforcing the provisions of CWA and the NPDES program. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States. The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual (activity- or Action-specific) permits.

GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES

Most construction Actions that disturb one acre or more of land are required to obtain coverage under the NPDES General Permit for Construction Activities (Construction General Permit). The SWRCB has issued a statewide Construction General Permit (Order 2009-0009-DWQ NPDES No. CAR000002 as amended by 2010-0014-DWQ and 2012-0006-DWQ). Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of total land area. The Construction General Permit requires the applicant to file a notice of intent (NOI) to discharge stormwater and to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must include a site map and a description of the proposed construction activities; demonstrate compliance with relevant local ordinances and regulations; and present an overview of the BMPs that

would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and are effective in controlling the discharge of construction-related pollutants.

SECTION 404

CWA Section 404 of the CWA regulates the placement of dredge or fill material into waters of the United States. Section 404 permits are administered by the USACE. The USACE issues permits under general categories of Nationwide Permits (NWP) or issues individual permits on a case-by-case basis. USACE 404 permits generally require mitigation for loss of wetlands or aquatic resources.

3.7 Geology and Soils

Earthquake Hazards Reduction Act of 1977

In October 1977, the United States Congress passed the Earthquake Hazards Reduction Act, as amended (42 U.S.C. § 7701, *et seq.*) to reduce the risks to life and property from future earthquakes in the United States. The Earthquake Hazards Reduction Act established the National Earthquake Hazard Reduction Program. The purpose of this program is to reduce the risks to life and property in the United States from earthquakes through the establishment and maintenance of an effective national earthquake risk reduction program. Member agencies in the National Earthquake Hazard Reduction Program are the USGS, the National Science Foundation, FEMA, and the National Institute of Standards and Technology.

Paleontological Resources Preservation Act, part of the Omnibus Public Land Management Act of 2009

The Paleontological Resources Preservation Act (Pub. Law No. 111-111) was passed on March 30, 2009. The Paleontological Resources Preservation Act is intended to preserve, manage, and protect paleontological resources on lands administered by the Bureau of Land Management, the Bureau of Reclamation, the National Parks Service, and the USFWS. As noted in Chapter 2, the Proposed Action Area is not administered by the above-listed agencies and, as a result, regulation under the Paleontological Resources Preservation Act does not apply to the Proposed Action Alternative.

3.8 Hazards and Hazardous Materials

Hazardous Substances and Waste Management

The Federal Toxic Substances Control Act of 1976, as amended and the Resource Conservation and Recovery Act (RCRA) of 1976 established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste.

Asbestos National Emission Standards for Hazardous Air Pollutants

The USEPA's Asbestos National Emission Standards for Hazardous Air Pollutants regulations specify work practices for asbestos to be followed during demolition and renovation of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units).

Universal Waste Management

40 CFR Part 273 governs the collection and management of widely generated waste, including batteries, pesticides, mercury-containing equipment, and bulbs. This regulation streamlines the hazardous waste management standards and ensures that such waste is diverted to the appropriate treatment or recycling facility.

U.S. Department of Labor, Occupational Safety and Health Administration

29 CFR Part 1910, Occupational Safety and Health Standards, requires facilities that use, store, manufacture, handle, process, or move hazardous materials to conduct employee safety training; inventory safety equipment relevant to potential hazards; have knowledge on safety equipment use; prepare an illness prevention program; provide hazardous substance exposure warnings; prepare an emergency response plan, and prepare a fire prevention plan. 29 CFR Part 1926 establishes similar safety and health regulations for construction.

U.S. Department of Transportation

Transportation of hazardous materials is regulated by the U.S. Department of Transportation's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. § 9601, *et seq.*) established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also identifies the definition of hazardous substances.

3.9 Hydrology and Water Quality

Clean Water Act (formerly Federal Water Pollution Control Act of 1972)

The Federal Water Pollution Control Act of 1948 was the first major United States law to address water pollution. Amended in 1972, the law became commonly known as the Clean Water Act (CWA) (33 USC Section 1251). The CWA established the structure for regulating discharge of pollutants into waters of the United States and regulating quality standards for surface waters.

CWA Section 404 (33 USC Section 1344) enables regulation of the discharge of dredged or fill material into waters of the United States, including wetlands. To comply with CWA Section 404, a permittee must document the measures taken to avoid and minimize impacts on waters of the United States and provide compensatory mitigation for any unavoidable impacts.

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants, waives or denies CWA Section 401 certification. Decisions made by states or tribes are based on the Proposed Action's compliance with USEPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the State Water Resources Control Board (SWRCB) is the primary regulatory authority for CWA Section 401 requirements.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit was established in the CWA to regulate municipal and industrial discharges to surface waters of the US. The ultimate objective of the CWA is zero pollutant discharge, but it recognizes the need for a system to regulate non-zero pollutant discharges until the zero-pollutant objective is feasible. CWA Section 402 established NPDES for this purpose. The NPDES regulates all pollutant discharges, particularly point source discharges, to the waters of the US.

Construction General Permit

Also established through the CWA Section 402 NPDES program, the California Construction General Permit (CGP) (NPDES No. CAS000002, SWRCB Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ) authorizes the discharge of stormwater (and certain unauthorized non-stormwater discharges) from construction sites that disturb 1 acre or more of land, and from smaller sites that are part of a larger, common plan of development. For all projects subject to the CGP, the applicant is required to hire a qualified developer and practitioner to develop and implement an effective Stormwater Pollution Prevention Plan (SWPPP). All project registration documents, including the SWPPP, are required to be uploaded into the SWRCB's online Stormwater Multiple Application and Report Tracking System prior to ground disturbing activities.

Sections 10 (Section 403) and 14 (Section 408) of the Rivers and Harbors Appropriation Act of 1899

Under Section 408 (33 USC Sections 403 and 408), any use or alteration of a Civil Works project is subject to the approval of USACE. This requirement was established in Section 14 of the Rivers and Harbors Act of 1899. Section 408 provides that USACE may grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project. Under Section 403 of the Rivers and Harbors Act, the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited.

3.10 Noise

Noise Control Act

The Noise Control Act of 1972 (42 USC 4901 to 4918) was the first comprehensive statement of national noise policy. The Noise Control Act declared "it is the policy of the U.S. to promote an environment for all Americans free from noise that jeopardizes their health or welfare." Although the Noise Control Act, as a funded program, was ultimately abandoned at the federal level, it served as the catalyst for comprehensive noise studies and the generation of noise assessment and mitigation policies, regulations, ordinances, standards, and guidance for many states, counties, and municipal governments.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration established standards for occupational noise exposure under 29 CFR 1910.95. These regulations protect employees from excessive noise exposure and require a Hearing Conservation Program when routine exposure to high noise levels would occur. The regulations identify permissible daily noise exposures and stipulate that personal protection against the effects of noise exposure must be provided if those levels are exceeded.

Federal Transit Administration

The FTA developed the *Transit Noise and Vibration Impact Assessment Manual* (Noise Manual) (FTA 2018) in September 2018. The Noise Manual provides technical guidance for conducting noise and vibration analyses for transit projects. While these standards and impact assessment methodologies are not directly applicable to this type of Proposed Action, they are routinely used as guidelines for projects in federal, state and local jurisdictions.

3.11 Recreation

There are no identified federal statutes and regulations relevant to this environmental analysis; however, recreation is an authorized purpose of the Authorized Project.

3.12 Terrestrial Biological Resources

Endangered Species Act of 1973

Pursuant to the ESA of 1973, as amended (16 U.S.C. § 1531, *et seq.*), is the primary law in the United States for protecting endangered or threatened species and critical habitat. All federal agencies are required to comply with the ES, but USFWS and NMFS have delegated authority and responsibility over Actions that may result in “take” of a species listed as threatened or endangered under the ESA. In accordance with implementing regulations found at 50 C.F.R. Part 17, a “take” is defined, in part, as killing, harming, or harassing, and also includes habitat modification or degradation that results, or is reasonably expected to result, in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If a likelihood exists that an Action would result in take of a federally listed species, either an incidental take permit, under Section 10(a) of the ESA, or a federal interagency consultation, under Section 7 of the FESA, is required to avoid take liability.

The USFWS and NMFS maintain areas of critical habitat for federally regulated species to safeguard the continued existence of such species by restricting the type and extent of activities proposed under Section 7 of ESA. Section 7 of the ESA requires federal agencies to consult with USFWS and/or NMFS for actions that may take a listed species or their habitat. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7, the federal agency conducting, funding, or permitting an action—the federal lead agency—must consult with USFWS and/or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed action “may affect” a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment (BA), evaluating the nature and severity of the expected effect. In response, USFWS and/or NMFS issues a biological opinion (BO), with a determination that the proposed action results in one of the following.

Jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding)

Not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The BO issued by USFWS and/or NMFS may stipulate discretionary “reasonable and prudent” conservation measures. If the proposed action would not jeopardize a listed species, USFWS and/or NMFS will issue an incidental take statement to authorize the proposed activity.

For construction of the Proposed Action, Section 7 consultation may be initiated by the USACE, who would be the lead federal agency, and would complete the consultation under Section 7 related to permits for Action elements that affect wetland or waters within their jurisdiction.

Fish and Wildlife Coordination Act of 1958

The Fish and Wildlife Coordination Act (FWCA) of 1958, as amended (16 U.S.C. § 661, *et seq.*), was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal agencies to take into consideration the effect that water-related Actions would have on fish and wildlife resources. Consultation and coordination with USFWS and CDFW are required to address ways to prevent loss of and damage to fish and wildlife resources, and to further develop and improve these resources.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), as amended (16 U.S.C. § 703, *et seq.*) domestically implements a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act further provides that it is unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird...” (16 USC § 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in the March 1, 2020, Federal Register (75 FR 9281). This list comprises several hundred species, including essentially all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and of personal property. USFWS publishes a list of birds of conservation concern (BCC) to identify migratory nongame birds that are likely to become candidates for listing under ESA without additional conservation actions. The BCC list is intended to stimulate coordinated and collaborative conservation efforts among federal, state, tribal, and private parties.

Bald and Golden Eagle Protection Act of 1940

The Bald and Golden Eagle Protection Act (BGEPA), as amended (16 U.S.C. § 668, *et seq.*) prohibits take and disturbance of individuals and nests. Take permits for birds or body parts are limited to religious, scientific, or falconry pursuits. However, the BGEPA was amended in 1978 to allow mining developers to apply to USFWS for permits to remove inactive golden eagle (*Aquila chrysaetos*) nests in the course of “resource development or recovery” operations. With the 2007 removal of bald eagle from the ESA list of threatened and endangered species, USFWS issued new regulations to authorize the limited take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles under the BGEPA, where the take to be authorized is associated with otherwise lawful activities. A final Eagle Permit Rule was published on September 11, 2009 (74 FR 46836–46879; 50 CFR 22.26).

A permit authorizes limited, non-purposeful take of bald eagles and golden eagles, and can be applied for by individuals, companies, government agencies (including tribal governments), and other organizations to allow disturbance or otherwise take eagles in the course of conducting lawful

activities, such as operating utilities and airports. Under BGEPA, take is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest or disturb.” Disturb is defined in the regulations as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” Most permits issued under the new regulations authorize disturbance. In limited cases, a permit may authorize the physical take of eagles, but only if every precaution is first taken to avoid physical take. As noted in Chapter 3, Section 3.12, no suitable nesting habitat or trees are present in the Proposed Action Area and, as a result, regulation under the Bald and Golden Eagle Protection Act does not apply to the Proposed Action Alternative.

Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act (33 USC Sections 403) requires authorization from USACE for the construction of any structure, dredging or disposal of dredged materials, excavation, filling, rechannelization, or any other modification in or over any defined navigable current or historical waters of the United States. Historical waters are defined by diked areas that used to be part of a tidal navigable system that are still at or below the mean high water elevation.

Clean Water Act (formerly Federal Water Pollution Control Act of 1972)

The Clean Water Act (CWA), as amended (33 U.S.C. § 1251, *et seq.*) is the primary federal law that protects the quality of the nation’s surface waters, including lakes, rivers, and coastal wetlands. The CWA directs states to establish water quality standards for all “waters of the United States” and to review and update such standards on a triennial basis. The U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the NPDES program (discussed below), to the SWRCB and the RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The analysis of this federal requirement can be found in SEA Section 3.12, *Terrestrial Biological Resources*. Key sections of the CWA include the following.

SECTION 303(D)

The CWA contains two strategies for managing water quality. One is a technology-based approach that includes requirements to maintain a minimum level of pollutant management using the best available technology (BAT). The other is a water quality-based approach that relies on evaluating the condition of surface waters and setting limitations on the amount of pollution that the waters can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the CWA bridges these two strategies. Section 303(d) requires that the states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the EPA Administrator deems they are appropriate), the states are to develop total maximum daily loads (TMDLs). TMDLs are established at the level necessary to implement the applicable water quality standards. The CWA does not expressly require the implementation of TMDLs. However, federal regulations require that an implementation plan be developed along with the TMDLs and Sections 303(d), and 303(e) and their implementing regulations require that approved TMDLs be incorporated into basin plans. EPA has established regulations (40

Code of Federal Regulations [CFR] 122) that require that NPDES permits be revised to be consistent with any approved TMDL.

SECTION 401

CWA Section 401 requires that an applicant pursuing a federal permit to conduct an activity that may result in a discharge of a pollutant obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States. The CWA Section 401 program follows a general approach of: (1) impact avoidance as a first priority, (2) minimization of impacts if avoidance is not possible, and (3) mitigation to compensate for unavoidable permanent impacts and ensure no net loss of water resources occurs. Water Quality Certifications are issued by one of the nine geographically separated Regional Water Quality Control Boards (RWQCBs) in California. Under the CWA, the RWQCB must issue or waive a Section 401 Water Quality Certification for an Action to be permitted under CWA Section 404. The Proposed Action would require a Section 401 Water Quality Certification from the San Francisco RWQCB for its work within the Napa River, which would involve discharges to these water bodies and require a Section 404 permit from the USACE.

SECTION 402

CWA Section 402 regulates stormwater discharges to surface waters through the NPDES, which is officially administered by the EPA, which has granted the State of California (SWRCB and RWQCBs) primacy in administering and enforcing the provisions of CWA and the NPDES program. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States. The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual (activity- or Action-specific) permits.

GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES

Most construction Actions that disturb one acre or more of land are required to obtain coverage under the NPDES General Permit for Construction Activities (Construction General Permit). The SWRCB has issued a statewide Construction General Permit (Order 2009-0009-DWQ NPDES No. CAR000002 as amended by 2010-0014-DWQ and 2012-0006-DWQ). Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of total land area. The Construction General Permit requires the applicant to file a notice of intent (NOI) to discharge stormwater and to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must include a site map and a description of the proposed construction activities; demonstrate compliance with relevant local ordinances and regulations; and present an overview of the BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and are effective in controlling the discharge of construction-related pollutants.

SECTION 404

CWA Section 404 of the CWA regulates the placement of dredge or fill material into waters of the United States. Section 404 permits are administered by the USACE. The USACE

issues permits under general categories of Nationwide Permits (NWP) or issues individual permits on a case-by-case basis. USACE 404 permits generally require mitigation for loss of wetlands or aquatic resources.

Executive Order 13112: Prevention and Control of Invasive Species

Federal Executive Order (EO) 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The EO established the National Invasive Species Council, which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The council's invasive species management plan recommends objectives and measures to implement the EO and to prevent the introduction and spread of invasive species (National Invasive Species Council 2008). The EO requires consideration of invasive species in National Environmental Policy Act analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

3.13 Traffic/Transportation

There are no federal regulations that pertain to transportation and are relevant to the Proposed Action.

3.14 Utilities

There are no identified federal plans, policies, and regulations that are relevant to the analysis of utilities.

Compliance with Federal Laws and Regulations

See Table 5.1-1 of the SEA for status of compliance with the below-listed federal laws and executive orders.

Federal Laws

Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668 *et seq.*)

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” (*take* is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb”) bald or golden eagles, including their parts, nests, or eggs. No suitable nesting habitat or trees are present in the Proposed Action Area. Therefore, this Act is not applicable to the Proposed Action Alternative.

Clean Air Act of 1972, as amended (42 U.S.C. §7401 *et seq.*)

The Clean Air Act regulates air emissions from stationary and mobile sources. Section 176(C) of the Clean Air Act, also known as the General Conformity Rule, prohibits federal agencies from carrying out, funding, or permitting any activity in a nonattainment or maintenance area “which does not conform to an implementation plan after it has been approved or promulgated” (42 U.S.C. §7506). As described in Section 3.4, the Proposed Action Alternative would result in temporary effects on air quality during construction, however, estimated construction emissions would not exceed thresholds established by the YSAQMD. Therefore, the Proposed Action Alternative would not result in a direct

or indirect adverse effect on air quality in the area and the Proposed Action Alternative would be in compliance with this Act.

Clean Water Act (33 U.S.C. §1344 et seq.)

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USEPA promulgates Section 404 regulations, however, the USACE Regulatory Program evaluates and issues permits for proposed activities in waters of the United States. Section 401 of the Clean Water Act requires that applicants for federal permits or licenses provide certification from the state that any discharges will comply with state-established water quality standard requirements. Applicants must obtain a Section 401 certification or waiver for the proposed action before the USACE can authorize a permit under Section 408 and Section 404. EC 1165-2-220 specifies that USACE will coordinate internally to ensure that the Section 404 permit and the Section 408 permissions are consistent. As the federal lead, the USACE determined that 404 permits are not needed because this Action is through the Section 204 process. As described in Section 3.9, the Proposed Action Alternative would not require in-water work and would have no effects on water quality. Through consultation between the District and Regional Water Quality Control Board, it was determined that the Waste Discharge Requirements (WDR) Order #99-074 issued by the California State Water Quality Control Board for the USACE Authorized Project is sufficient to cover the current Proposed Action Alternative, and the USACE Authorized Project will abide by WDR Order #99-074. Therefore, through coordination with the USACE Regulatory Division, it was confirmed that the Proposed Action Alternative would not require a Section 404 permit or a Section 401 water quality certification. USACE will perform a Section 404(b)(1) analysis to ensure compliance with Clean Water Act.

CERCLA

CERCLA addresses the threats posed by the release of hazardous substances into the environment, including contamination of soil, groundwater, surface water, and air. CERCLA may apply to a floodwall construction project if the construction site is contaminated with hazardous substances, requiring investigation, cleanup, or coordination with the EPA before or during development. If the site is a designated Superfund site, specific remediation and liability provisions under CERCLA must be followed to ensure safe construction and environmental compliance. For any sites within the Proposed Action Area footprint, the Sponsor would remediate and clean-up in accordance with EPA guidelines and coordinate with relevant authorities, such as the EPA, to ensure that response actions meet CERCLA standards. The only known site of concern within the Proposed Action Area, as discussed in Effect HAZ-3 of the SEA, is Silverado Towing. A Phase I ESA has been performed for this site, and a Soil Management Plan will be prepared and enforced. Therefore, the Proposed Action would be in compliance with CERCLA.

Endangered Species Act of 1973, as amended (16 U.S.C. §1531 et seq.)

The ESA requires federal agencies to consult with USFWS and/or the National Oceanic and Atmospheric Administration Fisheries when their actions may affect federally threatened or endangered species or their designated critical habitat. The USACE and District have coordinated recently with NMFS for the Proposed Action based on the revised and reduced footprint design. NMFS concurred that a supplemental biological assessment/opinion under ESA Section 7 is not required for the Proposed Action Alternative since the proposed effects are within the range that was already assessed and mitigated for within the USACE Authorized Project. Therefore, no additional requirements from NMFS or mitigation for the Proposed Action Alternative have been imposed.

Consultation under Section 7 of the ESA is in progress for the Proposed Action Alternative and mitigation measures will be implemented to protect endangered species.

Farmland Protection Policy Act of 1984 (7 U.S.C. §4201 et seq.)

The Farmland Protection Policy Act was instituted to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.” Federal permitting for activities on private or non-federal lands is not considered to be a federal program under the Farmland Protection Policy Act (7 CFR §658.2). As described in Appendix E, *Resources Not Discussed in Detail*, the Proposed Action Alternative would not result in the conversion of prime, unique, or statewide importance farmland to non-agricultural uses, conflict with zoning or agriculture, or affect any Williamson Act Contracts in the Proposed Action Alternative area since no farmland exists in the Proposed Action Area. Therefore, this Act is not applicable to the Proposed Action Alternative.

Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. §661 et seq.)

The FWCA requires that federal agencies consult with the USFWS and the head of the agency exercising administration over the wildlife resources of the particular state, “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever” (16 U.S.C. 662). The Proposed Action Alternative is subject to the FWCA and compliance with this Act is in progress.

Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended (16 U.S.C. §1801 et seq.)

The Magnuson-Stevens Fishery Conservation and Management Act is the primary law governing marine fisheries management in U.S. federal waters. It requires that fishery management councils identify as essential fish habitat those areas necessary for fish to perform their basic life functions. The Act also requires that federal agencies consult with the National Oceanic and Atmospheric Administration Fisheries when their actions may adversely affect essential fish habitat. As described in Section 3.6, the Proposed Action Alternative would implement mitigation measures to reduce effects to fisheries. Therefore, the Proposed Action Alternative would be in compliance with this Act.

Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §703 et seq.)

The Migratory Bird Treaty Act established “that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not.” As described in Section 3.12, the Proposed Action Alternative would implement mitigation measures to reduce effects to migratory birds. Therefore, the Proposed Action Alternative would be in compliance with this Act.

National Environmental Policy Act of 1969, as amended (42 U.S.C. §4321 et seq.)

NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to decision making. This SEA has been prepared following CEQ NEPA Regulations (40 CFR Parts 1500–1508) and the USACE ER 200-2-2 (33 CFR Part 230) and satisfies the NEPA requirement.

The Proposed Action Alternative would follow the NEPA process and compliance with this Act is in progress.

National Historic Preservation Act of 1966, as amended (54 U.S.C. §300101 et seq.)

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their actions on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such actions (54 U.S.C. 306108). Consultation under Section 106 of the NHPA is in progress for the Proposed Action Alternative.

Noise Control Act of 1972, as amended (42 U.S.C. §4901 et seq.)

The Noise Control Act established a national policy to promote an environment for all Americans free from noise that jeopardizes their health or welfare. As described in Section 3.10, the Proposed Action Alternative would result in temporary, short-term noise during construction and mitigation measures would be implemented to reduce these effects. Therefore, the Proposed Action Alternative would not result in any adverse effects for noise in the area and the Proposed Action Alternative would be in compliance with this Act.

Occupational Safety and Health Act of 1970 (29 U.S.C. §651 et seq.)

The Occupational Safety and Health Administration (OSHA) is the Federal agency responsible for ensuring worker safety. The Occupational Safety and Health Act and its implementing regulations provide standards for safe workplaces and work practices, including those relating to hazardous materials handling. All workers during construction would comply with OSHA's hazardous materials management and handling requirements including such measures as having all appropriate personal protective equipment (PPE) to reduce the possibility of acute or chronic exposure hazards and protect worker safety. Therefore, the Proposed Action Alternative would be in compliance with this Act.

Plant Protection Act of 2000 (7 U.S.C. §7701 et seq.)

The Plant Protection Act states that "the detection, control, eradication, suppression, prevention, or retardation of the spread of plant pests or noxious weeds is necessary for the protection of the agriculture, environment, and economy of the United States." Furthermore, the Act prohibits the import, entrance, export, or movement in interstate commerce of any plant pest, unless authorized by permit issued by the Secretary of Agriculture (7 U.S.C. §7711). As described in Section 3.12, the Proposed Action Alternative would implement mitigation measures to reduce effects to sensitive plant species. The Proposed Action Alternative would also not involve the import, entrance, export, or movement in interstate commerce of any plant pest. Therefore, the Proposed Action Alternative would be in compliance with this Act.

Resource Conservation and Recovery Act (RCRA)

The Resource Conservation and Recovery Act (RCRA) provides a comprehensive framework for the proper management, treatment, storage, and disposal of hazardous and non-hazardous solid waste. RCRA may apply to a Project if hazardous waste is generated during construction, if there are underground storage tanks, or if the site includes or impacts a permitted or formerly regulated RCRA facility. The Proposed Action would manage any solid or hazardous waste generated during construction—such as contaminated soil, paint, solvents, or debris—by following RCRA regulations for handling, storage, transportation, and disposal at authorized facilities, and maintaining documentation to ensure regulatory compliance. The Proposed Action would not generate

hazardous waste during construction and would not impact an underground storage tank or site permitted or formally regulated RCRA site. Therefore, the Proposed Action Alternative would be in compliance with this Act.

Rivers and Harbors Appropriation Act of 1899 (22 U.S.C. §403 et seq.)

Section 10 of the Rivers and Harbors Appropriation Act (33 U.S.C. §403) requires that the construction of any structure in, over, or under any navigable water in the United States receive a permit. This applies to all structures and any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States. Additionally, Section 10 applies outside of navigable water if any structure or work will affect the course, location, or condition of a navigable water. The USACE Regulatory Program is responsible for the issuance of permits under Section 10. EC 1165-2-220 specifies that USACE will coordinate internally to ensure that the Section 10 permit and the Section 408 permissions are consistent. The Napa River in the Proposed Action Area is not navigable. Therefore, the Proposed Action Alternative would be in compliance with this Act.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. § 4601)

The Uniform Relocation Act and its implementing regulations (49 CFR 24) ensures the fair and equitable treatment of persons whose real property is acquired or who are displaced as a result of a Federal or Federally assisted project. The act may provide relocation advisory services, moving costs reimbursement, replacement housing, and reimbursement for related expenses and rights of appeal. The Proposed Action would require acquisition of private property to construct flood risk management improvements. The District and USACE would be responsible for any mitigation such as compensation for temporary loss of business, temporary relocation of residents or permanent property acquisition under the Act. Therefore, the Proposed Action Alternative would be in compliance with this Act.

Wild and Scenic Rivers Act of 1968 (16 U.S.C. §1273 et seq.)

The Wild and Scenic Rivers Act is intended to preserve, in a free-flowing condition, certain rivers with outstanding natural, cultural, and recreational values. Specifically, the Act prohibits federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on a designated river or congressionally authorized study river. The Proposed Action Alternative would have no effects on wild and scenic rivers because there are no wild and scenic rivers in the Proposed Action Area.

Executive Orders

E.O. 11988, Floodplain Management

E.O. 11988 requires that each agency “avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative”. The Proposed Action Alternative would not create new development within the floodplain.

E.O. 11990, Protection of Wetlands

E.O. 11990 directs federal agencies to “minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.” Although E.O. 11990

does not apply to the issuance by federal agencies of permits to private parties for activities involving wetlands on non-federal property, it does apply to activities involving wetlands on federal property. As described in Section 3.6, there are no wetlands located within the Proposed Action Area. Therefore, the Proposed Action Alternative would have no effects on wetlands.

E.O. 13112, Invasive Species

E.O. 13112 requires that federal agencies identify their actions that may affect the status of invasive species and “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere”. The Proposed Action Alternative would implement measures to reduce effects from invasive species and would be compliance with this Executive Order.

E.O. 13751, Safeguarding the Nation from the Impacts of Invasive Species

E.O. 13751 states that it “is the policy of the United States to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established.” The Proposed Action Alternative would implement measures to reduce effects from invasive species and would be compliance with this Executive Order.

E.O. 14148, Initial Rescissions of Harmful Executive Orders and Actions

E.O. 14148 rescinds previous E.O. 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government; E.O. 13990, Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis; E.O. 14008, Tackling the Climate Crisis at Home and Abroad; E.O. 14091, Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government; and E.O. 14096, Revitalizing Our Nation’s Commitment to Environmental Justice for All.

E.O. 14173, Ending Illegal Discrimination and Restoring Merit-Based Opportunity

E.O. 14173 rescinds previous E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

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Appendix E. Resource Topics Not Discussed in Detail

Appendix E – Resource Topics Not Discussed in Detail

Agriculture and Forestry

The 1999 Final SEIS/EIR did not evaluate effects to agriculture and forestry resources because these resources did not exist in the 1999 Preferred Alternative action area, and similarly do not exist in the current Proposed Action Area with the changes in design as identified in Chapter 2, Section 2.2, *Proposed Action Alternative*.

Agriculture and forestry resources would not be adversely affected by implementation of the Proposed Action Alternative. Rather, the entirety of the Proposed Action Area is classified as urban and built-up land. The closest area designated as Unique Farmland/Prime Farmland is on the east side of the Napa River approximately 1.2 miles away from the Proposed Action Area (California Department of Conservation [DOC] 2022a). There are no forestry resources located in the Proposed Action Area (Napa County 2008).

The Proposed Action Area is not characterized as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2022b). Therefore, the Proposed Action Alternative would not use land that is designated as prime farmland and would not result in the conversion of prime, unique, or statewide importance farmland to non-agricultural uses. Additionally, the Proposed Action Area does not contain land zoned for agricultural use or any Williamson Act contract land (DOC 2022b). Therefore, the Proposed Action Alternative would not use or impact agricultural lands within an existing Williamson Act contract and would not conflict with those uses.

The Proposed Action Area does not contain forest land or timberland and would not conflict with existing zoning for or cause re-zoning of forest land or timberland and would not result in the loss or conversion of forest land (Napa County 2008).

There is no farmland or forest land in the Proposed Action Area. Therefore, no farmland would be converted to non-agricultural use and no forestland would be converted to non-forest use. The Proposed Action Area would not involve other changes in the existing environment that due to their location or nature could result in the conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use.

Therefore, no impacts or additional impacts to these resources would occur and the effects analysis in the 1999 Final SEIS/EIR remains unchanged.

Land Use and Planning

The 1999 Final SEIS/EIR concluded that the USACE Authorized Project would not result in adverse effects to land use and planning in the 1999 Preferred Alternative proposed Action Area through the implementation of mitigation. Because the footprint of the Proposed Action Alternative is the same as that in the 1999 Final SEIS, EIR, the Proposed Action Alternative would not result in any additional impacts to Land Use and Planning.

Floodwall locations and alignment described in Chapter 2, Section 2.2, *Proposed Action Alternative*, were set to minimize impacts to back yards from construction and future O&M activities. Limited acquisition of additional easements (on property presently encumbered by levee easements), post-

construction placement of cross levee fencing (to further delineate individual properties), and limited acquisition of land presently supporting flood-control restricted trailer vacation rental units (likely to provide year round rental of in the post-project condition) would not physically divide or affect established communities.

The Proposed Action Alternative would require the use of Lincoln Ave, Shoreline Drive, Trout Way, Wall Street, RiverPointe, and potentially other areas for site access. It is anticipated that existing roads are wide enough to accommodate all construction equipment and would not require road widening or improvements. While Lincoln Avenue may require traffic control for project construction, this would only occur on a temporary basis. All construction traffic and access would be coordinated with local landowners prior to construction. Construction activities would be in proximity to residential uses and the RiverPointe property on a temporary basis and would not physically divide an established community.

Similarly, the Proposed Action Alternative would not conflict with existing land uses in the Proposed Action Area or the City of Napa's land use plans, policies or regulations, nor would the Proposed Action Alternative conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect as disruption to the existing multi-use trail would be temporary. The Napa River trail would be reconstructed north of Lincoln Avenue after construction of the proposed floodwall is complete. The trail would also be connected south of Lincoln Avenue to its existing terminus near the River Terrace Inn. This trail connection would further advance the City of Napa's goals and objectives identified in the City General Plan and would provide a benefit to the Proposed Action Area.

The Minor and partial property acquisitions and flood easements would be obtained and would abide by federal and state laws. Temporary construction activities would occur adjacent to existing residences and would temporarily disrupt the existing multi-use trail. However, once construction is completed the Proposed Action would meet several goals and policies of the City of Napa for flood protection.

Therefore, no additional impacts to land use and planning would occur and the impacts would remain the same as presented in the 1999 Final SEIS/EIR.

Mineral Resources

The 1999 Final SEIS/EIR did not evaluate effects to mineral resources because these resources did not exist in the 1999 Preferred Alternative action area, and similarly do not exist in the current Proposed Action Area with the changes in design as identified in Chapter 2, Section 2.2, *Proposed Action Alternative*, because the footprints are the same.

Mineral resources would not be adversely affected by implementation of the Proposed Action Alternative. Although Napa County has been the site for historic mining activities, the Napa County General Plan states that the current geological opportunities for future mineral extraction are unknown (Napa County 2008). The State Department of Conservation, Office of Mine Reclamation has specified the Napa Quarry, Pope Creek Quarry, and American Canyon Quarry as active mines. The Proposed Action Area is not located near any of the three active mines. The closest active mine, Napa Quarry, is located approximately four miles away from the Proposed Action Area (DOC 2016).

The chief minerals presently mined in Napa County are aggregate and basalt rock used for concrete aggregate (Napa County 2008). According to the Office of Mine Reclamation, no mineral resource zones or gas fields are located in the Proposed Action Area (DOC 2016). Therefore, the Proposed

Action Area would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Additionally, the Proposed Action Area is not located within an area known to contain mineral resources (DOC 2016). No locally important mineral resource recovery sites are located within the Proposed Action Area. Thus, the Proposed Action would not result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan.

Therefore, no impacts or additional impacts to mineral resources would occur and effects analysis in the 1999 Final SEIS/EIR remains unchanged.

Population and Housing

The 1999 Final SEIS/EIR concluded that the USACE Authorized Project would not result in adverse effects to population and housing in the 1999 Preferred Alternative Proposed Action Area through the implementation of fair and equitable federal and state relocation treatments. Design changes presented in Chapter 2, Section 2.2, *Proposed Action Alternative*, would not displace or require the relocation of permanent residences and would not require the construction of additional housing. Potential effects of the Proposed Action to socioeconomics are discussed separately in this Appendix. The current evaluation and findings for the Proposed Action's effects on population and housing remains consistent with the previous conclusions in Sections 3.9 and 6.1 of the 1999 Final SEIS/EIR. Therefore, no additional impacts to population and housing would occur and the impacts would remain the same as presented in the 1999 Final SEIS/EIR. The Proposed Action Area is located in Napa County, in the City of Napa. Napa County has a total population of 138,319, and the City of Napa has a total population of 79,246 (U.S. Census American Community Survey (ACS) 2022A). The Proposed Action Area falls within Napa County's Census Tract 2005.03/2005.05 Block Group 2/2 (CT 114 BG 3). This block group has a total population of 2,729 (U.S. Census ACS 2022a). Napa County has a total of 55,448 housing units with 49,738 units occupied (U.S. Census ACS 2022b). The City of Napa has a total of 31,071 housing units with 29,356 units occupied. Census Tract 2005.03 BG 2 has a total of 234 housing units, of which 212 are occupied. Census Tract 2005.05 BG 2 has a total of 425 housing units, 403 of which are occupied (U.S. Census ACS 2022b).

The Proposed Action would not create any new homes or businesses or expand existing roads or other infrastructure that could induce substantial unplanned population growth. Construction activities, and associated jobs, would be short term, temporary, and would not induce growth due to a need for worker housing. It is anticipated that construction workers would commute to and from the Proposed Action Area from nearby cities. The Proposed Action would meet the long-term objectives of the USACE, City of Napa, County of Napa, and District to provide increased flood protection along the Napa River.

Acquisition of property and up to 16 tiny vacation rental homes in the RiverPointe property would be required. The tiny vacation rental homes would potentially be removed as a result of the Proposed Action construction. These homes are not permanent residences and are currently relocated annually out of the floodway during the winter months due to the risk of flooding onsite. After the re-alignment of Burrows Court within the RiverPointe property to accommodate the proposed floodwall construction, some tiny vacation rental homes would be reinstalled depending on the remaining space available. The Proposed Action may require other minor acquisitions of property for flood easements within the Proposed Action Area. All property acquisitions would abide by applicable

federal and state laws. Therefore, the Proposed Action would not displace existing people or permanent housing that would require the construction of replacement housing.

The 1999 Final SEIS/EIR concluded that the USACE Authorized Project would not result in adverse effects to population and housing in the Proposed Action Area through the implementation of fair and equitable federal and state relocation treatments. The current Proposed Action would not displace or require the relocation of permanent residences or businesses and would not require the construction of additional housing. Potential effects of the Proposed Action to socioeconomics are discussed separately in this Appendix. The current evaluation and findings for the Proposed Action's effects on population and housing remains consistent with the previous conclusions in Sections 3.9 and 6.1 of the 1999 Final SEIS/EIR. Therefore, no additional impacts to population and housing would occur and the impacts would remain the same as presented in the 1999 Final SEIS/EIR.

Public Services

The 1999 Final SEIS/EIR concluded that the USACE Authorized Project would not result in adverse effects to public services in the 1999 Preferred Alternative Proposed Action because services such as police, fire and schools, would not be affected since the project would not create population growth and would not add new residents or other uses which could require additional public services. Design changes presented in Chapter 2, Section 2.2, *Proposed Action Alternative*, do not change this conclusion, as the footprints are the same.

The Proposed Action Area is served by the City of Napa Police and Fire departments. The California Highway Patrol also provides law enforcement on public roads in the area. The closest public recreational facility is Lake Park located approximately 0.25 miles west of the Proposed Action Area (City of Napa 2022). The Napa River Trail also runs through the Proposed Action Area.

No new government buildings or facilities would be created as a result of the Proposed Action. Construction of the Proposed Action would be short term, and therefore, there is no need for increased fire protection or police protection. Construction of the Proposed Action would not require any road closures; thus, no detour routes are needed to manage traffic in the event of a fire or other emergency. Additionally, roads used for site access are anticipated to be wide enough to directly accommodate the use of construction trucks. All vehicle parking, equipment, and materials would be located and stockpiled at designated staging areas and would not block any access roads. Upon completion of construction, fire and police response times would remain consistent with current response times. Therefore, fire and police protection response times would not be affected. The Proposed Action is not anticipated to induce population growth, so additional fire or police protection services to maintain service ratios would not be required and no other impacts related to fire protection and police protection are anticipated.

There are no schools, public facilities, or parks located within the Proposed Action Area. The Napa River Trail runs through the Proposed Action Area and would be temporarily disturbed and closed during construction. Effects of the Proposed Action on the Napa River Trail are discussed further in Section 3.11, *Recreation*. The Proposed Action would not result in adverse physical impacts on schools, public facilities, or parks in adjacent communities. The Proposed Action would also not generate an increase in population that would affect these public services. No new housing would be created as a result of the Proposed Action, so no additional school capacity, service requirements, or parks would be needed to serve new populations.

The 1999 Final SEIS/EIR concluded that the USACE Authorized Project would not result in adverse effects to public services in the Proposed Action Area. The current Proposed Action would not result

in substantial adverse physical impacts associated with the construction of or need for new or physically altered governmental facilities, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The Proposed Action would also not require the construction of or need for new schools, public facilities, or parks as the result of an increase in population. Potential effects of the Proposed Action to recreational resources are discussed separately in Section 3.11 of this document. The current evaluation and findings for the Proposed Action's effects on public services remains consistent with the previous conclusion of the 1999 Final SEIS/EIR. Therefore, no additional impacts to public services would occur and the impacts would remain the same as presented in the 1999 Final SEIS/EIR.

Socioeconomics

The 1999 Final SEIS/EIR concluded that the USACE Authorized Project would not result in adverse effects to socioeconomics in the 1999 Preferred Alternative proposed Action Area through the implementation of mitigation. Because the footprint of the Proposed Action Alternative is the same as that in the 1999 Final SEIS/EIR, the Proposed Action Alternative would not result in any additional impacts to socioeconomics beyond those disclosed in the 1999 Final SEIS/EIR.

In the context of NEPA, socioeconomics is concerned with the interaction between social and economic characteristics of population with the potential to be affected by a specific action.

The Proposed Action would not induce substantial unplanned population growth, as it does not involve the creation of new homes, businesses, or infrastructure expansions. Construction activities, and associated jobs, would be short term, temporary, and would not induce growth due to a need for worker housing.

The Proposed Action Area consists of mainly urban and residential uses north of Lincoln Avenue, and some commercial uses south of Lincoln Avenue. As stated in the *Land Use and Planning* section of this Appendix, minor or partial property acquisitions would be required for construction. The eastern most row of trailer vacation rental units closest to the river at the RiverPointe property would be removed for construction of the proposed floodwall but could be reinstalled if space allows after the re-alignment of Burrows Court.

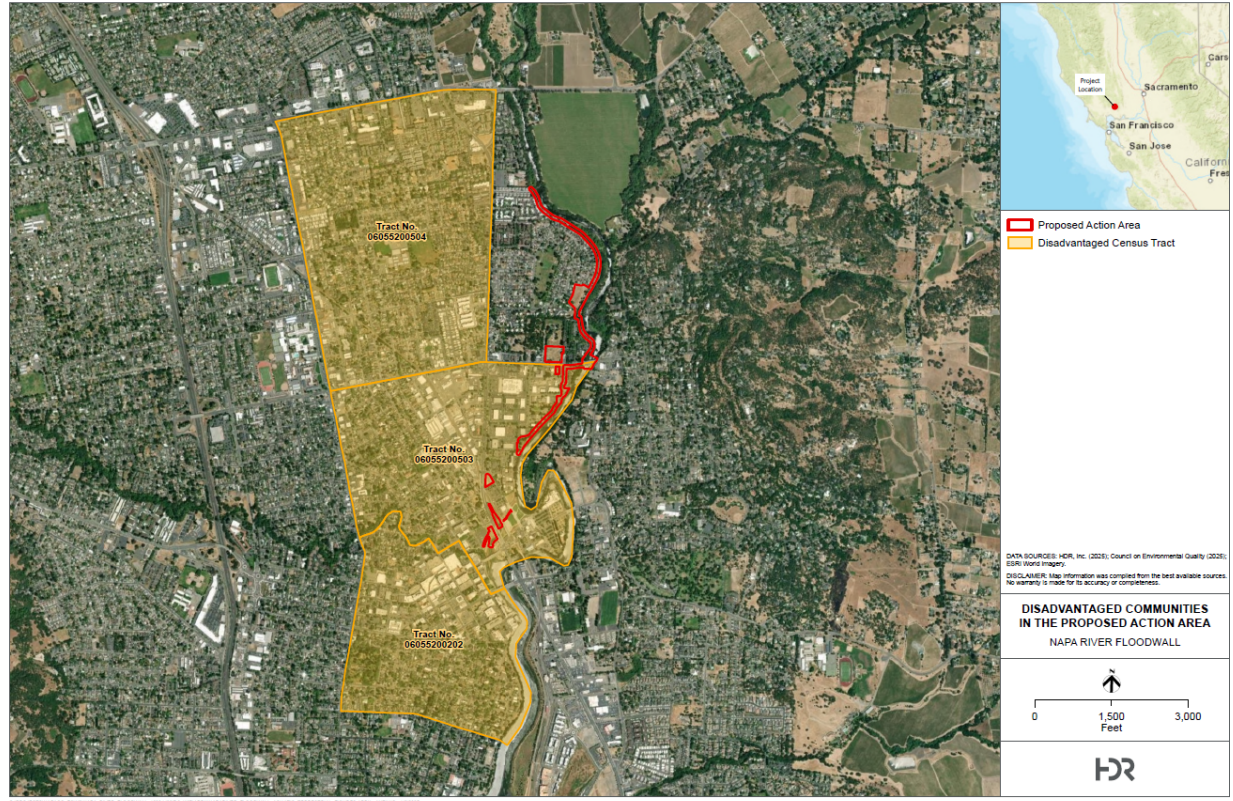
There is no affordable housing located or planned for in the Proposed Action Area or vicinity. The Proposed Action Area is largely built out and there are no plans for additional housing in the Proposed Action Area. The Proposed Action Alternative would not displace existing housing, including affordable housing, without providing appropriate compensation and/or relocation assistance.

One business south of Lincoln Avenue would be acquired to accommodate the proposed floodwall alignment. Other minor or partial property acquisitions would be required for construction of the Proposed. The Proposed Action Alternative would not displace existing businesses without providing appropriate compensation and/or relocation assistance. With implementation of the Proposed Action Alternative, housing and businesses that are currently within the 100-year floodplain in the Proposed Action Area would gain flood protection, which could improve conditions for economic development. The Proposed Action may require other property acquisitions for flood easements within the Proposed Action Area. All property acquisitions would abide by applicable federal and state laws.

Based on the 2019 American Community Survey, the Proposed Action Area is in Census Tract 2005.03. Approximately 19.6 percent of the population in Census Tract 2005.03 is below the poverty level. This is higher than the County's percentage of 7.8 percent of the population below the poverty level. The median household income in Census Tracts 2005.03 is \$66,683, compared to the County

median household income of \$88,596. Minority populations make up 25.3 percent of the population in Census Tract 2005.03, and 26.6 percent of the population of the County (U.S. Census Data 2019).

Figure E-1. Low Income and Minority Communities in the Proposed Action Area



The Proposed Action Area is near three census tracts designated as containing low-income populations, as shown in **Figure E-1** above. It directly overlaps one of them; tract number 2005.03. This tract meets the burden thresholds for low income as well as expected building loss rate, projected flood risk, and airborne level of PM 2.5.

Data for the analyses were from American Community Survey (ACS) data tables on the US Census website. ACS's 2022 5-Year estimates are the most recent data listed on the US Census website.

The following 2022 ACS 5-Year Estimate data tables were used:

- **Table B03002:** Hispanic Or Latino Origin By Race (Minority Populations)
- **Table B17010:** Poverty Status In The Past 12 Months Of Families By Family Type By Presence Of Related Children Under 18 Years By Age Of Related Children (Low-Income Populations)

Table E-1 presents the race and ethnicity characteristics for Napa County and the City of Napa. As seen in **Table E-1**, 49.6 percent of the total population of Napa County is of a minority population. When compared to the total minority population of City of Napa (48.2 percent), the minority population percentage in Napa County is higher.

Table E-1. Race and Ethnicity Characteristics

| Race/Ethnicity | Total Estimate | Percentage of Population |
|---|----------------|--------------------------|
| Napa County | | |
| Total Population | 137,384 | 100.0 |
| White alone, non-Hispanic | 69,244 | 50.4 |
| Black or African American alone, non-Hispanic | 2,405 | 1.8 |
| Asian alone, non-Hispanic | 10,866 | 7.9 |
| Other ^a | 6,687 | 4.9 |
| Hispanic or Latino (all races) | 48,182 | 35.1 |
| City of Napa | | |
| Total Population | 79,233 | 100.0 |
| White alone, non-Hispanic | 41,027 | 51.8 |
| Black or African American alone, non-Hispanic | 609 | 0.8 |
| Asian alone, non-Hispanic | 2,120 | 2.7 |
| Other ^a | 3,121 | 3.9 |
| Hispanic or Latino (all races) | 32,356 | 40.8 |

Source: U.S. Census Table B03002, ACS 2022 5-Year Estimates Detailed Tables

^a Other includes non-Hispanic Native Hawaiian and Other Pacific Islander alone, non-Hispanic American Indian and Alaska Native alone, non-Hispanic Some other race, and non-Hispanic Two or more races.

Table E-2 presents the poverty status of families in Napa County and the City of Napa. As seen in **Table E-2**, 5.3 percent of families living in Napa County are below the poverty level. When compared to the percentage of families living below the poverty level in the City of Napa (5.3 percent), the percentages of the two geographic jurisdictions are the same.

Table E-2. Poverty Status

| Poverty | Total Estimate | Percentage of Population |
|--------------------|----------------|--------------------------|
| Napa County | | |
| Total Families | 33,163 | 100.0 |

| Poverty | Total Estimate | Percentage of Population |
|------------------------------------|----------------|--------------------------|
| Total Families Below Poverty Level | 1,763 | 5.3 |
| City of Napa | | |
| Total Families | 19,469 | 100.0 |
| Total Families Below Poverty Level | 1,033 | 5.3 |

Source: U.S. Census Table B17010, ACS 2022 5-Year Estimates Detailed Tables

Table E-3. Summary of Relevant Environmental Resources and Potential Adverse Effect Determination

| Relevant Environmental Resource | Potential Adverse Effect? |
|--|---------------------------|
| Air Quality and Greenhouse Gas Emissions | No |
| Hazards and Hazardous Materials | No |
| Land Use and Planning | No |
| Noise and Vibration | No |
| Population and Housing | No |
| Public Services | No |
| Recreation | No |
| Transportation | No |
| Wildfire | No |

The Proposed Action would not result in adverse effects on minority or low-income populations. Best management practices and compliance with all relevant laws and regulations would reduce potential adverse effects to less than significant levels.

All mitigation measures and best management practices incorporated into the Proposed Action Alternative would be applied equally to all populations within the Proposed Action Area and would ultimately have a positive effect on minority and low-income populations. Benefits of the Proposed Action would be experienced by minority and low-income populations.

Based on the evaluation of all potential adverse effects to socioeconomics and the overall Proposed Action objectives of flood protection and flood risk reduction for the City of Napa, the Proposed Action would not result in disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.

Therefore, no additional impacts to socioeconomics would occur and the impacts would remain the same as presented in the 1999 Final SEIS/EIR.

The Proposed Action would not result in adverse effects on minority or low-income populations.

Wildfire

The 1999 Final SEIS/EIR did not evaluate effects to wildfires because these resources did not exist in the 1999 Preferred Alternative action area

In 2016, Napa County partnered with CAL FIRE to develop the Napa County Fire Department's Strategic Plan (Napa County 2016). The Plan focuses on fire prevention, natural resource management, and fire suppression efforts including the following strategic initiatives:

1. Develop a Comprehensive Succession Management and Professional Development Workforce Plan.
2. Develop and Maintain a Standards Cover Document.
3. Identify, Evaluate, and Implement Best Industry Practices.
4. Develop a Comprehensive Marketing and Communications Plan.
5. Refine, Embrace, and be the Values of the Napa County Fire Department.
6. Develop a Fixed Assets, Apparatus, Equipment, and Capital Improvement Plan.
7. Develop a Comprehensive Strategic Approach to Technology.
8. Develop and Implement an Effective Communication Process System.
9. Maintain an Up-to-Date Emergency Operations Plan Consistent with County Office of Emergency Services, California Emergency Management Agency, and FEMA Guidelines.
10. Develop, Implement, and Maintain an Emergency Communications Center/Dispatch Plan.

The Proposed Action is located in a Local Responsibility Area (LRA) and is not in a very high fire hazard severity zone (CAL FIRE 2022). An LRA is an area where local agencies are responsible for fire suppression rather than the state. While wildfire risk is not high in the Proposed Action Area, should an evacuation occur, emergency evacuation routes and response plans would not be impaired by construction because road closures and traffic detours would not be required.

Additionally, the construction contractor would implement fire protection measures onsite to reduce the risk of fire hazards during construction. Therefore, the Proposed Action would not interfere or sustainably impair an adopted emergency response plan or emergency evacuation plan.

The Proposed Action is not located in an area with steep slopes. While winds may be present in the Napa Valley, construction and operation of the Proposed Action would not change wind conditions or available fuels. Construction of the Proposed Action would involve the use of motorized vehicles and equipment, and it has been documented that equipment use is one of the top causes of fire in California (CAL FIRE 2019). However, with the implementation of fire protection measures by the contractor onsite, the risk of fire hazards would be avoided and minimized. Therefore, the Proposed Action would not exacerbate wildfire risks and is not anticipated to expose construction workers or nearby residences to increased pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

There are PG&E overhead power lines in the Proposed Action Area and underground utilities that would need to be relocated to avoid conflicts with the proposed floodwalls. The USACE and District would coordinate with PG&E to relocate overhead power poles that fall within the Proposed Action Area footprint and would conflict with the proposed floodwall construction. These power poles would be relocated outside of the proposed floodwall construction area but still within the Proposed Action Area.

Similarly, the USACE and District would coordinate with the City of Napa to relocate and realign existing City utilities that fall within the Proposed Action Area footprint and would conflict with the proposed floodwall construction. These conflicting City utilities would be relocated outside of the proposed floodwall construction area but still within the Proposed Action Area. Effects of the

Proposed Action on utilities and service systems including infrastructure are discussed further in Section 3.14, *Utilities and Service Systems*.

Relocation of these overhead power poles and utilities would not increase fire risks in the Proposed Action Area because the contractor would implement fire protection measures onsite to reduce risk of fire hazards during construction. Furthermore, the long-term impact of utility relocations as a part of the Proposed Action would not be significant because PG&E already conducts routine maintenance for these existing power lines, such as vegetation thinning and trimming under and near power lines, to reduce the fire risk near existing facilities and would continue to perform this maintenance. Therefore, although implementation of the Proposed Action would require the relocation of power lines and utilities, it would not exacerbate fire risks or result in temporary or ongoing impacts to the environment.

The Proposed Action Area is located in an area that is considered low in landslide susceptibility due to the predominantly flat topography and lack of steep slopes. The proposed floodwalls would be constructed on the top of the existing west bank of the Napa River, setback from the existing slope. Furthermore, the intent of the Proposed Action is to provide increased flood protection for the Proposed Action Area. Therefore, the Proposed Action would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The 1999 Final SEIS/EIR did not evaluate effects to wildfire because this topic was not added to the CEQA Guidelines until 2018. As described above, the Proposed Action is not located in a very high fire hazard severity zone, is served by an LRA, and would not exacerbate fire risks or cause additional fire risks in the Proposed Action Area. Therefore, no additional impacts to wildfire would occur and the impacts would remain the same as presented in the 1999 Final SEIS/EIR.

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Appendix F. Air Quality Emissions Modeling

Note: CalEEMod modeling information is available upon request

CalEEMod Input Data

Project Name: Napa River/Napa Creek Flood Protection Project
Project Location: BAAQMD
CEC Climate Zone: 4
Land Use Setting: Urban
Operational Year: 2027

Land Use

| Land Use Type | Land Use Subtype | Unit Amount | Size Metric | Lot Acreage | SF |
|---------------|----------------------------|-------------|-------------|-------------|------------|
| Parking | Other Non-Asphalt Surfaces | 19.76 | Acre | 19.76 | 860,745.60 |

Note: Total area of disturbance including staging (14.37 acres + 5.39 acres staging/stockpiling)

Construction Schedule

| Construction Phase Name | Phase Type | Start Date | End Date | # Days/Week | Total Days | # one-way worker trips/day | # one-way vendor trips/day | # Total haul trips | Worker Trip Length | Vendor Trip Length | Haul Trip Length |
|-------------------------|-----------------------|------------|-----------|-------------|------------|----------------------------|----------------------------|--------------------|--------------------|--------------------|------------------|
| Site Preparation | Site Preparation | 7/10/2025 | 8/15/2025 | 5 | 27 | 60 | 0 | 0 | 10.8 | 7.3 | 30 |
| Construction | Building Construction | 8/13/2025 | 7/6/2026 | 5 | 234 | 60 | 2 | 38 | 10.8 | 7.3 | 30 |
| Site Cleanup | Site Preparation | 7/1/2026 | 7/14/2026 | 5 | 10 | 60 | 0 | 0 | 10.8 | 7.3 | 30 |

Notes/Assumptions:

Project construction schedule was provided by project engineers
Work hours would be Monday through Friday (5 days/week) for 10 hours per day per project description
Maximum of 30 workers per day per project description
Each worker would commute to the project site in a separate vehicle
Haul trucks (3) and dump trucks (16) are accounted under the hauling truck trips
Number of truck trips = number of trucks x 2
Haul trip length is 30 miles one-way per project description
Worker and Vendor trip lengths are default
Concrete mixer truck trips are accounted as vendor trips

List of Construction Equipment

| Equipment Name | CalEEMod Equipment Name | Count | Hours/Day | HP | Load Factor | Notes |
|-------------------------|------------------------------|-------|-----------|-----|-------------|--|
| Site Preparation | | | | | | |
| Water Truck | Off-Highway Trucks | 1 | 2 | 350 | 0.38 | Adjusted default hp to 350 hp and hours to 2 hours per day |
| Loader | Tractor/Loader/Backhoe | 1 | 10 | 97 | 0.37 | default |
| Excavator | Excavators | 1 | 10 | 158 | 0.38 | default |
| Construction | | | | | | |
| Forklift | Forklift | 1 | 10 | 89 | 0.2 | default |
| Dozer | Rubber Tired Dozer | 1 | 10 | 247 | 0.4 | default |
| Crane | Crane | 1 | 10 | 231 | 0.29 | default |
| Pump | Pumps | 1 | 10 | 84 | 0.74 | default |
| Pile Driver | Other Construction Equipment | 1 | 10 | 170 | 0.42 | Adjusted default hp to 170 hp |
| Vibratory Compactor | Plate Compactor | 1 | 10 | 8 | 0.43 | default |
| Grader | Grader | 1 | 10 | 187 | 0.41 | default |
| Ashpalt Paver | Paver | 1 | 10 | 130 | 0.41 | default |
| Hydroseeding Truck | Off-Highway Trucks | 1 | 7 | 134 | 0.38 | Adjusted default hp to 134 hp and hours to 7 hours per day |
| Manlift | Aerial Lift | 1 | 10 | 63 | 0.31 | default |
| Marooka Tracked Carrier | Tractor/Loader/Backhoe | 1 | 10 | 74 | 0.37 | Adjusted default hp to 74 hp |
| Site Cleanup | | | | | | |
| Backhoe | Tractor/Loader/Backhoe | 1 | 10 | 97 | 0.37 | default |
| Pickup Truck | Off-Highway Trucks | 1 | 10 | 402 | 0.38 | default |

Notes/Assumptions:

Equipment data is from the project description

Horsepower was adjusted for some equipment based on the typical horsepower for that specific equipment

Appendix G. Biological Resources

Appendix G – Biological Resources

Methods for Determining Existing Conditions

The following information sources and field activities were used to identify existing conditions of the Proposed Action Area and the biological resources occurring or potentially occurring in the Proposed Action Alternative. This document focuses on species and habitat relevant to Federal regulations. For more information about state-listed species, see the 2025 SEIR prepared in accordance with CEQA for this Proposed Action.

Literature Review

To assess aquatic and terrestrial biological resources with the potential to occur within the Proposed Action Area, nine United States Geological Survey quadrants (USGS quads) were queried in the California Department of Fish and Wildlife (CDFW) CNDDDB (CDFW 2023a). These USGS quads included Mt. George, Cordelia, Capell Valley, Sonoma, Yountville, Rutherford, Napa, Cuttings Wharf, and Sears Point. Information on federally listed species was obtained from a query of the USFWS Information for Planning and Consulting (IPaC) database (USFWS 2023a). In addition, the following references were reviewed:

- USFWS Critical Habitat Portal (USFWS 2023b);
- USFWS National Wetland Inventory (USFWS 2023c);
- Napa County RCD annual fish surveys (Napa County RCD 2023);
- California Native Plant Society (CNPS) species list query for the Proposed Action Area (CNPS 2023);
- California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB) species list query for a 5-mile buffer around the Proposed Action Area (CDFW 2023a);
- CDFW Spotted Owl Database (CDFW 2023b);
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2023c);
- CDFW Special Animals List (CDFW 2023d);
- Soil map unit descriptions for the Proposed Action Area (U.S. Department of Agriculture 2023); and
- eBird records for the Proposed Action Area (eBird 2023).

Additional information on the environmental setting was collected from general sources on special-status plants and wildlife (e.g., California Amphibian and Reptile Species of Special Concern [Thomson et al. 2016] and California Wildlife Habitat Relationships information [CDFW 2023e]); and existing reports and memorandums addressing biological resources in the Proposed Action Area, including, but not limited to, the 1999 Final SEIS/EIR (USACE and District 1999) for the Authorized Project.

Field Surveys

A delineation of aquatic resources was conducted in July 2023 by HDR. For the purposes of the aquatic resources delineation, the “field delineation survey area” was equal to the Proposed Action Area and included the footprint of floodwall components where the Proposed Action Alternative would be constructed within and adjacent to the Napa River, including access routes and staging areas plus a 100-foot buffer (HDR 2023).

A biological reconnaissance survey was also conducted in the Proposed Action Area in July 2023 and April 2024 by HDR to create a baseline biological resources map with vegetation communities, conspicuous special-status species, and special-status species habitat. Field observations of vegetation communities and special-status species were digitized into a GIS and georeferenced to produce land cover maps as shown on **Figure G-1**.

The field mapping was prepared consistent with the Guidelines for Assessing the Effects of Proposed Actions on Rare, Threatened, and Endangered Plants and Natural Communities (California Department of Fish and Wildlife 2018). HDR conducted vegetation mapping in accordance with CDFW's List of Vegetation Alliances and Associations (or Natural Communities List) (CDFW 2021). This list is based on A Manual of California Vegetation, Second Edition (Sawyer et al. 2009), which is the California expression of the National Vegetation Classification. HDR mapped vegetation communities and land covers at the alliance level; however, where appropriate, vegetation communities not included in this list were mapped to accurately describe the vegetation present within the Proposed Action Area. The vegetation communities were then cross-walked to the descriptions outlined in the California Wildlife Habitat Relationships Classifications (CDFW 2023e).

HDR compiled a general inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs as part of the field survey and assessed the potential for special-status species occurrence. HDR also mapped observable sensitive resources, including flowering annual plants, shrubs and trees, and conspicuous wildlife (i.e., birds and some reptiles commonly accepted as regionally sensitive by CNPS, CDFW, or USFWS). No focused surveys for plant or wildlife species were performed. Field observations of vegetation communities and special-status plants were digitized into a GIS and georeferenced to produce land cover maps, as shown on **Figure G-1**.

Figure G-1. Land Cover Types (Page 1 of 5)



Figure G-1. Land Cover Types (Page 2 of 5)

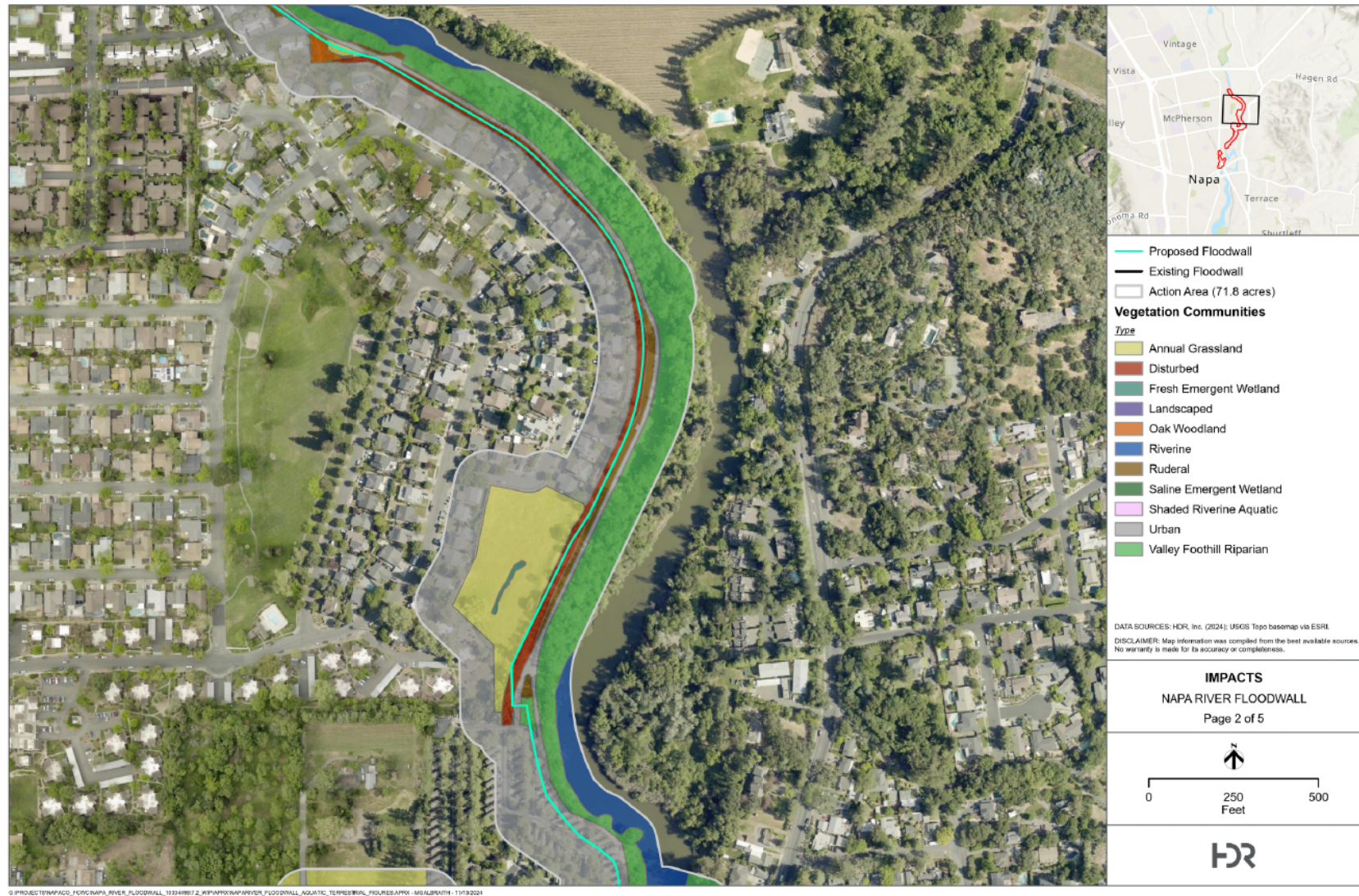


Figure G-1. Land Cover Types (Page 3 of 5)



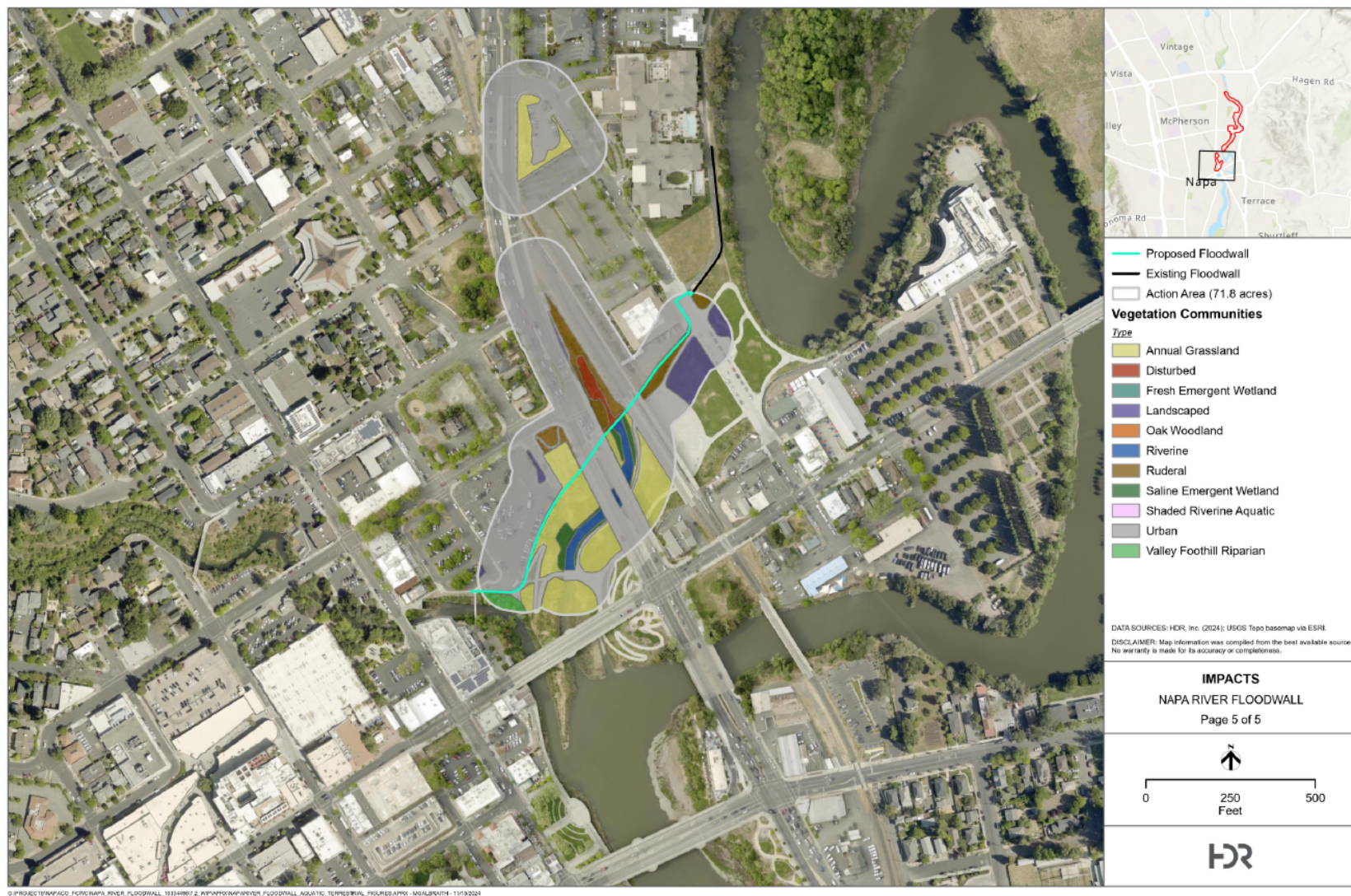
Napa River/Napa Creek Flood Protection Project – Floodwalls North of the Bypass

Figure G-1. Land Cover Types (Page 4 of 5)



Napa River/Napa Creek Flood Protection Project – Floodwalls North of the Bypass

Figure G-1. Land Cover Types (Page 5 of 5)



Existing Conditions

Land Cover

Descriptions of all vegetation communities and land cover types found to occur throughout the Proposed Action Area (Sawyer et al. 2009; CDFW 2023e) are provided below. Table 3.12-1 in Section 3.12 provides the acreage for each of vegetation communities and land cover types in the Proposed Action Area and **Figure G-1** depicts them over a current aerial image of the region. Some vegetation communities are deemed sensitive communities/habitats and are identified in local or regional plans, policies, or regulations, or by CDFW or USFWS. CDFW's Rarity Ranking follows NatureServe's Heritage Methodology (Faber-Langendoen et al. 2012; CDFW 2023f) in which communities are given a G (global) and S (State) rank ranging from 1 (very rare and threatened) to 5 (demonstrably secure). Natural Communities with ranks of S1-S3 are considered sensitive. Several sensitive communities were identified in the Proposed Action Area including oak woodland, valley foothill riparian, fresh emergent wetland, and saline emergent wetland.

Annual Grassland

California annual grassland is dominated by a dense to sparse cover of annual grasses. Typical species observed in the Proposed Action Area include soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), wild oat (*Avena barbata*), filaree (*Erodium botrys*), milk thistle (*Silybum marianum*), sweet fennel (*Foeniculum vulgare*), Russian thistle (*Carduus pycnocephalus*), and yellow star thistle (*Centaurea solstitialis*). Scattered trees not associated with more extensive woodland vegetation also occur within grasslands in the Proposed Action Area. Species can include native California species such as blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), and coast live oak (*Quercus agrifolia*), and non-native species such as green wattle (*Acacia decurrens*), blue gum (*Eucalyptus globulus*), and English walnut (*Juglans regia*). Grasslands attract reptiles and amphibians such as western fence lizard (*Sceloporus occidentalis*) and Pacific slender salamander (*Batrachoseps attenuatus*), and birds including California quail (*Callipepla californica*), mourning dove (*Zenaidura macroura*), and western meadowlark (*Sturnella neglecta*). Annual grassland occurs in the northern and southern portions of the Proposed Action Area adjacent to the riparian corridor and within vacant lands adjacent to the access routes. Some of these grassland areas are annually mowed by the City of Napa and are periodically used for temporary staging. Due to the surrounding urban setting and routine maintenance and associated disturbance to these areas, the annual grassland in the Proposed Action Area is deemed unsuitable to support special-status species.

Oak Woodland

California oak woodlands are tree communities dominated by a specific species of oak native to California (*Quercus* spp.) (Sawyer et al. 2009). Some species associated with coast live oak woodland include California buckeye (*Aesculus californica*), valley oak, blue oak, and interior live oak (*Quercus wislizeni*) in the woodland canopy. Like grasslands, oak woodlands attract a number of wildlife species, including black-tailed deer (*Odocoileus hemionus columbianus*), Stellar's jay, and acorn woodpecker. They also provide forage for raptors such as red-tailed hawk and great-horned owl (*Bubo virginianus*). The community observed in the Proposed Action Area was located in the northwestern section and dominated by mature coast live oak with annual grasses in the understory. The CDFW has designated the coast live oak woodland community with a rarity rank of G5S4 and therefore is considered sensitive (CDFW 2023f).

Valley Foothill Riparian

California riparian communities are tree and shrub communities dominated by hydrophytic (water-loving) species that rely on available groundwater or high water tables typically found along perennial and intermittent streams, rivers, and creeks. Common tree species in this cover type include sycamore (*Platanus* spp.), willows (*Salix* spp.), cottonwoods (*Populus* spp.), alder (*Alnus* spp.), maples (*Acer* spp.), and bay laurels (*Umbellularia* spp.). In the Proposed Action Area, the riparian corridor of the Napa River consists of the Valley foothill riparian community made up of Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), California sycamore (*Platanus racemosa*), valley oak, coast live oak, box elder (*Acer negundo*), Arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and California bay (*Umbellularia californica*). Understory shrubs include coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and wild rose (*Rosa californica*) along the upper banks (Sawyer et al. 2009). The CDFW has designated this riparian forest community with a rarity rank of G3S3 and therefore is considered sensitive (CDFW 2023f).

Valley foothill riparian habitat and adjacent aquatic areas provide habitat for western toad (*Bufo boreas*), garter snake (*Thamnophis sirtalis*), gopher snake (*Pituophis melanoleucus*), and fish species such as mosquito fish (*Gambusia affinis*). These species in turn serve as forage for blue heron (*Ardea herodias*), great egret (*Casmerodius albus*), snowy egret (*Egretta thula*), and other bird species. Aquatic plants are typically abundant and provide aquatic food-chain support for insect larvae and water bugs such as stoneflies (*Plecoptera*), mayflies (*Ephemeroptera*), water beetles (*Coleoptera*), and true aquatic bugs (*Heteroptera*). Riparian areas are important foraging areas for Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), northern pintail (*Anas acuta*), and other waterfowl species, and aerial insect eaters such as scrub jays (*Aphelocoma coerulescens*), barn swallows (*Hirundo rustica*), mockingbirds (*Mimus polyglottus*), and several bat species. Common mammal species expected within this urbanized reach of the Napa River riparian corridor include California vole (*Microtus californicus*), deer mouse (*Peromyscus* sp.), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*).

Fresh Emergent Wetland

Fresh emergent wetland is a broad term for depressions of freshwater wetlands on level to gently rolling land that dominate permanently or seasonally inundated areas with fresh water. This habitat is found throughout California, most commonly at elevations below 7,500 feet (Sawyer et al. 2009). Roots of fresh emergent wetland vegetation thrive in anaerobic environments; the limits of this habitat occur at the boundary of hydric and non-hydric soils. The composition of the plant community depends on the depth and flow rate of the water, but cattail (*Typha* spp.) and bulrush (*Schoenoplectus* spp.) are characteristic and perennial drainage systems, whereas rushes and ryegrasses are common in seasonal freshwater emergent wetlands (Sawyer et al. 2009). Fresh emergent wetland provides some of the most productive wildlife habitat in the state (Kramer 1988). Fresh emergent wetland has decreased in area over the last century due to drainage for agriculture and other uses. Because of this, CDFW has designated this wetland community as sensitive (CDFW 2023f).

A small seasonal drainage dominated by freshwater emergent wetland species, including perennial ryegrass (*Festuca perennis*) and umbrella sedge (*Cyperus eragrostis*), occurs in the northern portion of the Proposed Action Area in a small open field adjacent to the western levee bank. This drainage collects runoff from a nearby culvert outlet which drains stormwater runoff from the adjacent residential development and roadway. This drainage and surrounding disturbed grassland area is

annually mowed and maintained by the City of Napa, which uses it periodically for temporary staging. Because of the routine annual maintenance activities, this drainage is dominated by non-native species and does not inundate for prolonged periods. With the surrounding urban setting and routine maintenance and associated disturbance to this area, the freshwater emergent wetland in the Proposed Action Area is deemed unsuitable to support special-status species. Therefore, it would be characterized as unsuitable for listed aquatic wildlife like vernal pool fairy shrimp (*Branchinecta lynchi*) or rare plants such as Contra Costa goldfields (*Lasthenia conjugens*). No other freshwater emergent wetland communities were identified in the Proposed Action Area.

Saline Emergent Wetland

Similar to fresh emergent wetland, saline emergent wetland occurs in seasonally or perennially wet drainages or streams inundated with flows waters either derived from higher alkalinities or waters precipitation that ponds atop saline soils. This community is also deemed sensitive communities by CDFW (2023f). Dominant species of the series include California bulrush (*Schoenoplectus californicus*), baltic rush (*Juncus balticus*), common pickleweed (*Salicornia virginica*), seablite (*Suaeda calceoliformis*), jaumea (*Jaumea carnosa*), perennial ryegrass, and barley (*Hordeum murinum ssp. leporinum*) (Sawyer et al. 2009). Saline emergent wetland provides habitat for wildlife similar to other wetlands and riparian systems and of adjacent uplands in annual grassland, but also attracts waterfowl and shorebirds when flooded. Special-status species potentially associated with saline emergent wetland habitat in the Proposed Action Area includes Delta tule pea (*Lathyrus jepsonii var. jepsonii*) and salt marsh common yellowthroat (*Geothlypis trichas sinuosa*).

Several patches of saline emergent wetland vegetation occur along the edges of the Napa River and the dry bypass flow channel in the southern portion of the Proposed Action Area, dominated by California bulrush, cattail, and baltic rush indicative of brackish (mix of saline and freshwater) marsh habitat typically found in tidally influenced creeks in the Bay Area.

Urban/Landscaped

Urban and landscaped areas typically have a small diversity of trees, shrubs, and grasses, but greater productivity than natural grasslands due to abundant water and fertilizer (McBride and Reid 2008). Examples include residential yards, golf courses, parks, and school grounds. Non-native landscape species and invasive weeds are common. Many portions of the Proposed Action Area primarily support horticultural vegetation in landscaped areas or are essentially devoid of vegetation; therefore, no series description applies to these areas. Natural ecological functions in developed areas have been greatly reduced due to paving and landscaping. Urban and landscaped cover types were noted throughout the Proposed Action Area.

Species composition in these areas is typical of highly disturbed urban areas and includes only species that thrive in urban settings. These species include European starling, western meadowlark, Brewer's blackbird, scrub jay, song sparrow (*Melospiza melodia*), mourning dove, and rock dove (*Columba livia*). Mammal species expected in this area include western gray squirrel (*Sciurus griseus*), California mouse (*Peromyscus californicus*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*). Habitat values for amphibians and reptiles are low within developed areas, with habitat quality for these taxa generally dictated by the intensity of land use and landscape maintenance. Native plants have been replaced by horticultural varieties.

Ruderal/Disturbed

Ruderal and disturbed plant communities consist of varied, often temporary, collections of mostly non-native plants along roadsides or other disturbed areas. Shallow soils may be underlain by gravel and compacted or hard-pan surfaces, preventing many plants from establishing. Aggressive, invasive weeds such as brome grasses, blackberry, and thistles typically thrive in ruderal habitats (Holland and Keil 1995). Disturbed areas may be devoid of vegetation due to a recent human-induced activity. Ruderal and disturbed land covers were noted in the central and southern portions of the Proposed Action Area.

Riverine

Riverine habitat is defined as intermittent or perennial waters that distinguish rivers, creeks, and streams. The Napa River is the largest river within the Proposed Action Area.

The Napa River is tidally influenced throughout the extent of the Proposed Action Area and up to the Truncas Street Bridge (USFWS 2023c). Napa Creek is also present in the Proposed Action Area and flows southeasterly through a narrow channel into the Napa River near 1st Street in downtown Napa.

In the Napa River and its tributaries, riverine habitat provides important habitat for resident fish, including channel catfish (*Ictalurus punctatus*), striped bass (*Morone saxatilis*), and yellowfin goby (*Acanthogobius flavimanus*). In addition, the Napa River and its tributaries provide important migration corridors and spawning habitat for anadromous fishes such as central California coastal (CCC) steelhead (*Oncorhynchus mykiss*) and southern distinct population segment (DPS) green sturgeon (*Acipenser medirostris*).

Riverine habitat also provides resting and escape cover as well as areas to hunt for many species of waterfowl and some mammals, such as the river otter (*Lontra canadensis*).

Riverine habitats are protected by CDFW, and specialized permits are required for work within riparian areas. Streams that are part of riverine may be considered Waters of the United States, which are discussed below in *Wetlands and Waters of the United States*.

Shaded Riverine Aquatic Habitat

SRA habitat is defined as the near shore aquatic area occurring at the interface between a river and adjacent woody riparian habitat. This habitat area occurs adjacent to riparian vegetation that either overhangs or protrudes into the water. It contains variable amounts of woody debris, such as leaves, logs, branches, and roots, as well as variable depths, velocities, and currents. The three key attributes of SRA cover, overhanging vegetation, in-water cover, and natural banks contribute to making this a highly productive land-water interface zone which is critically important to a wide range of both terrestrial and aquatic species of high regional importance (USFWS 1992). These attributes

SRA provides high-value feeding areas, burrowing substrates, escape cover, and reproductive cover for numerous regionally important fish and wildlife species (USFWS 1992). Riparian and SRA cover habitats are essential components of salmonid rearing habitat and help reduce localized water temperatures. Reptiles and amphibians use this habitat for denning and/or basking sites, or to access such sites. Western pond turtles (*Emys marmorata*) and other species of snakes, frogs, and salamanders are often more abundant in SRA habitat than other terrestrial and aquatic cover-types along the Napa River.

Mammals such as muskrat (*Ondatra zibethicus*) and raccoon (*Procyon lotor*) also use this habitat for reproduction, either by burrowing into the banks, or gathering branches and building nests. Many songbirds and other birds which are particularly numerous in the riparian habitat along the river, such as the green-backed heron (*Butorides virescens*), mallard (*Anas platyrhynchos*), and belted kingfisher (*Megaceryle alcyon*), also depend upon SRA cover for feeding areas, cover, and breeding sites.

Intertidal Mudflat

Intertidal mudflat is defined as a predominately unvegetated (i.e., not more than 30 percent cover) area that is flooded and unflooded daily due to diurnal tidal cycles. Emergent species grow at the landward edges of the mudflats and mingle with the low marsh area. Intertidal mudflats occur in the Proposed Action Area as exposed linear bands of river bottom at low tide between the riverbanks (from approximate elevation -2.7 National Geodetic Vertical Datum (NGVD) to +0.6 NGVD) (USACE and District 1999). Specific locations include bands on the west bank of the river south of Kennedy Park and on the east bank of the river around Tulucay Creek.

Intertidal mudflats provide for a variety of aquatic invertebrates, which are a primary food source for fish, shorebirds, and wading birds. Mudflats and shallow water areas are used for wintering habitat as well as resting areas during migration by shorebirds such as the willet (*Tringa semipalmata*), sandpiper (*Actitis macularius*, *Calidris* spp.), dowitcher (*Limnodromus* spp.), and marbled godwit (*Limosa fedoa*). Resident shorebird species include the killdeer (*Charadrius vociferus*) and black-necked stilt (*Himantopus mexicanus*). Many of these species may be seen in the Proposed Action Area within the tidal reaches of the Napa River.

Wetlands and Waters of the United States

The term “waters of the United States” as defined in EPA and USACE regulations currently operative across the country (40 C.F.R. § 120.2 and 33 C.F.R. § 328.3), interpreted consistently with the U.S. Supreme Court’s decision in *Sackett v. Environmental Protection Agency*, 598 U.S. 651 (2023), covers wetland and other waters that are subject to federal regulation under Sections 10, 401, 404 of the Clean Water Act (CWA). Wetlands that exhibit the prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology were identified within the Proposed Action Area and include fresh and saline emergent wetlands.

The March 12, 2025, “Memorandum to the Field” issued by USACE and the EPA provides guidance on the proper implementation of the “continuous surface connection” criterion under the Clean Water Act’s definition of “waters of the United States” (WOTUS). This memorandum clarifies that for a wetland to be considered jurisdictional, it must have a continuous surface connection to a relatively permanent body of water, such as a stream, ocean, river, or lake. This connection must be unbroken and allow surface water to flow directly between the wetland and the adjacent water body.

Based on the field delineation conducted in July 2023 by HDR, a preliminary jurisdictional determination (PJD) is being sought for the Proposed Action Alternative (see **Figure G-1**). The information presented for the Proposed Action Alternative reflects preliminary research and field delineation efforts conducted for the PJD to date.

Inland non-wetland Waters of the United States are seasonal or perennial waterbodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an OHWM or mean high water line but lack positive indicators for one or two of the three wetland parameters

(33 CFR 328.4). Non-wetland waters of the United States that occur in the Proposed Action Area are restricted to the Napa River, Napa Creek, and the dry bypass flow channel.

Fisheries and Aquatic Habitat

The Napa River contains a wide variety of resident and anadromous fish species. Species composition within the mixohaline, tidally influenced waters of the Napa River ranges widely from saltwater fish such as Pacific herring (*Clupea pallasii*) to freshwater fish such as common carp (*Cyprinus carpio*). Salinity changes strongly influence what species occur in the Proposed Action Area at any given time. Fish and invertebrate surveys have been conducted on the Napa River. Details from these surveys, including identified species and important habitat features are described in detail in below.

The Napa County Resource Conservation District (RCD) conducts annual rotary screw trap surveys north of the City of Napa. In 2020, the most abundant species were Pacific lamprey (*Entosphenus tridentatus*), Sacramento sucker (*Catostomus occidentalis*), and California roach (*Hesperoleucus symmetricus*). Other species identified in the 2020 survey included, Sacramento pikeminnow (*Ptychocheilus grandis*), Chinook salmon (*Oncorhynchus tshawytscha*), and CCC steelhead (*Oncorhynchus mykiss*) (Napa County RCD 2023).

In addition to the species caught in the referenced surveys, CCC steelhead use the lower Napa River as a migration corridor to their spawning and rearing grounds in Tulucay, Napa, Redwood, Milliken, Dry, and Bell Canyon creeks (Napa County RCD 2023). The river system is an important nursery area for juvenile steelhead and striped bass (*Morone saxatilis*). The channel bottom and the in-stream vegetation within channels afford spawning and rearing habitat for several species of estuarine and marine fish. Existing habitat features attractive to resident and anadromous fish are uneven bottom configuration, riffles which appear at low tide, in-stream cover provided by undercut banks, SRA cover areas, emergent vegetation, and food and detritus entering the river system from aquatic and riparian vegetation, insect drop, and invertebrate production.

The Napa River also supports populations of Chinook salmon (Napa County RCD 2023). Chinook salmon were believed to be extirpated from the Napa River in the twentieth century, particularly of note during the 1980s and 1990s when California salmon populations were initially considered for protection under the federal Endangered Species Act (ESA). This has left the emergent Napa River Chinook salmon populations excluded from the nearby Chinook evolutionarily significant units (ESU), despite recolonization and consistent spawning in the Napa River and other San Francisco Bay tributaries (Garza and Crandall 2013).

The distribution of benthic invertebrate fauna in the intertidal mudflats of the river is related primarily to temporal variations in salinity and stability of the sediments. Disturbance of the sediments through wave action, currents, and periodic dredging creates a dynamic state in parts of the benthic community, particularly in shallow areas. Parts of the benthic community, therefore, are dominated by colonizing species (those with rapid development, early sexual maturity, and high rates of reproduction) reflecting an early stage of succession (USACE and District 1999).

A series of benthic macroinvertebrate surveys found the Napa River to be dominated by insect species, mayflies (Ephemeroptera spp.) and true flies (Diptera spp.), with non-insects comprising less than 2% of the surveyed taxon (Dewberry 2005). In addition, a post-fire survey of Napa Creek at USGS Station 11458300, near the Proposed Action Area, identified the three most common non-insect macroinvertebrates as aquatic worms (Naididae spp., Turbellaria spp.) and New Zealand mudsnail (*Potamopygus antipodarum*, an invasive species) (Wulff et al. 2023). The California

Natural Diversity Database (CNNDDB) also has records that suggest the potential for isopods (*Calasellus californicus*) and western ridged mussels (*Gonidea angulata*) to occur within the Proposed Action Area (CDFW 2024).

Special-Status Species

This technical memorandum defines special-status plant and wildlife species as those species that meet one or more of the following criteria:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (50 CFR 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the FR [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (81 FR 87246, December 2, 2016).
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 CCR 670.5).
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).
- Plants with a California Rare Plant Rank (CRPR) of 1 or 2.
- Animal species of special concern to CDFW, Special Animals List.
- Animals fully protected in California (California Fish and Game Code Sections 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).
- Taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the CEQA Guidelines (e.g., species that appear on the CDFW special animals list).

Special-status species were identified through a search of CNNDDB database, USFWS Critical Habitat Portal, the CNPS database, and other sources as being historically reported to occur within the general Proposed Action vicinity and Proposed Action Area, downstream of the Proposed Action Alternative (CDFW 2023a; USFWS 2023b; CNPS 2023; Thomson et al. 2016). A list of special-status species with the potential to occur within a 5-mile radius of the Proposed Action Alternative and Proposed Action Area is provided in **Tables G-1** and **G-2** below. The potential for special-status species to occur in the Proposed Action Alternative and the Proposed Action Area was evaluated according to the following criteria:

- None: Proposed Action Area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.
- Not Expected: Suitable habitat or key habitat elements might be present in the Proposed Action Area but might be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities, microhabitats, and degraded/substantially altered habitats.
- Possible: The presence of suitable habitat or key habitat elements in the Proposed Action Area that potentially support the species.

- **Present:** Either the target species was observed directly or its presence was confirmed by diagnostic signs during field investigations or in previous studies in the Proposed Action Area.

Special-Status Plants

Approximately 26 special-status plant species occur in or within the vicinity (5 miles) of the Proposed Action Area (CDFW 2023a; CNPS 2023). Two reconnaissance-level surveys were conducted by HDR - one in July 2023 and one in April 2024. No special-status plant species were observed. Species were then evaluated for their potential to occur based on the known range of each species and their habitat associations. Two special-status plant species have the potential to occur in the Proposed Action Area. Each of these species are listed in **Table G-1** and discussed below. Please see land cover mapping on **Figure G-1** in reference to suitable habitats for special-status plant species.

Table G-1. Special-Status Plant Species Potentially Occurring within or near the Proposed Action Area

| Species | Common Name | Federal Status ¹ | State/CRPR Status ² | Critical Habitat Designated? |
|----------------------------|-------------------------|-----------------------------|--------------------------------|--|
| <i>Lasthenia conjugens</i> | Contra Costa goldfields | FE | None/1B.1 | Yes, but not present in the Proposed Action Area |
| <i>Trifolium amoenum</i> | Two-fork clover* | FE | None/1B.1 | No |

1 Federally endangered (FE)

2 State Rare (SR)

*Species sighting reported from within the Proposed Action Area but not confirmed during 2023 field survey (CDFW 2023a)

Source: Species and Listing Status (CDFW 2023a), Critical Habitat (USFWS 2023b)

Contra Costa Goldfields

Contra Costa goldfields (*Lasthenia conjugens*) is a federally endangered species as well as a CNPS CRPR 1B.1 species. It is a showy annual herb in the sunflower family (Asteraceae) that blooms in the spring (March to June). It occurs in cismontane woodland, on alkaline playas, vernal pools, and valley and foothill grasslands at elevations of 0–1,540 feet. There are two extant locations between 2 and 4 miles from the Proposed Action Area in vernal pools (CDFW 2023a; CNPS 2023). The areas dominated by annual grasslands and freshwater emergent wetland do not support prolonged ponding, are highly disturbed, annually mowed, and periodically used for staging. Previous surveys conducted in the vicinity have not reported this species or its plant associates from this area (CDFW 2023a) and populations were not observed during the early July 2023 field visit when the species would have been in seed. Therefore, this species is not expected to occur in the Proposed Action Alternative work area.

Two Fork Clover

Two fork clover (*Trifolium amoenum*) is a federally endangered and CNPS CRPR 1B.1 species. It is a showy annual herb in the pea family (Fabaceae) that blooms in the spring (April to June). It has been found in a variety of habitats including low, wet swales, grasslands, and grassy hillsides at elevations of 0–350 feet. This species is only known from two extant and two experimental records, two in Sonoma County and two in Marin County, more than 5 miles from the Proposed Action Area

(USFWS 2012). Therefore, this species is not expected to occur in the Proposed Action Alternative work areas. The areas dominated by annual grasslands are highly disturbed, annually mowed, and periodically used for staging. Previous surveys conducted in the vicinity have not reported this species or its plant associates from this area (CDFW 2023a) and populations were not observed during the early July 2023 field visit when the species would have been in seed. Therefore, this species is not expected to occur in the Proposed Action Alternative work area.

Special-Status Wildlife

Approximately 21 special-status wildlife species occur in or within the vicinity (5 miles) of the Proposed Action Area (CDFW 2023a). Two reconnaissance-level surveys were conducted by HDR – one in July 2023 and one in April 2024. No special-status wildlife species or their sign (i.e., burrows, scat) were observed. No focused surveys for special-status wildlife species have been conducted for this Proposed Action Alternative; therefore, all species present in the Proposed Action Alternative vicinity identified through a search of CNDDDB database, USFWS Critical Habitat Portal, the CNPS database, and other sources were evaluated for their potential to occur based on the known range of each species and their habitat associations. Approximately 12 wildlife species do not occur or are not expected to occur within the Proposed Action Area due to the lack of key habitat features. These species are therefore not addressed further in this document. Approximately three special-status wildlife species have the potential to occur in the Proposed Action Area. Each of these species are listed in **Table G-2** and discussed below. Please see land cover mapping on **Figure G-1** in reference to suitable habitats for special-status wildlife species.

Table G-2. Special-Status Wildlife Species Potentially Occurring within or near the Proposed Action Area

| Species ¹ | Common Name | Federal Status ² | State/CRPR Status ³ | Critical Habitat Designated? |
|----------------------------|----------------------------|-----------------------------|--------------------------------|--|
| Invertebrates | | | | |
| <i>Danaus plexippus</i> | Monarch butterfly | FC | None | No |
| Amphibians | | | | |
| <i>Rana draytonii</i> | California red-legged frog | FT | SSC | Yes, but not present in the Proposed Action Area |
| Reptiles | | | | |
| <i>Actinemys marmorata</i> | Northwestern pond turtle | FPT | SSC | No |

1 DPS – Distinct Population Segment

2 Federally endangered (FE); Federally Threatened (FT), Federal candidate for listing (FC)

3 State Species of Special Concern (SSC); State Candidate Endangered (CE); State Fully Protected (FP)

Source: Species and Listing Status (CDFW 2023a), Critical Habitat (USFWS 2023b)

Monarch Butterfly

Monarch butterfly (*Danaus plexippus*) is a candidate to be listed as threatened under ESA (CDFW 2023a). The monarch butterfly's migratory range in North America is both east and west of the Rocky Mountains. The western population migrates from Nevada, New Mexico, and Arizona to overwinter in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby along the California coast to Baja California (USFWS 2020). The butterflies begin

migration to overwinter sites in Mexico and California during the fall, but the population abundance fluctuates based on environmental conditions (USFWS 2020).

The monarch butterfly is dependent on milkweed host plants for both oviposition and larval feeding (USFWS 2020). The habitat described for the monarch butterflies is typically associated with riparian habitats near water sources such as rivers, creeks, roadside ditches, and irrigated gardens (USFWS 2020). Three host milkweed plants were observed and mapped within the Proposed Action Area. Monarch butterflies are not known to occur or overwinter within the Proposed Action Area. However, suitable habitat is present and roosting butterflies have been reported approximately 10 miles west of the Proposed Action Area along the coastline (CDFW 2023a). It is possible for monarch butterflies to occur, deposit eggs, and forage within the Proposed Action Area.

California red-legged frog

The California red-legged frog is federally listed as threatened and is a California species of special concern (CDFW 2023a). The historical range of California red-legged frog generally extends south along the coast from the vicinity of Point Reyes National Seashore, Marin County and inland from the vicinity of Redding, Shasta County, southward along the interior Coast Ranges and Sierra Nevada foothills to northwestern Baja California, Mexico (Jennings and Hayes 1985). The current range is generally characterized based on the current known distribution. Although California red-legged frog is still locally abundant in portions of the San Francisco Bay area and the central coast, only isolated populations have been documented elsewhere within the species' historical range, including the Sierra Nevada, northern Coast Ranges, and northern Transverse Ranges (86 FR 47138). California red-legged frog is believed to be extirpated from the floor of the Central Valley (USFWS 2002).

California red-legged frog inhabit marshes, streams, lakes, ponds, and other, usually permanent, sources of water that have dense riparian vegetation (USFWS 2002). California red-legged frog primarily breeds in ponds and less frequently in pools within streams (Thomson et al., 2016). Breeding occurs from November through April, and red-legged frogs typically lay their eggs in clusters around aquatic vegetation (USFWS 2002). Larvae undergo metamorphosis from July to September, 3.5 to 7 months after hatching (66 FR 14626). California red-legged frogs often disperse from breeding sites to various aquatic, riparian, and upland estivation habitats during the summer (66 FR 14628); however, it is common for individuals to remain in the breeding area year-round (66 FR 14628; USFWS 2002). Adults may take refuge during dry periods in rodent holes or leaf litter in riparian habitats (USFWS 2002). Within riparian areas, microhabitats utilized by California red-legged frogs include blackberry thickets, logjams, and root tangles (USFWS 2002).

Suitable upland habitat exists throughout the Proposed Action Area along the riparian corridor and banks of the Napa River; however, the Napa River waters are tidally influenced within the Proposed Action Area deeming it unsuitable for breeding. The California red-legged frog species cannot tolerate estuarine waters. Additionally, the California red-legged frog has not been reported from within 5 miles of the Proposed Action Area (CDFW 2023a). Due to the unsuitable breeding habitat and the fact that upland habitats are more than 5 miles away from known dispersal locations, it has been concluded that the Proposed Action Alternative work area is unsuitable for California red-legged frog. Therefore, effects to the California red-legged frog are not expected to occur.

Northwestern Pond Turtle

Northwestern pond turtle (*Actinemys marmorata*) is a federal candidate species for listing and a California species of special concern (88 FR 68370). Northwestern pond turtle occurs throughout a

broad range of permanent and intermittent freshwater aquatic habitats, including rivers, lakes, ponds, vernal pools, and marshes with a preference for habitat with abundant basking sites, underwater refugia, and slow-moving water (Bury and Germano 2008). This species requires upland habitat suitable for nesting and overwintering, with loose soil for excavation and infrequent disturbance (Thomson et al. 2016). Upland habitat is typically characterized as having sparse vegetation with short grasses and forbs with little to no canopy cover. Northwestern pond turtle spend up to seven months out of the water during the winter months and typically only travel 200 meters from aquatic habitats but have been documented to travel up to 1.4 km to overwinter refugia (Ryan 2001). Along the central California coast, nesting occurs between April and August with eggs hatching in the early fall and hatchlings over-wintering in the nest before emerging in the spring (Scott et al. 2008; Thomson et al. 2016). Nest sites are often within 100 to 500 meters of water (Thomson et al. 2016).

There is an occurrence of Northwestern pond turtle approximately 1.4 miles upstream of the Proposed Action Area within Napa River (CDFW 2023a), where conditions are characterized by freshwater flows outside of the tidal influence of the Bay. There are suitable basking and nesting sites around the Lincoln Avenue bridge in the Proposed Action Area; however, the water is too saline within the reaches of the Proposed Action Area to support successful reproduction. The species could utilize the Proposed Action Area as a migratory corridor, so it is possible to occur.

Special-Status Aquatic

Five special-status species with the potential to occur in or near the Proposed Action Area were identified. No focused surveys for special-status aquatic species have been conducted for this Proposed Action; therefore, all species present in the Proposed Action vicinity identified through a search of CNDDDB database, USFWS Critical Habitat Portal, and other sources were evaluated for their potential to occur based on the known range of each species and their habitat associations. The five special-status species are listed in **Table G-3** and discussed below. Please see land cover mapping on **Figure G-1** in reference to suitable habitats for special-status aquatic species.

Table G-3. Special-Status Aquatic Species Potentially Occurring within or near the Proposed Action Area

| Species and ESU/DPS ¹ | Common Name | Federal Status ² | State Status ³ | Critical Habitat |
|---|--|-----------------------------|---------------------------|---|
| <i>Acipenser medirostris</i> southern DPS | Green Sturgeon | FT | None | Outside Proposed Action Area |
| <i>Entosphenus tridentatus</i> | Pacific Lamprey | BLM-S USFWS-S | SSC | No |
| <i>Hypomesus transpacificus</i> | Delta Smelt | FT | SE | Outside Proposed Action Area |
| <i>Oncorhynchus mykiss irideus</i> central California coast DPS | Central California Coast (CCC) Steelhead | FT | None | Yes, San Pablo Hydrologic Unit 2206; includes Napa River and Proposed Action Area |
| <i>Spirinchus thaleichthys</i> San Francisco Bay-Delta DPS | Longfin Smelt | FE | ST | No |

¹ Evolutionarily Significant Unit (ESU); Distinct Population Segment (DPS)

² Federally Endangered (FE); Federally Threatened (FT), Federal Candidate for Listing (FC), Bureau of Land Management – Sensitive (BLM-S), U.S. Forest Service – Sensitive (USFWS-S)

³ State Endangered (SE); State Threatened (ST); State Species of Special Concern (SSC)
Source: Species and Listing Status (CDFW 2024; CNDDb 2024), Critical Habitat (USFWS 2023b).

Green Sturgeon

The southern DPS of green sturgeon consists of coastal and Central Valley populations south of the Eel River (71 FR 17757). National Marine Fisheries Service (NMFS) proposed to list the southern DPS of green sturgeon as threatened on April 6, 2005 (70 FR 17386) and published a Final Rule to list the southern DPS as threatened on April 7, 2006 (71 FR 17757).

Green sturgeon spend the majority of their lives in estuarine and coastal waters along the Western U.S. coast. Adults can make extensive coastal migrations and move between coastal estuaries, where they often aggregate for extended periods. Southern DPS green sturgeon adults enter the San Francisco Bay in later winter through early spring (January through May), migrate upstream, and spawn from April through June (Moser et al. 2016). Post-spawn fish may hold for several months and out-migrate in the fall or winter or move out of the river quickly during the spring and summer months and may remain in estuarine waters for many months after leaving upstream habitats (Miller et al. 2020).

The Sacramento watershed is the only confirmed historical and present spawning area for southern DPS green sturgeon (71 FR 17757). Recent surveys, however, have found evidence of green sturgeon spawning in Sacramento River tributaries including the Feather and Yuba Rivers (Seesholtz et al. 2014, Beccio 2018, 2019). It is unknown how long juveniles remain upriver after metamorphosis, however, juveniles typically enter the San Francisco Bay (Bay)/Sacramento-San Joaquin Delta (Delta), including the San Francisco Estuary, as sub-yearlings or yearlings prior to ocean entry, and therefore, likely spend several months rearing upriver (NMFS 2018).

CDFW initiated the Sturgeon Fishing Report Card as part of a suite of sport fishing regulations in March of 2007. Each year, CDFW distribute Sturgeon Fishing Report Cards to anglers to collect data on and monitor the sturgeon fishery and population health. Green sturgeon catches were reported by anglers in the Napa River every year from 2007 to 2017, with an annual average of seven individuals. Green sturgeon were regularly caught in all seasons, with the largest reported number of individuals occurring in winter and spring (December through May) (CDFW 2023g).

Green sturgeon are known to occur within the Proposed Action Area, however, spawning of southern DPS green sturgeon is not known to occur in the Napa River or in the Proposed Action Area or the Proposed Action Alternative work area.

Pacific Lamprey

Pacific lamprey are a California State SSC. Pacific lamprey is an anadromous species, and like Pacific salmon, are semelparous and have multiple run types (“ocean-maturing” and “stream-maturing”) (Clemens et al 2013).

Pacific lamprey are present in the north, central, and south Delta, with ammocoetes present year-round in all regions (DWR et al. 2013). Pacific lamprey travel upstream in rivers and streams to spawn in the winter and spring (Goodman et al. 2015). As they travel they stop eating, relying on body fat reserves for energy, before building gravel nests. Eggs hatch after approximately 20 days and drift downstream to lower velocity areas with sandy bottoms where they live in sand and detritus substrates as filter feeders for three to seven years before migrating to the ocean (Moyle 2002, CDFW 2023h).

Pacific Lamprey are known to occur within the Napa River and could occur within the Proposed Action Area (CDFW 2023h) and the Proposed Action Alternative work area.

Delta Smelt

Delta smelt were federally and California State listed as threatened in 1993 (58 FR 12854); in 2009 California State changed Delta smelt listing from threatened to endangered. Delta smelt is a euryhaline species, tolerant of a wide range of salinities, and endemic to the San Francisco Estuary in California. Delta smelt exhibit weak swimming behavior and diel shifts in response to tidal currents which allows them to stay within limited regions where planktonic food is concentrated (Moyle et al. 2016). The Delta smelt life cycle consists of four parts, a winter migration upstream shortly before spawning, spring spawning in freshwater, summer migration and rearing to low salinity zone, and fall maturation in the low salinity zone. The majority of the Delta smelt's life cycle is spent at the saltwater-freshwater interface, an area known as the X2 (USFWS 1999).

Most spawning occurs between January and May, with peak spawning occurring between April and May, in the Delta but some also occurs in the Suisun Marsh and Napa River (Merz et al. 2011; Kurobe et al. 2022). Delta smelt spawn in shallow, fresh, or slightly brackish water upstream of the mixing zone (Wang 1991). Delta smelt are broadcast spawners, and the eggs form an adhesive foot that sticks to surfaces. After hatching, larvae and juveniles move downstream toward the mixing zone where they are retained by the vertical circulation of fresh and salt waters (Stevens et al. 1990).

As part of the requirements of the Biological Opinion (BO) for the Proposed Action, that was permitted in 1998, a fisheries monitoring program was developed in 1999 and supplemented in 2000. This program sampled the fish assemblage throughout the Napa River within the vicinity of the Proposed Action Area using beach seines, otter trawls, purse seines, and fyke nets to determine fish use of the restored and created habitats. Surveys for this monitoring program were conducted yearly from 2001 to 2005. Delta smelt were observed in the lower Napa River near the Proposed Action Area in 2001 and 2002. Large numbers of larval delta smelt were observed in 2001 indicating a spawning event (Stillwater Sciences 2006). Only one adult was captured the following year, which followed a large levee breach that should have improved conditions for the species in Napa River.

CDFW has a study that monitors the distribution and relative abundance of delta smelt throughout the Delta. There are six sampling sites within the Napa River, the northernmost being approximately 1.25 miles downstream from the Proposed Action Area. The most recent observation of Delta smelt within the Napa River occurred in June 2017 at Station 348, which is approximately 2.10 miles south downstream of the Proposed Action Area (CDFW 2023i). Approximately six fish were observed at this time. Delta smelt thrive within the freshwater-saltwater mixing zone. This interface occurs within the Proposed Action Area and the Proposed Action Alternative work area. As there are no barriers to fish passage within the Napa River between the documented occurrences and the Proposed Action Area, Delta smelt have the potential to occur within the Proposed Action Area and the Proposed Action Alternative work area.

Steelhead

CCC steelhead refers to all naturally spawned populations of anadromous steelhead below natural and manmade impassable barriers from the Russian River to and including Aptos Creek, and all drainages of San Francisco and San Pablo Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers (79 FR 208002). NMFS proposed to list CCC steelhead as

endangered on August 18, 1997 (62 FR 43937) and reaffirmed the threatened status on January 5, 2006 (71 FR 834); updated April 14, 2014 (79 FR 20802).

CCC steelhead have the life history plasticity, in response to environmental changes, for both resident and anadromous forms but coastal streams are dominated by the anadromous form (Satterthwaite et al. 2009, Sogard et al. 2012). Adult steelhead return from the ocean for spawning in winter and build their redds in loose gravel in the main stem river and tributaries. Steelhead spend one to five years in freshwater prior to smolting and then spend up to three years in the ocean prior to returning to freshwater to spawn. CCC steelhead are considered a winter-run type of the anadromous form, and most are ocean-maturing ecotype fish, entering rivers in reproductive condition (Moyle et al., 2017).

Steelhead populations in most tributaries to San Francisco and San Pablo Bays have been extirpated, but CCC steelhead continue to spawn in the Napa River system, including Napa River and Napa Creek, as well as in other streams entering San Pablo Bay, Suisun Bay, and San Francisco Bay (Napa County RCD 2023).

CCC steelhead primarily use the lower Napa River as a migration corridor from December to May to reach spawning and rearing grounds in Tulocay, Napa, Redwood, Miliken, Dry, and Bell Canyon Creeks (USACE and District 1999). Napa Creek can provide year-round rearing conditions for juvenile steelhead, but there are no spawning areas within the Proposed Action Area or the Proposed Action Alternative work area.

CCC steelhead would be expected to occur within the Proposed Action Area and the Proposed Action Alternative work area as they are migrating into and out of the Napa River between June and November.

Longfin Smelt

The San Francisco Bay-Delta DPS of longfin smelt was ruled endangered under the ESA by USFWS on July 30, 2024 (89 FR 61030). The San Francisco Bay-Delta DPS of longfin smelt includes salt and freshwater habitats upstream of the Golden Gate including the San Francisco Bay, Sacramento - San Joaquin River Delta, and their tributaries. Longfin smelt are also listed as threatened under CESA.

Longfin smelt are a euryhaline species found in the Bay-Delta, Humboldt Bay, and the estuaries of the Eel River and Klamath River. The Bay-Delta population concentrate in San Pablo Bay between April and June and move upstream to spawn in estuary low-salinity zones and freshwater tributaries, including Napa River (Merz et al. 2013, Moyle 2002). Spawning occurs from November to May, peaking in January and February, with eggs released in freshwater over sandy or gravel substrates or rocks and aquatic plants. Juvenile success is positively correlated with higher freshwater inputs (Mahardja et al. 2021). Adult longfin smelt utilize estuarine wetland and slough habitat before migrating upstream to spawn, and as juveniles to rear and feed prior to entering the ocean (USFWS 2023d). Like delta smelt, the longfin smelt thrive at the X2 due to the abundance of food resources and suitable habitat areas.

The fisheries monitoring program, as mentioned above in *Delta Smelt, encountered* longfin smelt larvae each year throughout the 2001-2005 sampling period (Stillwater Sciences 2006). Over 3,500 larval longfin smelt were encountered in 2003 indicating a spawning event occurred nearby (Stillwater Sciences 2006). Over 2,000 longfin smelt were observed at a station approximately 5 miles downstream of the Proposed Action Area in the April 2023 20-milimeter trawl surveys conducted by CDFW providing evidence that breeding populations of longfin smelt continue to thrive

within the Napa River. Longfin smelt can be presumed present within the Proposed Action Area and the Proposed Action Alternative work area during the migratory period.

Critical Habitat

The USFWS and NMFS maintain areas of critical habitat for federally regulated species to safeguard the continued existence of such species by restricting the type and extent of activities proposed under Section 7 of the Endangered Species Act (ESA) (16 U.S.C. § 1536, *et seq.*). Section 7 of ESA requires federal agencies to consult with USFWS and/or NMFS for actions that may take a listed species or their critical habitat. This is summarized in SEA Section 3.6, *Fisheries and Aquatic Biological Resources*.

Essential Fish Habitat

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) (16 United States Code [U.S.C.] § 1801, *et seq.*), requires federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH) for species that are managed under federal fishery management plans for U.S. waters. Section 3 of the MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 U.S.C. § 1802). These waters include aquatic areas, and their associated physical, chemical, and biological habitat features necessary to support the entire life cycle of the species in question and may include areas historically used by these species. Adverse effect means any impact that reduces the quality or quantity of EFH and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components.

The MSA also requires that NMFS designate Habitat Areas of Particular Concern (HAPCs) for each federally managed fish species. HAPCs are subsets of EFH, which are rare, particularly susceptible to human-induced degradation, ecologically important, or located in an environmentally stressed area. HAPCs are not afforded additional protection beyond that of the EFH; however, federal projects with potential adverse impacts on HAPCs will be given more scrutiny during ESA consultation process.

The Proposed Action Area addressed within this document falls within the following EFH (NOAA 2023):

- Pacific Groundfish EFH: The Pacific Groundfish Fisheries Management Plan (FMP) is designed to protect habitat for more than 90 species of fish, including rockfish, flatfish, groundfish, some sharks and skates, and other species that associate with the underwater substrate. Because the location of the Proposed Action Area is near the upper limits of tidal influence, two species are presumed present based on recorded presence and habitat suitability: the Pacific sanddab (*Citharichthys sordidus*) and starry flounder (*Platichthys stellatus*) (Moyle 2002; Leidy 2007).
- Pacific Salmon EFH: The Pacific Salmon FMP is designed to protect habitat for commercially important salmonid species. Sacramento fall-run and late-fall-run Chinook salmon is the only one of these species that may be seasonally present in the Proposed Action Area, although historically Coho salmon were common in the Napa River (Moyle 2002; Leidy 2007).

The Napa River constitutes an estuary HAPC. The inland extent of the estuary HAPC is the high-water tidal level along the shoreline or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 part per thousand (ppt) during the period of average annual low flow (Pacific Fishery Management Council 2023).

The Proposed Action Area is upstream of the HAPC, as described by NOAA's EFH Mapper (NOAA 2023); however, effects from the Proposed Action Alternative, such as increased turbidity, may impact water quality downstream, including that of the HAPC.

The species that fall under EFH within the Proposed Action Area include Pacific sanddab, starry flounder, and Chinook salmon, which are not covered under ESA or CESA. The life history and habitat requirements of these species are discussed below.

Pacific Sanddab

Pacific sanddabs are widely distributed along the Pacific west coast from the Bering Sea to Cabo San Lucas, at the tip of Baja California (He et al. 2013). Pacific sanddabs are benthic dwellers but are also found pelagically; adults are frequently collected in mid-water trawls. Early reproductive studies showed that Pacific sanddab caught off central California spawn between June and September, with peak activity in August, and suggested individual females spawn multiple times a year (Arora 1951).

Starry Flounder

Starry Flounder are found on different substrates, including gravel; clean shifting sand; hard, stable sand; and mud; however, fishermen report the largest catches over soft sand. Starry flounder can tolerate a wide range of salinities. In the Sacramento and San Joaquin Rivers, starry flounder have been observed in salinities of 0.02 to 0.06 ppt (i.e., essentially fresh water) (Orcutt 1950) and have been collected 75 miles upstream in the Columbia River. Age-0 and age-1+ starry flounder are a common species in estuarine habitats along the West Coast (Orcutt 1950; Sopher 1974; Pearson 1989; Emmett et al. 1991; Baxter et al. 1999; Kimmerer 2009). During the late fall and winter, mature starry flounder probably migrate to shallow coastal waters to spawn (Orcutt 1950). Spawning occurs primarily during the winter months of December and January (Orcutt 1950).

Chinook Salmon

Chinook salmon have evolved a broad array of life history patterns that allow them to take advantage of diverse riverine conditions throughout the year. These life history patterns generally fall into two main generalized freshwater life history types: stream-type and ocean-type (Healey 1991). Ocean-type Chinook salmon such as fall-run and late-fall-run enter freshwater during late summer and fall and spawn soon after. Juveniles typically migrate to the ocean as young of the year after several months of rearing.

Adult fall-run Chinook salmon migrate through the Bay-Delta and into Central Valley rivers from June through December. Individuals spawn in the Sacramento River, and eggs and alevins (yolk-sac fry) are in the gravel primarily from September to January, with a peak during October through December.

Late-fall-run Chinook salmon fry generally emerge from March through June. Late-fall-run fry rear in upstream waters until about July, migrate downstream to rear in lower stretches of the river until the following April, and emigrate out as smolts from November through May.

Wildlife Corridors

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires). Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping-stones for dispersal. The Napa River is the primary wildlife corridor in the Proposed Action Area.

Effects of the Proposed Action

Method of Analysis

This section describes the methods used to analyze the biological resource impacts of the Proposed Action Alternative. The analysis considers the floodwalls south of Lincoln Avenue, floodwalls north of Lincoln Avenue, scour protection under the Lincoln Avenue bridge, and floodwalls at the dry bypass, as appropriate, in the context of construction, staging areas, post-construction operation, and maintenance. This analysis is a supplemental analysis to the 1999 Final SEIS/EIR and focuses on the changes in impacts and conditions. See Chapter 3.1.1 Approach to Analysis for the CEQ Guidelines for generally assessing effects under NEPA. Specific CEQA significance criteria related to terrestrial biological resources are listed below.

The evaluation of potential effects on special-status species and sensitive natural communities in the Proposed Action Area was based on the review of field survey data, desktop analysis, and available literature review. The analysis methods are based on industry standards and peer-review information cited throughout this section. Both effects resulting from construction of the Proposed Action Alternative and subsequent operation and maintenance of the resulting structures will be analyzed.

Construction impacts consist of temporary effects to habitats within the Proposed Action Area such as fugitive dust generation, the construction of a temporary access ramp, and minor tree trimming for construction equipment access. Permanent effects (long-term effects) would result from the construction of the floodwalls both north and south of the Lincoln Avenue bridge, the installation of rock scour protection at Lincoln Avenue bridge and its abutments, the construction of a new walking path with associated tree removal, and construction of floodwalls at the dry bypass. Effects on habitat are generally considered temporary when the habitat is restored to preconstruction conditions during or immediately after construction. The Proposed Action Area and land cover mapping area for vegetation and aquatic resources includes a 100-foot-wide buffer outside of the temporary and permanent impact areas. The buffer areas were also assessed for potential effects on vegetation and aquatic resources.

After construction, all operations and maintenance (O&M) activities would be undertaken by the District indefinitely as part of their areawide O&M activities. A 15-foot-wide O&M corridor on the land side of the floodwall and the existing Napa River Trail on the water side of the floodwall would serve as maintenance corridors. Any damage to the existing Napa River Trail as a result of construction would be repaired as necessary immediately after construction. Short-term O&M effects caused by

O&M activities from the Proposed Action Alternative would include periodic inspections as well as minor vegetation trimming.

Permanent effects on biological resources were quantified using the estimated amount of land cover that would be converted as a result of construction of the new floodwalls and rock scour protection compared to existing conditions. Temporary effects on biological resources were quantified using the estimated amount of land cover that would be temporarily disturbed during construction that would be restored to pre-existing conditions during or immediately after construction. Temporarily affected habitat areas located within the Proposed Action Area were addressed as operational impacts to avoid double counting habitat effects and because construction effects along the floodwall alignment could be considered permanent if habitat could not be restored at these locations. It is assumed that the conditions on parcels of land surrounding adjacent to the floodwall could be maintained similar to existing conditions (e.g., developed).

Effects on biological resources identified within the Proposed Action Area were determined using GIS software. The Proposed Action Area and associated impact areas were overlaid on the vegetation community, wildlife habitat, and wetland data to quantify the permanent and temporary effects associated with the construction and operation of the Proposed Action Alternative and No Action Alternative. Effects on occurrences of special-status plants known to occur in the Proposed Action Area were determined by overlaying the Proposed Action Area over the mapped occurrences and determining the area of overlap.

Construction effects are restricted to construction of the floodwalls, placement of rock scour protection, and associated construction access and staging. Effects on special-status species and their habitats were assessed using the estimated amounts of suitable habitat that would be converted by construction or disturbed during construction compared to existing conditions. In general, permanent and temporary effects on potential habitat for special-status species are overestimated because the entirety of the land cover is considered affected even when specific habitat requirements may be absent at specific locations.

Operational effects are restricted to routine inspections by workers on foot or in vehicles and vegetation trimming. To assess potential operational effects on biological resources, impacts within the Proposed Action Area were evaluated.

Construction and operation of the Proposed Action Alternative could result in permanent habitat loss of suitable habitat for one special-status plant species and four special-status wildlife species with the potential to occur in the Proposed Action Area. Suitable habitat types include riverine, riparian, grasslands, disturbed, freshwater emergent wetlands, and saline emergent wetlands. **Figure G-2** shows the impacts of the Proposed Action Alternative to each habitat type.

Figure G-2. Proposed Action Impacts (Page 1 of 5)



Figure G-2. Proposed Action Impacts (Page 2 of 5)

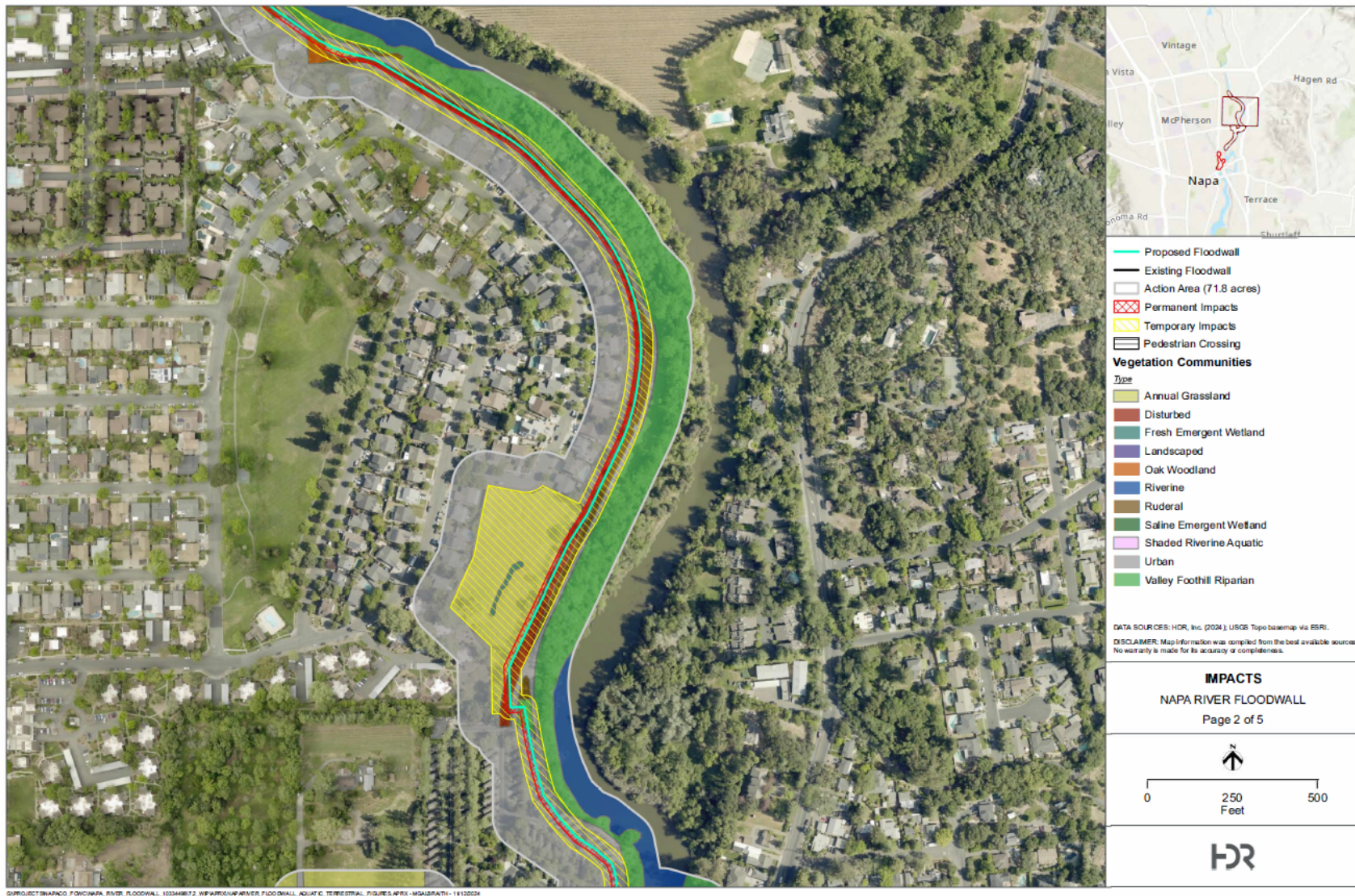


Figure G-2. Proposed Action Impacts (Page 3 of 5)



Figure G-2. Proposed Action Impacts (Page 4 of 5)

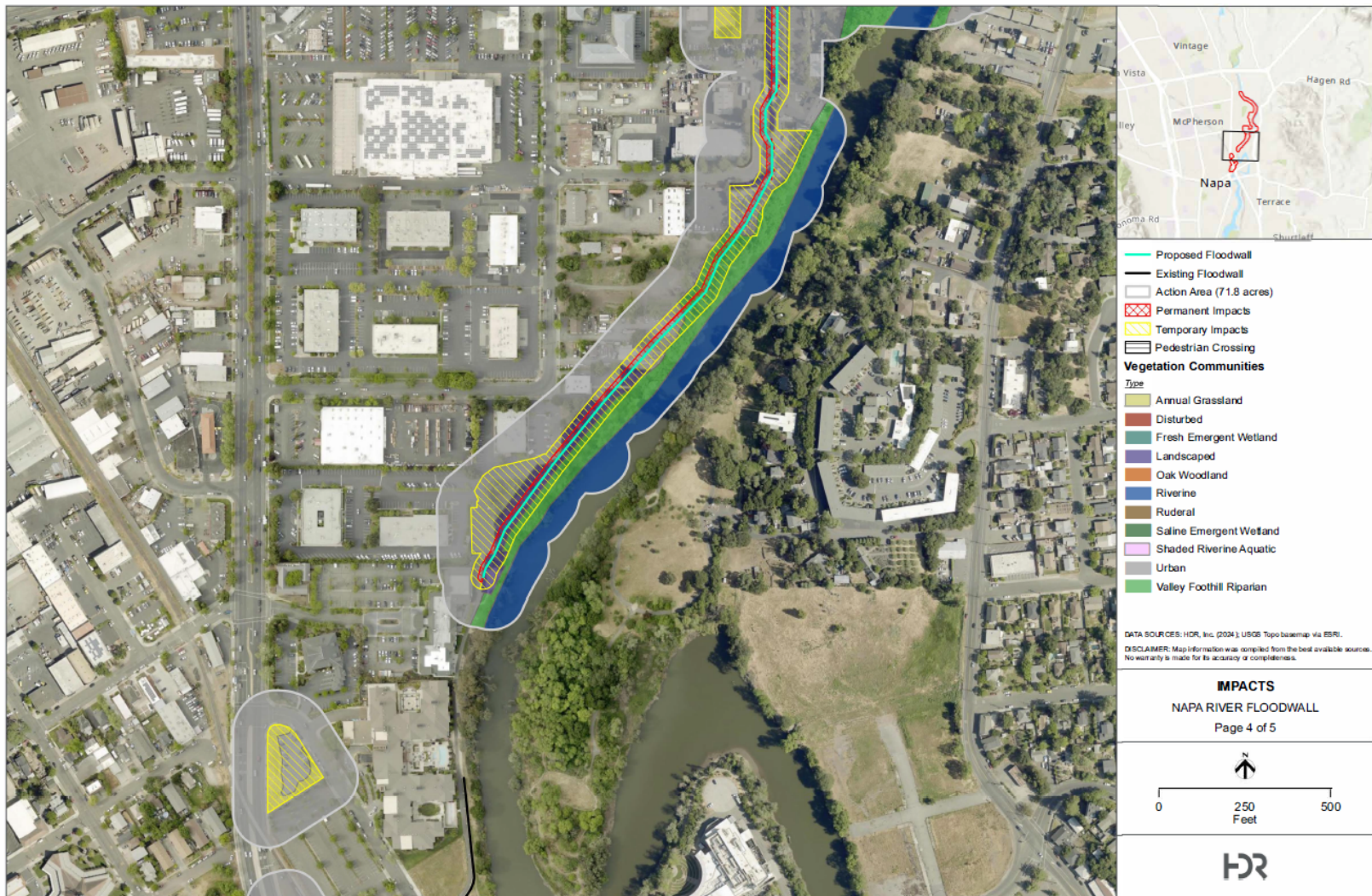
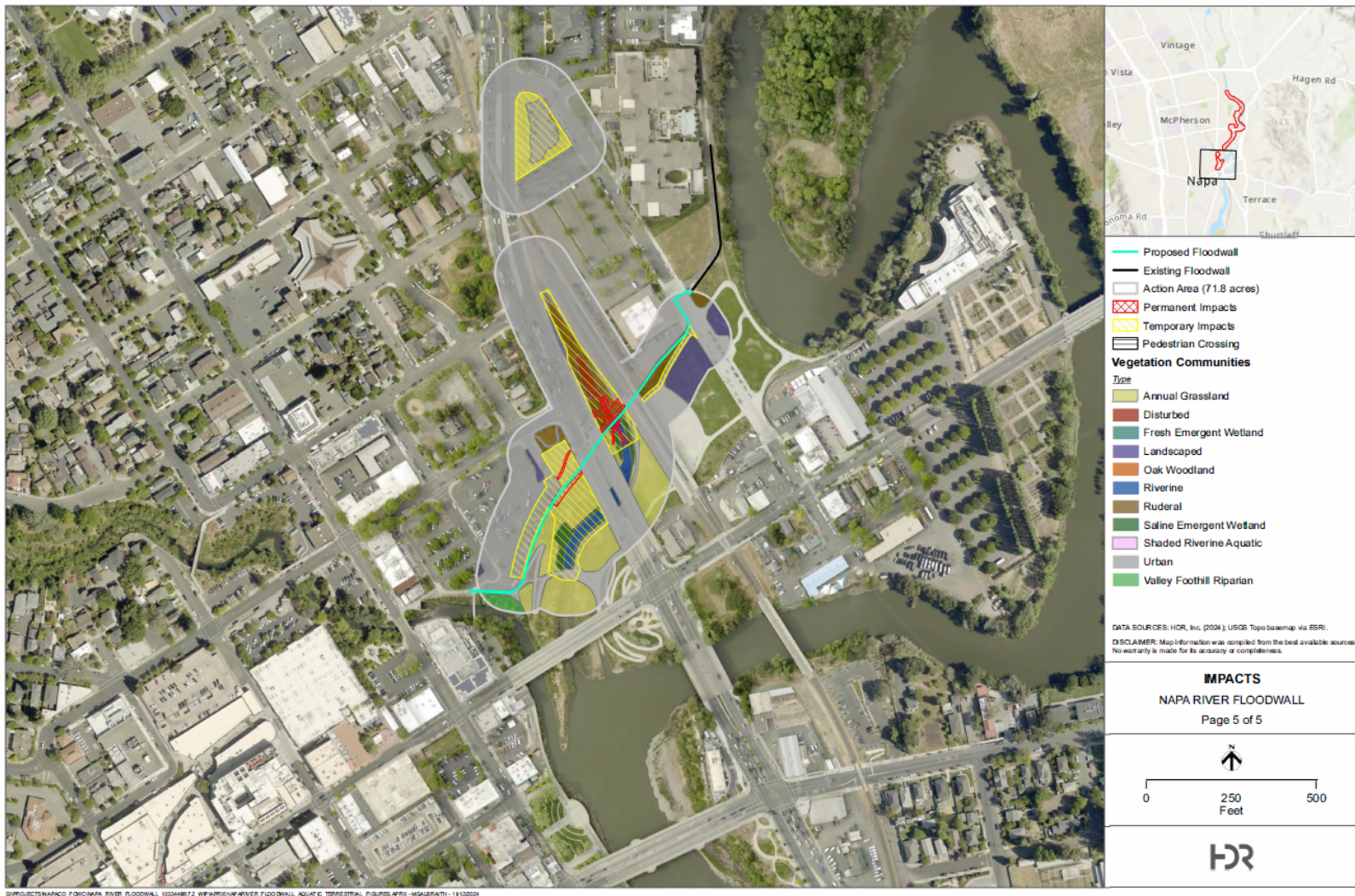


Figure G-2. Proposed Action Impacts (Page 5 of 5)



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United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
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In Reply Refer To:
2024-0043509

November 26, 2024

Mr. Kevin Harper
Chief, Environmental Resources Branch, Planning Division
U.S. Army Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Reinitiation of formal consultation on the Napa River/Napa Creek Flood Protection Project Napa County, California; Floodwalls North of Bypass river mile 15.5 to 17

Dear Kevin Harper:

This is in response to the U.S. Army Corps of Engineers' (Corps) July 1, 2024, letter requesting reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the Napa River/Napa Creek Flood Protection Project (project). A Biological Opinion (BiOp) was originally issued on April 9, 1999, an amendment on June 9, 2000, and a reinitiation on November 24, 2009. It is a federal project intended to improve flood protection of the City of Napa and vicinity while also providing significant environmental quality benefits. Much of the project has already been constructed, including excavation above low tide to increase flood conveyance capacity, breaching of levees to provide for seasonally inundated habitat, establishing a total of at least 600 acres of restored wetlands, new bridges at Soscol Avenue, First Street, and the Napa Valley Wine Train railroad, east bank terracing near downtown Napa, an array of improvements along lower Napa Creek, a flood control dike from Kennedy Park to Imola Avenue, a levee from Imola Avenue to Tulocay Creek, and a dry bypass channel and associated floodwalls in the vicinity of the aforementioned replaced bridges.

This reinitiation was requested to address: (1) design changes within the remainder of work, upstream of and along the west (right) bank of the dry bypass as well as changes to minor elements within the dry bypass itself; and (2) associated effects on listed species, including those whose listing status has changed since the last reinitiation. The proposed project would be constructed by the Corps, with the Napa County Flood Control and Water Conservation District (NCFCWCD) as a non-Federal local sponsor. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

At issue are effects of the project on the federally listed as threatened delta smelt (*Hypomesus transpacificus*), endangered longfin smelt (*Sprinchus thaleichthys*), proposed threatened northwestern pond turtle (*Actinemys marmorata*), and candidate for listing monarch butterfly

(*Danaus plexippus*). Your request was received on July 8, 2024, with a supplemental Biological Assessment (U.S. Fish and Wildlife Service Supplemental Biological Assessment, Napa River/Napa Creek Flood Protection Project - Floodwalls North of the Bypass, prepared by HDR, Sacramento, California, June 2024; hereafter “supplemental BA”).

In the time since the BiOp, a final rule listing the longfin smelt as endangered was published (see below, BIOLOGICAL OPINION); the Sacramento splittail (*Pogonichthys macrolepidotus*) which was a threatened species at the time of the BiOp was delisted; the northwestern pond turtle was proposed for listing as threatened; and the monarch butterfly became a candidate. A revised 12-month finding for the monarch butterfly is due to be published on December 4, 2024, which could change its candidate status to proposed threatened or endangered. The supplemental BA includes determinations that the project may affect but is not likely to adversely affect (NLAA) the monarch butterfly and the northwestern pond turtle, and may affect and is likely to adversely affect the delta smelt and longfin smelt. Because the Corps references this supplemental BA in its transmittal letter, we are treating these determinations as the Corps' determinations and a request for our concurrence.

The NLAA determination for the monarch butterfly was based on very limited habitat for this species, consisting of 3 host plants of which only one will be impacted. The NLAA determination for the northwestern pond turtle was based on the tidal influence of this portion of the Napa River, making its presence unlikely. The Corps will nonetheless employ additional avoidance and minimization measures for both the monarch butterfly (host plant mapping, avoidance, and monitoring) and northwestern pond turtle (nesting season surveys, exclusion fencing, monitoring) (see supplemental BA pp. 34-35). Finally, the changes addressed by this consultation significantly reduce both in water and riparian impacts compared to the previous designs, further lessening the effects of the project on these species. We believe any effects to the monarch butterfly and the northwestern pond turtle to be insignificant and, therefore, concur with the NLAA determinations for these species (*i.e.*, our conference concurrence).

The remainder of this document provides our biological opinion on the effects of the proposed project on the delta smelt and longfin smelt. In considering your request, we based our evaluation on the following: (a) the quality and quantity of listed species habitats affected and created by all elements of the project, past and proposed; (b) the extent of impact on such habitat that would occur with elements and how any design changes may have changed that impact. The information we used to make this evaluation included the supplemental BA, observations during a site visit, communications with the Corps and local sponsor, and supplemental evaluations as a result of those communications (see CONSULTATION HISTORY, below).

CONSULTATION HISTORY

A consultation history for events preceding this reinitiation was provided in the supplemental BA included with your request which included the original BiOp and subsequent amendment; we incorporate it by reference but note that this supplemental BA did not include the most recent reinitiation of November 24, 2009. That November 24, 2009, reinitiation has Corps-provided values and map locations of all areas of permanent loss, creation, and enhancement of Shallow Water Habitat (SWH) based on the most up-to-date designs at that time. Activities since those identified in the supplemental BA include (unless otherwise noted, communications are by electronic mail):

November 24, 2009: Service issued reinitiation of consultation for entire project effects on SWH (see within that reinitiation for additional preceding events 2001-2009).

July 8, 2024: Service received electronic mail request from the Corps reinitiating formal consultation, and electronic document transfer of supplemental BA.

August 26, 2024: Service attended a site visit to project area.

September 12, 2024: Service sent follow-up email identifying need to compare proposed with original (1999) plan.

September 16, 2024: Call between Service and NCFWCWD to discuss design differences.

September 20, 2024: NCFWCWD provided footprint image comparing original and proposed design impacts for riparian.

September 24, 2024: Service requested further information on temporary impacts and revegetation limits in any vegetation free zones around proposed project elements.

September 25, 2024: NCFWCWD provided additional information on temporary and permanent (*i.e.*, vegetation maintenance zone) impacts.

October 2, 2024: Corps concurred with NCFWCWD additional information on vegetation temporary and permanent impacts.

October 3, 2024: Service notified Corps and NCFWCWD of its November 24, 2009, reinitiation, intent to modify SWH based on new design, and requests impact area for such (or citation within supplemental BA).

October 4, 2024: NCFWCWD provided additional information on SWH impact, referencing supplemental BA Table 3, p. 21 (0.18 acre, termed "Riverine habitat").

October 16, 2024: Service emailed draft reinitiation response letter and requests Corps concurrence with project description.

October 18, 2024: Corps concurred with reinitiation project description.

BIOLOGICAL OPINION

Description of the Action

The action covered by this reinitiation concerns changes and refinements to yet to be constructed elements of the project primarily upstream of the dry bypass to the upstream end of the project near Trancas Street, as well as minor revisions within the dry bypass.

After review of the supplemental BA, our April 9, 1999, Biological Opinion and November 24, 2009, reinitiation are hereby amended as follows (additional or modified text is shown in **boldface**):

1. ADD the following language below to follow the last paragraph of **Description of the Action** (November 24, 2009, reinitiation p. 8):

A number of changes are now proposed for elements within Contract 3, Subcontracts 1 and 2, from the plans and description in the 1998 Final Supplemental General Design Memorandum and 1999 Final Supplemental Environmental Impact Statement/Environmental Impact Report referenced in the Service's November 24, 2009, reinitiation. As detailed in a supplemental Biological Assessment dated June 2024, these changes include: (1) in the gap between the Soscol and railroad bridge embankments, constructing a new outfall control with a manually operated sluice gate instead of a 350 cubic feet per second land side pump station; (2) north of the dry bypass but south of Lincoln Avenue, modestly changing the configuration of floodgates and the trail; (3) a reduction of rock scour protection under Lincoln Avenue bridge to less than half originally proposed (not more than 0.18 acre); (4) beginning North of Lincoln Avenue, construct a floodwall set back farther away from the top of bank than originally proposed, thereby eliminating the need for and effects of previously planned other bank stabilization and in water work; (5) continue the floodwall North around the Lake Park subdivision, instead of the originally proposed 3-foot-high new levee; (6) For the River Glenn townhome section, install a sheet pile I-floodwall instead of a concrete T-floodwall; and, finally (7) shorten the floodwall by terminating it on high ground at the north end of the townhome section instead of farther North at the rear of the Elks Lodge.

ADDITIONAL CONSERVATION MEASURES THAT MAY PERTAIN TO DELTA SMELT AND LONGFIN SMELT

To avoid additional impacts, NCFWCWCD will implement the following new general avoidance and minimization measures:

- **Implementation of erosion control measures and Best Management Practices (BMPs) for construction activities, will reduce potential impacts to listed fish species and habitat resulting from sedimentation and turbidity during construction. The following water quality protection measures will be implemented:**

- **Silt fencing will be installed in all upland areas where construction occurs within 100 feet of the water; and**
 - **Spoil sites and other debris areas will be located so they do not drain directly into any body of water. Spoil sites will be graded to reduce the potential for erosion.**
- **During construction, all equipment refueling and maintenance will occur more than 200 feet from the main channel. Any spill within the floodplain and active channel of the Napa River will be reported to the National Marine Fisheries Service (NMFS) within 48 hours.**
- **If the applicant's contractor requires it, they will use vibrational pile driving or padded hammer techniques where possible to prevent acoustic impacts to listed fish species. Where the use of these techniques is not possible, an approved pile driving plan will be submitted to NMFS for approval prior to start of construction. Where possible, the applicant's contractor will comply with the *Interim Criteria for Injury of Fish to Pile Driving Operations* (NMFS 2008):**
 - **The Sound Exposure Level will not exceed 183 decibels for fish under 2 grams and 187 decibels for fish over 2 grams, in any single strike, measured at a distance of 32.8 feet (10 meters) from the source; and**
 - **The peak sound pressure level will not exceed 206 decibels in any single strike, measured at a distance of 32.8 feet (10 meters) from the source.**
 - **If used, pile driving will only occur during daylight hours. Restricted working hours will allow for relaxation periods and movement windows for special-status fish present in the Action Area;**
 - **The number and size of piles will be developed as part of the final design and will be limited to the minimum necessary to meet the engineering and design requirements of the Proposed Action.**
 - **The use of other sound attenuation devices and methods, such as bubble curtains, may be explored if needed to maintain Sound Exposure Levels below the NMFS Interim Criteria (NMFS 2008).**
- **An erosion and sediment control plan will be developed to control short-term and long-term erosion and sedimentation effects and to restore soils**

and vegetation in areas affected by construction activities. The plans will include all the necessary state requirements regarding erosion control and will implement BMPs for erosion and sediment control that will be in place for the duration of construction activities. The following erosion control measures will be included:

- **Install physical erosion control stabilization BMPs (hydroseeding with native seed mix, mulch, silt fencing, fiber rolls, sandbags, and erosion control blankets) to capture sediment and control both wind and water erosion. Erosion control may not utilize plastic monofilament netting or similar materials.**
- **Maintain emergency erosion control supplies on-site at all times during construction for direct contractor(s) to use as needed. Ensure that supplies used from the emergency stockpiles are replaced within 48 hours. Remove materials used in construction of erosion control measures from the work site when no longer needed (property of the contractor).**
- **Design grading to be compatible with adjacent areas and result in minimal disturbance of the terrain and natural land features and minimize erosion in disturbed areas to the extent practicable.**
- **Divert runoff away from steep, denuded slopes or other critical areas with barriers, berms, ditches, or other facilities.**
- **Retain native trees and vegetation to stabilize hillsides, retain moisture, and reduce erosion.**
- **Limit construction, clearing of native vegetation, and disturbance of soils to areas of proven stability.**
- **Implement construction management and scheduling measures to minimize exposure to rainfall events, runoff, or flooding at construction sites.**
- **Conduct frequent site inspections (before and after significant storm events) to ensure that control measures are intact and working properly and to correct problems as needed.**
- **Install drainage control features (*e.g.*, berms and swales, slope drains) as necessary to avoid and minimize erosion.**
- **Install wind erosion control features (*e.g.*, application of hydraulic mulch or bonded fiber matrix).**

- **Prior to the start of ground-disturbing work (including vegetation clearing, grading, and equipment staging), the Project biologist, designated biologist, or other USACE-approved biologist will conduct a mandatory biological awareness training to field management and construction personnel on the importance of protecting sensitive natural resources (*i.e.*, listed species and designated critical and/or suitable habitat for listed species). Training will be conducted during pre-construction meetings so that construction personnel are aware of their responsibilities and the importance of compliance. All trainees will be required to sign a sheet indicating their attendance and completion of environmental training. These requirements also pertain to operations and maintenance personnel working in and adjacent to suitable habitat for listed species.**
- **All Project personnel will be educated on the types of sensitive resources located in the affected areas and the measures required to avoid and minimize effects on these resources. Materials covered in the training program will include environmental rules and regulations applicable to construction activities, requirements for limiting activities to approved work areas, timing restrictions, and avoidance of sensitive resource areas.**

As required by local, state, or federal regulations, the District will require that construction contractors develop a Spill Prevention, Containment, and Countermeasure Plan (SPCC Plan) for implementation at each site where ground-disturbing activities occur. Each SPCC Plan will comply with the regulatory requirements of the Spill Prevention, Control, and Countermeasure Rule (40 CFR Part 112) under the Oil Pollution Act of 1990. This rule regulates non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines. The rule requires the preparation and implementation of site-specific SPCC Plans to prevent and respond to oil discharges that could affect navigable waters. Each SPCC Plan will address actions used to prevent spills in addition to specifying actions that will be taken should any spills occur, including emergency notification procedures.

2. CHANGE the following on **Description of the Proposed Action**, specifically, within Sheets 22 and 23 of Attachment 1 referenced in the fourth paragraph of CHANGE #1 on p. 4 in the November 24, 2009, reinitiation entitled "Figures showing locations of Effects of the Napa River/Napa Creek Flood Reduction Project on Shallow Water Habitat" (pdf pages 36 and 37):

Remove all brown shading on the right (west) bank of map sheets and legend and remove the parenthetical legend notation for that shading reading "(rock to be used so will result in permanent shallow water habitat loss)."

3. CHANGE the following on **Description of the Proposed Action**, specifically, Attachment 2 referenced in the fourth paragraph of CHANGE #1 on p. 4 in the November 24, 2009, reinitiation entitled "Table summary of effects of the Napa River/Napa Creek Flood Reduction Project on Shallow Water Habitat" (pdf page 39):

From:

| CONTRACT AREA | SWH IMPACTED PERM TEMP | | SWH CREATED | SWH ENHANCED | INFORMATION SOURCE ²⁻¹ | SHEET NUMBER |
|------------------------|------------------------|------|-------------|--------------|-----------------------------------|--------------|
| 3/bypass ch-Trancas St | 0.93 ¹¹ | | | | SGDM estimate | 23 |
| TOTALS | 7.56 | 0.52 | 505.52 | 23.45 | | |

To:

| CONTRACT AREA | SWH IMPACTED PERM TEMP | | SWH CREATED | SWH ENHANCED | INFORMATION SOURCE ²⁻¹ | SHEET NUMBER |
|------------------------|------------------------|------|-------------|--------------|-----------------------------------|--------------|
| 3/bypass ch-Trancas St | 0.18 | | | | June 2024 Suppl. BA | |
| TOTALS | 6.81 | 0.52 | 505.52 | 23.45 | | |

4. REPLACE the language on **Status of the Species, Delta Smelt** (April 9, 1999, Biological Opinion pp. 5-8) in entirety, with the following:

Delta Smelt

The status of the species has been updated since the issuance of the April 9, 1999, Biological Opinion. Please refer to the 2022 delta smelt Species Assessment and Listing Priority Assignment Form of the Candidate Notice of Review for the status of the species. Electronic copies of this document are available at https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/publication/4119.pdf (Service 2023).

In December 2021, the Service, along with the California Department of Fish and Wildlife, California Department of Water Resources, and U.S. Bureau of Reclamation, began releasing captively produced delta smelt into the Sacramento-San Joaquin River Delta in an experiment intended to help inform future supplementation of the species in the wild. Experimental release of captively produced, marked delta smelt continued for a third year from November 2023 through January 2024. During this third year a total of 91,468 delta smelt were released over 6 release periods in the Sacramento River at Rio Vista. A small subsample of those marked fish have also been recaptured. A fourth year of experimental release is planned for the winter 2024-2025. Delta smelt abundance is historically low and continues to trend downward with the exception of the brood stock experimentally released fish.

5. DELETE the section on **Status of the Species, Sacramento Splittail** in entirety (April 9, 1999, Biological Opinion pp. 8-10)

6. ADD the following new section to **Status of the Species** (April 9, 1999, Biological Opinion):

Longfin Smelt

The Service listed the longfin smelt DPS as endangered on July 30, 2024 (Service 2024a). For the comprehensive assessment of the longfin smelt DPS, please refer to the proposed listing rule at <https://www.govinfo.gov/content/pkg/FR-2024-07-30/pdf/2024-16380.pdf#page=1> and the *Species Status Assessment for the San Francisco Bay-Delta Distinct Population Segment of the Longfin Smelt* at <https://ecos.fws.gov/ServCat/DownloadFile/253023> (Service 2024b). Critical habitat has not yet been proposed.

7. CHANGE the following in the **INCIDENTAL TAKE STATEMENT, Amount or Extent of Take** (second and third paragraphs, p. 15 of April 9, 1999, Biological Opinion, as modified by p.8 of November 24, 2009, reinitiation):

From:

The Service anticipates that incidental take of delta smelt and splittail will be difficult to detect for the following reasons: the small size of delta smelt and splittail eggs and larvae; their occurrence in aquatic habitat that make them difficult to detect; and the low likelihood of finding dead or impaired specimens. Due to the difficulty in quantifying the number of delta smelt and incidental to the project in terms of acres of habitat that will become suitable for the species as a result of the action. Therefore, the Service estimates that 7.32 acres of brackish emergent marsh, 0.61 acres of tidal mudflats, 0.19 acre of Shaded Riverine Aquatic (SRA) cover, and 8.08 acres of shallow water habitat will become unsuitable as a result of the action. In addition, an unquantifiable number of delta smelt and Sacramento splittail may be killed, harmed, or harassed as a result of the temporary loss of 5 linear feet of suitable delta smelt and Sacramento splittail habitat associated with proposed future maintenance and remediation activities. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the Napa River/Napa Creek Flood Reduction Project in the form 7.32 acres of brackish emergent marsh habitat, 0.61 acre of tidal mudflats, and 0.19 acre of SRA habitat of harm, harassment, or mortality on will become exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of delta smelt and Sacramento splittail will be difficult to detect for the following reasons: the small size of delta smelt and Sacramento splittail eggs and larvae; their occurrence in aquatic habitat that makes them difficult to detect; and the low likelihood of finding dead or impaired specimens. Due to the difficulty in quantifying the number of delta smelt and Sacramento splittail that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project in terms of acres of habitat that will become unsuitable for the species as a result of the action. Therefore, the Service estimates that 300 square feet of shallow water habitat will become unsuitable as a result of the proposed

project. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the project in the form of harm, harassment, or mortality on 300 square feet of shallow water habitat will become exempt from the prohibitions described under section 9 of the Act.

To:

The Service anticipates that incidental take of delta smelt and **longfin smelt** will be difficult to detect for the following reasons: the small size of delta smelt and **longfin smelt** eggs and larvae; their occurrence in aquatic habitat that make them difficult to detect; and the low likelihood of finding dead or impaired specimens. Due to the difficulty in quantifying the number of delta smelt and **longfin smelt** that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project in terms of acres of habitat that will become suitable for the species as a result of the action. Therefore, the Service estimates that 7.32 acres of brackish emergent marsh, 0.61 acres of tidal mudflats, 0.19 acre of Shaded Riverine Aquatic (SRA) cover, and **7.33** acres of shallow water habitat will become unsuitable as a result of the action. In addition, an unquantifiable number of delta smelt and **longfin smelt** may be killed, harmed, or harassed as a result of the temporary loss of 5 linear feet of suitable delta smelt and **longfin smelt** habitat associated with proposed future maintenance and remediation activities. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the Napa River/Napa Creek Flood Reduction Project in the form 7.32 acres of brackish emergent marsh habitat, 0.61 acre of tidal mudflats, 0.19 acre of SRA habitat, and **7.33 acres of shallow water habitat** of harm, harassment, or mortality on will become exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of delta smelt and **longfin smelt** will be difficult to detect for the following reasons: the small size of delta smelt and **longfin smelt** eggs and larvae; their occurrence in aquatic habitat that makes them difficult to detect; and the low likelihood of finding dead or impaired specimens. Due to the difficulty in quantifying the number of delta smelt and **longfin smelt** that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project in terms of acres of habitat that will become unsuitable for the species as a result of the action. Therefore, the Service estimates that 300 square feet of shallow water habitat will become unsuitable as a result of the proposed project. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented. Upon implementation of the following reasonable and prudent measures, incidental take associated with the project in the form of harm, harassment, or mortality on 300 square feet of shallow water habitat will become exempt from the prohibitions described under section 9 of the Act.

8. ADD the following to follow the last paragraph of the **Effects of the Proposed Action** (April 9, 1999, Biological Opinion, p. 14):

Longfin Smelt

Like delta smelt, longfin smelt is a demersal species which migrates a short distance in early winter to spring to spawn in low salinity. This includes tidal areas of the lower portions of Bay area tributaries, including the Napa River and the proposed project area. Sampling over the last decade has verified the presence of longfin smelt in the project area and other tributaries west of the Delta, although the distribution of the species varies between years and with water year type (Parker et al. 2017). Growth and survival depend on outflow, temperature, food, and other factors. Habitat alteration such as with the use of rock rip rap placement as part of the proposed project can incrementally adversely affect the quality of spawning or rearing habitat for the species. Creation and enhancement of floodplain habitats in the low salinity zone (emergent brackish marsh, SRA cover, mudflat), such as what already has been done in substantial areas of the lower Napa River that are part of the project, will benefit longfin smelt for the same reasons described above for delta smelt.

Recently proposed project changes avoid an increment of habitat modification within shallow water habitat usable by longfin smelt that had been previously planned. Specifically, the previously estimated 0.93 acre of riprap placement within shallow water habitat upstream of the dry bypass will now be no more than 0.18 acre, to take place only around piers under the Lincoln Street bridge. The benefits of the overall project on shallow water habitat, previously estimated at 505.52 acres creation and 23.45 acres of enhancement and the construction for which is now substantially completed, greatly exceed the 6.81 acres of impact, including those remaining upstream of the dry bypass.

9. CHANGE the **Conclusion** (April 9, 1999, Biological Opinion p. 14):

From:

After reviewing the current status of the salt marsh harvest mouse, delta smelt, and splittail, the environmental baseline, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the proposed Napa River/Napa Creek Flood Reduction Project is not likely to jeopardize the continued existence of the harvest mouse, delta smelt, and splittail.

To:

After reviewing the current *Status of Species* for the harvest mouse, delta smelt, and longfin smelt, the *Environmental Baseline* for the Action Area, the *Effects of the Proposed Action*, and the *Cumulative Effects*, it is the Service's biological opinion that the Napa River/Napa Creek Flood Reduction Project, as proposed, is not likely to jeopardize the continued existence of the harvest mouse, delta smelt, and longfin smelt. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the

species based on the following: (1) limited direct effects on listed species habitats from construction; (2) the likelihood that the proposed avoidance and minimization measures will substantially avoid effects on the species themselves; and (3) substantial net benefits to the species in the form of creation and enhancement of listed species habitats that greatly exceed the direct effects on such habitats.

10. CHANGE the **Reasonable and Prudent Measures** (April 9, 1999, Biological Opinion, p. 16):

From:

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the harvest mouse, delta smelt, and splittail:

1. The potential for harassment, harm, injury and mortality to the harvest mouse, delta smelt and splittail shall be minimized.

To:

All necessary and appropriate measures to avoid or minimize effects on the harvest mouse, delta smelt, and longfin smelt resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the harvest mouse, delta smelt, and longfin smelt:

All conservation measures, as described in the biological assessment and restated here in the Project Description section of this biological opinion as well as those in the June 2024 supplemental biological assessment, shall be fully implemented and adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

11. CHANGE the following in **Terms and Conditions** (April 9, 1999, Biological Opinion, p. 17):

From:

11. Any spills of hazardous materials within delta smelt habitat shall be cleaned up immediately. Such spills shall be reported in post-construction compliance reports.

To:

11. Any spills of hazardous materials within delta smelt **and longfin smelt** habitat shall be cleaned up immediately. Such spills shall be reported in post-construction compliance reports.

12. ADD the following to citations to the **Literature Cited** (April 9, 1999, Biological Opinion):

National Marine Fisheries Service (NMFS). 2008. Interim Criteria for Injury of Fish to Pile Driving Operations, a White Paper. Issued May 15, 2006.

Parker, C., L. Lewis, A. Barrus, M. Willmes, M. Bisson, and J. A. Hobbs. 2017. Longfin Smelt Distribution: Abundance and Evidence of Spawning in San Francisco Bay Tributaries. Unpublished Poster Presentation. Department of Wildlife Fish and Conservation Biology, University of California, Davis. Available on the Internet at: chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://www.ogfishlab.com/wp-content/uploads/2017/10/Parker_SoE_2017_Final.pdf

(Service) U.S. Fish and Wildlife Service. 2023. Species Assessment and Listing Priority Assignment Form of the Candidate Notice of Review. U.S. Fish and Wildlife Service. San Francisco Bay-Delta Fish and Wildlife Office, Sacramento, California. 54 pp. https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/publication/4119.pdf

_____. 2024a. Endangered and Threatened Wildlife and Plants; Endangered Species Status for the San Francisco Bay-Delta Distinct Population Segment of the Longfin Smelt. Federal Register Vol. 89, No. 146: 61029 - 61049. https://www.govinfo.gov/content/pkg/FR-2024-07-30/pdf/2024-16380.pdf#page=1

_____. 2024b. Species Status Assessment for the San Francisco Bay-Delta Distinct Population Segment of the Longfin Smelt. Version 2.0. U.S. Fish and Wildlife Service. San Francisco Bay-Delta Fish and Wildlife Office, Sacramento, California. 105 pp. + Appendices A-E. https://ecos.fws.gov/ServCat/DownloadFile/253023

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Napa River/Napa Creek Flood Protection Project. As provided in 50 CFR §402.16,

(a) Reinitiation of consultation is required and shall be requested by the Federal agency, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

(1) If the amount or extent of taking specified in the incidental take statement is exceeded;

(2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

(3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or

(4) If a new species is listed or critical habitat designated that may be affected by the identified action.

(b) An agency shall not be required to reinitiate consultation after the approval of a land management plan prepared pursuant to 43 U.S.C. 1712 or 16 U.S.C. 1604 upon listing of a new species or designation of new critical habitat if the land management plan has been adopted by the agency as of the date of listing or designation, provided that any authorized actions that may affect the newly listed species or designated critical habitat will be addressed through a separate action-specific consultation. This exception to reinitiation of consultation shall not apply to those land management plans prepared pursuant to 16 U.S.C. 1604 if:

(1) Fifteen years have passed since the date the agency adopted the land management plan prepared pursuant to 16 U.S.C. 1604; and

(2) Five years have passed since the enactment of Public Law 115-141 [March 23, 2018] or the date of the listing of a species or the designation of critical habitat, whichever is later.

If you have any questions regarding this reinitiation, please contact Steven Schoenberg of my staff at (916) 930-5672 or at Steven_Schoenberg@fws.gov, or Stephanie Millsap at (916) 930-2658 or at Stephanie_Millsap@fws.gov.

Sincerely,

**DONALD
RATCLIFF**

Digitally signed
by DONALD
RATCLIFF
Date: 2024.11.26
11:21:33 -08'00'

Donald Ratcliff
Field Supervisor

cc:

Dave Fluesch, Corps of Engineers, Sacramento, CA
Darren Howe, National Marine Fisheries Service, Sacramento, CA
Melanie Day, California Department of Fish and Wildlife, Sacramento, CA
Nicholas Magnuson, California Department of Fish and Wildlife, Stockton, CA
Jeremy Sarrow, Napa County Flood Control and Water Conservation District, Napa, CA

From: [Sarrow, Jeremy](#)
To: [David.W.Fluetsch](#)
Cc: [miranda.s.doutch](#); [Fisher, Linda](#); [Tannourji, Danielle](#)
Subject: RE: [Non-DoD Source] Re: NAPA Flood Project- NMFS Review
Date: Monday, October 21, 2024 9:43:33 AM

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

That's great news that NMFS completed their review of the revised project with the Corps and determined that the minor revisions do not warrant reinitiation of consultation and as you mentioned I think we are close to also closing the loop with USFWS.

Thanks for the update and keep me posted re: USFWS.

Cheers,

Jeremy Sarrow

Watershed and Flood Control Operations Manager
Napa County Flood Control & Water Conservation District
804 First Street, Napa, CA 94559
p: (707) 259-8204

From: Fluetsch, David W CIV USARMY CESPK (USA) <David.W.Fluetsch@usace.army.mil>
Sent: Monday, October 21, 2024 9:20 AM
To: Sarrow, Jeremy <Jeremy.Sarrow@countyofnapa.org>
Cc: Doutch, Miranda S CIV USARMY CESPK (USA) <Miranda.S.Doutch@usace.army.mil>; Fisher, Linda <Linda.Fisher@hdrinc.com>; Tannourji, Danielle <Danielle.Tannourji@hdrinc.com>
Subject: FW: [Non-DoD Source] Re: NAPA Flood Project- NMFS Review

[External Email - Use Caution]

Hi Jeremy,

I was on leave last week when NMFS responded positively to the Napa River BA and subsequent request to retract the consultation request. So this loop is now closed with NMFS.

I see that Steve Schoenberg submitted a draft amended BO from USFWS. I'll respond to that this week.

V/r,
Dave

David Fluetsch
Environmental Manager
U.S. Army Corps of Engineers, Sacramento District
Cell: 916-708-9496

From: Darren Howe - NOAA Federal <darren.howe@noaa.gov>
Sent: Wednesday, October 16, 2024 1:34 PM
To: Ha, PECK-LEONG E CIV USARMY CESPK (USA) <Peck.Ha@usace.army.mil>; Fluetsch, David W CIV USARMY CESPK (USA) <David.W.Fluetsch@usace.army.mil>; Harper, Marshall Kevin CIV USARMY CESPK (USA) <Marshall.K.Harper@usace.army.mil>
Cc: Brian Meux - NOAA Federal <brian.meux@noaa.gov>
Subject: [Non-DoD Source] Re: NAPA Flood Project- NMFS Review

Hi Peck, David, and Kevin,

Apologies for the long-delayed response; the reason for which was due to workload and procedural nuances. Regarding the former, the San Francisco Bay Branch is down a few positions at the moment, and is working through a backlog of projects. Regarding the latter, we don't technically *concur* with an action agency's determinations of no reinitiation needed or no effect, as action agencies aren't required to ask for our concurrence with such determinations. So, working quickly, Brian and I took your 9/19/24 email to be sufficient for the record, filed it, and moved on to the next thing. Apologies for any miscommunication.

All that said, we can confirm that your message is consistent with our previous coordination and consultation for this project and that we have no questions or concerns regarding the Corps' determination that these minor revisions do not warrant reinitiation of consultation. Also, per your request, we remain available for ongoing technical assistance during project implementation.

Thank you for the coordination. Feel free to reach out with any questions.

Regards,
Darren

On Fri, Oct 11, 2024 at 4:21 PM Brian Meux - NOAA Federal <brian.meux@noaa.gov> wrote:

Hi Peck,
Thank you for this, I'm the biologist assigned to this review. We are backlogged with a heavy workload and this project is still in process. Definitely high on the list, and will let you know when we have any developments.
Thanks,
Brian

Brian M. Meux
Fisheries Biologist
tel: 707-575-1253
brian.meux@noaa.gov

777 Sonoma Ave. Room 325
Santa Rosa, CA 95404
[West Coast Regional Office](#)

On Fri, Oct 11, 2024 at 1:48 PM Ha, PECK-LEONG E CIV USARMY CESPCK (USA)
<Peck.Ha@usace.army.mil> wrote:

Darren and Brian,
My apology that the local agency (Napa County) has reached out to you directly. We will
remind them of the appropriate coordinate/communication route.

Peck Ha
Environmental Planning Section
Supervisor, CESPCK-PDR-P
U.S. Army Corps of Engineers, Sacramento District
1325 J Street, Room 1061
Sacramento, California 95814
(916) 557-6617

From: Sarrow, Jeremy <Jeremy.Sarrow@countyofnapa.org>
Sent: Friday, October 11, 2024 9:46 AM
To: Harper, Marshall Kevin CIV USARMY CESPCK (USA) <Marshall.K.Harper@usace.army.mil>;
Darren Howe - NOAA Federal <Darren.Howe@noaa.gov>; brian.meux@noaa.gov
Cc: Fluetsch, David W CIV USARMY CESPCK (USA) <David.W.Fluetsch@usace.army.mil>; Ha,
PECK-LEONG E CIV USARMY CESPCK (USA) <Peck.Ha@usace.army.mil>
Subject: [Non-DoD Source] RE: NAPA Flood Project- NMFS Review

Greetings Darren and Brian and I hope you are both doing well.

Checking in to confirm your receipt of the request for concurrence below from Kevin at the
Corps.

Let us know if you have any questions and if there is anything we can do at this juncture to help
advance this topic.

Cheers,

Jeremy Sarrow
Watershed and Flood Control Operations Manager
Napa County Flood Control & Water Conservation District
804 First Street, Napa, CA 94559
p: (707) 259-8204

From: Harper, Marshall Kevin CIV USARMY CESPK (USA) <Marshall.K.Harper@usace.army.mil>
Sent: Thursday, September 19, 2024 9:18 AM
To: Darren Howe - NOAA Federal <Darren.Howe@noaa.gov>; brian.meux@noaa.gov
Cc: Sarrow, Jeremy <Jeremy.Sarrow@countyofnapa.org>; Fluetsch, David W CIV USARMY CESPK (USA) <David.W.Fluetsch@usace.army.mil>; Ha, PECK-LEONG E CIV USARMY CESPK (USA) <Peck.Ha@usace.army.mil>
Subject: NAPA Flood Project- NMFS Review

[External Email - Use Caution]

Hello Darren and Brian,

Thanks for recently meeting with the Napa River team and for suggesting the possibility of simply updating the USACE and NMFS files regarding design revisions to the Napa River/Napa Creek Flood Protection Project and consequently avoid reinitiating consultation.

USACE reviewed the original project description and design plans contained within Napa River/Napa Creek Flood Protection Project Biological Opinion (NMFS 1998), the Supplemental Biological Opinion (NMFS 2000), and the FSEIS/EIR (USACE and District 1999) and compared them to the revised proposed project description and design plans for the Napa River/Napa Creek Flood Protection Project– Floodwalls North of the Bypass (Project) presented in the Biological Assessment sent to your office in July 2024. The original project description proposed a combination of levees and floodwalls along the Project alignment north of the Oxbow Bypass in addition to bank and channel-wide RSP reinforcement under the Lincoln Ave. Bridge. The current proposed Project description has removed the need for levees and instead now includes only a floodwall setback from the top of bank and riparian zone and has minimized the use of RSP reinforcement to only the immediate area around the existing Lincoln Ave. Bridge abutments and piers; substantially decreasing the Project effects to listed fish species and their habitats than that which was previously designed and analyzed in the 1998 and 2000 BiOps. With no changes to the status of the covered species and no new or increased effects as analyzed in the original and supplemental BiOps for this Project, and after further discussion with NMFS, USACE now concludes that re-initiation under Section 7 of FESA is not necessary for the Napa River/Napa Creek Flood Protection Project – Floodwalls North of the Bypass. USACE would like to request concurrence from the office of National Marine Fisheries Service on this approach and continued technical assistance via email on this Project matter.

Please let us know if you have any questions.

Have a good day. Kevin

Kevin Harper

Chief, Environmental Resources Branch
Planning Division
U. S. Army Corps of Engineers, Sacramento District
Mobile: 602-315-3225
Office: 916-557-5328
marshall.k.harper@usace.army.mil

--

Darren Howe

he/him/his ([why is this important?](#))

San Francisco Bay Branch Supervisor

NOAA Fisheries West Coast Region

California Coastal Office

777 Sonoma Ave., Room 325

Santa Rosa, CA 95404

(707) 575-3152



Appendix H. 1997 Clean Water Act 404(b)(1) Analysis for the Napa River/Napa Creek Flood Protection Project

Note: Some pages are a lower resolution due to age of scanned files. Higher resolution files are available upon request.

**Federal Clean Water Act
Section 404 (b)(1) Analysis
Napa River/Napa Creek Flood Protection Project
Napa, California**

U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814

December 1997

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III. FINDING OF COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

I. PROJECT DESCRIPTION

The proposed *Napa River/Napa Creek Flood Protection Project* aims to provide flood protection by reconnecting the Napa River to its flood plain, creating wetlands throughout the area, maintaining fish and wildlife habitats, and retaining the natural characteristics of the river. It would provide most of the city of Napa between Trancas Street and Imola Avenue with a 100-year level of flood protection.

The preferred plan would be implemented along approximately 6.9 miles of the Napa River and includes dike removal, channel modifications, levees and floodwalls, bridge relocations, pump stations and maintenance roads/recreation trails for the reach of the Napa River from Highway 29 to Trancas Street. The plan also includes approximately two-thirds of a mile of channel modifications for Napa Creek. Flood management features include: one-side overbank excavation, bank erosion protection, a “dry” bypass channel, bridges, levees, floodwalls, and vertical walls to contain flood flows up to the 100-year event. The plan also includes pump stations, utility relocations and building removals, maintenance roads, recreation trails and aesthetic features.

The flood protection plan also involves the removal of material from, and placement of fill into, waters of the United States. In accordance with Section 404(b)(1) of the Federal Clean Water Act (33 U.S.C. 1344), and other pertinent laws and regulations, the placement of dredged or fill materials below ordinary high waters of the United States or their associated wetlands requires an evaluation of water quality considerations associated with the action.

This evaluation was accomplished to meet Federal regulations as stated above, and qualify the project for obtaining a water quality certificate from the State of California, as set forth in Section 401 of the Clean Water Act. State water quality certification requires the district commander to accomplish the following three tasks:

- (1) *Complete an evaluation of the effects of the proposed discharge or fill consistent with the Section 404(b)(1) Guidelines;*
- (2) *Issue a public notice, with opportunity for public hearings for the proposed discharge, including or referencing the preliminary Section 404(b)(1) evaluation; and,*
- (3) *Obtain certification, including any required conditions, from the State or interstate water pollution control agency that the proposed action is in compliance with established effluent limitations and water quality standards. If the State in question has assumed responsibilities for the 404 regulatory program, a State 404 permit shall be obtained, if applicable which will serve as the certification of compliance. District*

commanders shall provide the State with necessary detailed information it may need to issue the water quality certification.

A. Location. The study area is located on the Napa River in the city of Napa, California. Napa is located in northern California, approximately 35 miles north-northeast of San Francisco. The Napa River originates near Mount St. Helena and empties into the Mare Island Strait north of San Pablo Bay. The Napa River is navigable from San Pablo Bay to Third Street in downtown Napa. The river is sinuous throughout its course, and has a large oxbow area within the city of Napa. Tidal waters can extend through downtown Napa to Trancas Street, which is the upstream limit of the flood control project. Napa Creek is a tributary to Napa River, and discharges through a narrow, meandering channel into the Napa River south of the oxbow area. Construction activities along the Napa River are proposed to begin at Trancas Street, extend downstream through downtown Napa, and end at Kennedy Park.

B. General Description. The U.S. Army Corps of Engineers, with the Napa County Flood Control and Water Conservation District, proposes to reduce damages from flooding along Napa River and Napa Creek by a variety of structural and non-structural measures in an attempt to control a 100-year flood event in the most environmental, economic and esthetic manner, beginning construction in the year 2000. The proposed plan includes approximately 6.9 miles of channel modifications along Napa River, and two-thirds of a mile of modifications within Napa Creek. A detailed project description of the preferred plan can be found in Chapter 2 of the Napa River/Napa Creek Draft Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR), dated December 1997.

C. Authorization and Purpose. Construction of local flood protection measures along the Napa River, in the vicinity of downtown Napa and extending downstream to Edgerley Island, was authorized by the Flood Control Act of 1965, Public Law 89-298 as approved 27 October 1965. Napa Creek was added to the project authorization by the Flood Control Act of 1976, Public Law 94-587 as approved in October 1976.

The purpose of the proposed project is to provide an economically feasible and environmentally sensitive method to protect the city and county of Napa from periodic flooding. (The development of recreational facilities in coordination with flood protection is an additional project purpose.) The existing natural drainage system is not sufficient to adequately prevent extensive flooding and associated property damage in the project area. The project is to provide protection from the computed 100-year storm event in most of the city of Napa.

D. General Description of Dredged and Fill Materials.

Dredged (Excavated) Materials. In the reach from approximately Kennedy Park to the north end of the oxbow, the proposed plan includes approximately 1,730,000 cubic yards of soil excavation, of which none will be hydraulically dredged. Material below elevation +0.67 feet would not be excavated; however, material above elevation +0.67 feet will be removed by conventional dry excavation methods. Channel deposits consist almost entirely of well-sorted gravel and sand and silt. Subsurface materials consist of clay, silty clay and sandy clay underlain by sand and sandy gravel. Consistency of the clay ranges from medium-stiff (upper reach) to soft (lower reach), and the granular materials are usually loose.

Fill Materials. The proposed plan includes measures requiring the placement of fill materials below ordinary high water. These measures include: toe bank protection from Imola Avenue to the oxbow; eight new bridges; two near-vertical walls; a grade control structure on Napa Creek; and bridge fortification at Lincoln Avenue. Thus, fill materials in the form of rock, vegetation, and concrete would be placed within the waters of Napa River and Napa Creek. Materials will be obtained from commercial vendors.

Toe bank protection is necessary in a number of spots from Imola Avenue to the oxbow for purposes of controlling erosion and stabilization of the bank. A total of eight different bank stabilization treatments would be used along the Napa River. These treatments, and their proposed locations, are described in the SEIS/EIR (Chapter 2). However, only four of these treatments utilize any materials as fill below the mean higher water levels (approximately +4 elevation). Figures 2-9 through 2-21 of the SEIS/EIR illustrate the treatment methods for bank stabilization.

Near-vertical walls are proposed to provide flood protection along the west bank of the Napa River channel upstream of the Hatt Building to Veteran's Park. There are two different wall heights for the Hatt Building protection. The low cantilever wall, with an 8.5' unsupported height, is approximately 580 feet long and extends downstream from the Hatt Building. The high cantilever wall, with a 14' unsupported height, is approximately 1,000 feet long. All walls will have architectural facing utilizing precast concrete panels and concrete facing elements.

A total of six new roadway bridges and two pedestrian bridges will be constructed for the flood protection project. Two new prefabricated pedestrian foot bridges will be placed over small creeks in the project area to serve as connectors to the proposed recreation trail. Each of the pedestrian bridges has a prefabricated steel truss superstructure, span approximately 100 feet in length and 20 feet in width, and are supported by pier wall on both ends on continuous footing. The bridge decks consist of cast-in-place concrete. Four other bridges will have superstructures of concrete box

girder type construction. These three bridges will be supported by concrete columns, and all elements of the substructures will be founded on concrete pile supported footings. One of the bridges is a new railroad bridge, and its approaches will be supported on earth embankment.

Proposed channel modifications on Napa Creek include a grade control structure, which will be constructed to allow all fish to easily pass back and forth, and will not act as a barrier. The structure will be located between Station 40+00 and 41+00 (near Jefferson Street) (see Figure 2-6 of the SEIS/EIR). The structure will have the design of a pool and riffle environment. Large boulders and rootwads will be incorporated into the design to improve the aquatic habitat.

In-stream habitat complexity is created by a gradation of water depth from bank to bank which forms areas of shallow, moderate and deep water. Complexity is also created from the presence of in-stream structures such as tree roots, logs, boulders and overhanging banks.

E. Description of the Proposed Discharge and Fill Sites.

Discharge Sites. The plan would require removal of about 1.7 million cubic yards of soil for creation of the proposed terraces and the dry-pass. Of this, about 450,000 cubic yards would be excavated on the west side of the river south of Imola Avenue, while 1.25 million cubic yards would be excavated from the east side of the river and the dry bypass. This material would be placed on several sites, which are numbered and depicted in Figure 2-17 of the DEIS/EIR. Disposal sites need to be located on both sides of the river, since it is not cost effective to transport material from one side of the river to the other.

Material excavated on the west side of the river would be placed on two sites along the river totaling about 80 acres.

Seven potential sites for material disposal along the east side of the river have been identified. Together, these sites appear to have the capacity to accommodate 730,000 cubic yards of soil.

The remaining material would be disposed at the Syar Quarry, which is located in the hills above the Napa River about two miles east of the project area. A private haul road serving the quarry extends from the river, under Soscol Avenue (Highway 221) and to the quarry; this road would be used for hauling material. The material would be placed in areas where the rock deposit is marginal and quarrying is not cost effective. According to Syar staff, the quarry has the capacity to easily accommodate up to 1 million cubic yards of soil.

Some of the proposed disposal sites on the east side of the Napa River may contain jurisdictional wetlands. The Corps of Engineers is currently working with the US Environmental Protection Agency and other appropriate agencies to identify any wetlands on the disposal sites. Any wetland areas would be eliminated from consideration or properly mitigated for use as disposal sites. If sites are eliminated, then the remaining material would be disposed at the Syar Quarry utilizing the excess available capacity.

If a disposal site or part of a disposal site is determined to include jurisdictional wetlands, the least damaging practicable alternative shall be implemented while taking into account cost, logistics and technical feasibility. Unavoidable impacts to wetlands will be mitigated to ensure no net loss of habitat function. In considering mitigation alternatives, the following will be considered:

- Identified jurisdiction wetlands should be avoided completely and the excavated materials will be disposed of at another acceptable site; or
- The amount of wetland which would be impacted should be determined, and the project plans will be consulted to ensure that the lost wetlands will be mitigated with in-kind replacement of wetland value. If the project as proposed includes inadequate in-kind replacement, then additional wetland habitat will be developed.

Fill Sites. Toe bank protection with rock below the higher high water level is proposed along a total of 6,500 linear feet for the entire project alternative: along the west bank from Elm Street/Riverside Drive to the Hatt Building, two isolated areas along the west bank near the Tannery Row area, and along the east bank within the oxbow. All rock placement would be below elevation -1.5 feet, and excavation work would be done above elevation +0.67 feet throughout the project area. The only exception to this would be in the oxbow area, where rock will be placed from just below the high-water mark (approximately +4 feet) down to the channel invert.

Near-vertical walls are proposed along the west bank of the river channel near the Hatt Building in downtown Napa. The dry bypass channel, 1,400 feet in length with a 100 foot channel bottom width, would be located in downtown Napa at the river's oxbow. The Third Street bridge will be replaced, and new bridges are planned at Soscal Avenue, First Street, and for the Napa Valley Wine Train. Recreation pedestrian bridges are planned for Old Tulocay Creek and New Tulocay Creek. Channel modifications on Napa Creek include: 100 feet of grade control structure near Jefferson Street; dry bypass culverts; and excavation above the higher high water level on the north side of Napa Creek from approximately Brown Street to Seminary Street.

F. Description of Disposal and Fill Methods. No dredging will be necessary with the proposed plan. Dry material removed from elevation +0.67 and above will not be disposed of in waters of the United States.

Most concrete work will be cast-in-place and will require formwork. Some bridge girders will be pre-cast. Interlocking steel members will be driven by drop or with vibratory hammers. Placement of walls around the Hatt Building may require waterside placement from a barge.

II. FACTUAL DETERMINATIONS

There is likely potential for some adverse impacts to water quality during the construction phase of the project due to an increase in suspended sediments during in-channel work. These *de minimus* effects shall be mitigated by the use of Best Management Practices (BMP's) for operations, and by measures that the Corps and local sponsors will have to follow in compliance with the State Regional Water Quality Control Board's certification and waste discharge requirements under §401 of the Clean Water Act.

A. Physical Substrate Determinations.

(1) *Substrate Elevation and Slope.* The Napa River flows southeasterly through the Napa Valley into Carniquez Strait, which connects San Pablo and Suisun Bays. The valley floor is about 400 feet above mean sea level near Calistoga and 20 feet above MSL in Napa, a distance of about 25 miles. The slope of the river is about 18 feet per mile near Calistoga and about 1.5 feet per mile below Napa. The project features no deepening of the channel bottom, and does not affect the slope or elevation. The project assumes that existing dredging will be continued on a regular basis for maintenance of the Napa River as a viable navigation channel.

(2) *Sediment Type.* Channel deposits consist almost entirely of well-sorted gravel and sand and silt. Subsurface materials consist of clay, silty clay and sandy clay underlain by sand and sandy gravel. Consistency of the clay ranges from medium-stiff (upper reach) to soft (lower reach), and the granular materials are usually loose. There is no anticipated change in the type of sediment from construction of the project.

The project reach has aggradation problems under existing conditions, as manifested by the need for regular and periodic maintenance dredging of the navigation channel. The need for maintenance dredging is likely to continue under project conditions unless upstream sediment supply is reduced significantly.

(3) *Dredged/Fill Material Movement.* It is predicted that the project would result in annual average accretion rates over 50 mm per year (2 inches per year) in isolated locations in the project reach: at the upstream end of the east marshplain terrace just above Third Street; and in two spots for the west floodplain south of the marinas.

Additionally, several areas would exhibit significant bed degradation and aggradation after significant storm events.

Channel slopes susceptible to erosion will be stabilized with a biotechnical approach. Toe bank protection (rock, topsoil, willow cuttings, root wads, lunkers and vegetation) with slopes ranging from 2.5 H:1V to 3H:1V should minimize erosion from flood flows, tide fluctuation, wave and wind action, and storm runoff. The design of the bank protection will also aid in quickly establishing vegetation on the channel banks, thereby curbing further degradation and lateral displacement.

(4) *Physical Effects on Benthos.* Construction may contribute to displacement and/or direct burial of the benthic community.

(5) *Other Effects.* Due to the inertness of the fill materials, there would be no exchange of constituents between the fill and aquatic systems.

(6) *Actions Taken to Minimize Impacts.* Fill material would only be placed where it is needed for flood protection measures and bank stabilization, and would be confined to the smallest practicable area. The use of willow cuttings, root wads, and other biotechnical features with the toe rock protection will aid in quickly establishing vegetation on the channel banks, thereby curbing further degradation and lateral displacement. Construction within the river and creek is scheduled for the drier periods of the year (May through November) when the least amount of water is in the system, and there is less likelihood of rain or flood events.

Furthermore, the following mitigation measures from the SEIS/EIR are included here:

“HYDRO-1a: A performance maintenance program will be implemented to minimize or eliminate maintenance dredging and vegetation removal, and to maximize the opportunity for restored tidal and riparian ecosystems to evolve. As part of the performance maintenance program, a monitoring program will be implemented to collect hydrodynamic, sediment transport and morphological data that can be used to improve the predictive capabilities of available models. Areas that exhibit significant bed degradation or aggradation will be monitored as part of the performance maintenance program that includes periodic collection of surveyed channel cross-sections at least every two years.

HYDRO-1b: Areas that are found through monitoring to exhibit significant bed degradation will be given additional bank stability measures. These measures will be developed in conjunction with resource agency staff to ensure that they do not create avoidable environmental impacts.

HYDRO-1c: Areas that exhibit significant bed aggradation may require localized maintenance dredging. However, dredging will be only be employed if it is found to be absolutely necessary, and if approved through consultation with resource agency staff to ensure that it does not create avoidable environmental impacts.”

B. Water Circulation, Fluctuation and Salinity Determinations. A numerical water quality study for the project was conducted at the U.S. Army Engineer Waterways Experiment Station (WES). The objective of the 1997 WES study was to compare dissolved oxygen and other water quality variables between existing and project conditions along the Napa River. A two-dimensional hydrodynamic and water quality model (CE-QUAL-W2) was selected for the study. Constituents simulated included temperature, total suspended solids (TSS), salinity, dissolved oxygen (DO), and biochemical oxygen demand (BOD) (WES 1997). Results of the 1997 WES study can be found in the appendix to the SEIS/EIR, and include the following summarizations:

- Temperatures between existing and project conditions were equivalent except for an increase of less than 1.0 °C;
- TSS and salinity comparisons revealed no differences; and
- DO comparison revealed a maximum DO decrease of less than 1 mg/L in the project reach, and an average maximum decrease in DO following project implementation of less than 0.5 mg/L.

During construction, water circulation will be altered in order to de-water specific segments of the project for excavation above elevation +0.67 and placement of fill. The completed project will permanently alter circulation during flood events, diverting up to 50% of the flow in Napa River at one point into a newly constructed oxbow bypass channel. No flow would be diverted during low flow periods.

(1) *Water.*

a) Salinity. The project is not expected to affect water salinity. Tidal influence can currently be noticed as far upstream as Trancas Street, the upstream end of the project. The level of TDS (total dissolved solids, an indicator of salinity) can fall to zero for several months during the wet seasons of winter and early spring. Conversely, during the dry summer months, the TDS at Third Street is only a few thousand milligrams per liter less than at the significantly downstream Napa-Solano

County line. Corps models indicate no differences in average salinity levels in the river due to construction of the project.

b) Water Chemistry. The project is not expected to affect water chemistry (i.e. pH).

c) Clarity. Turbidity will occur during construction. Thus, there is expected to be a short-term decrease in water clarity. This is seen as a minor impact, as the existing condition is already poor to marginal.

d) Color. The project is not expected to affect color.

e) Odor. The project is not expected to affect odor.

f) Taste. The project is not expected to affect taste.

g) Dissolved Gas Levels. DO comparison revealed a maximum DO decrease of less than 1 mg/L in the project reach, and an average maximum decrease in DO following project implementation of less than 0.5 mg/L.

The hypothesized explanation for the projected DO decrease is the increased residence time in some of the project reaches. Longer residence time increased the exertion of SOD (sediment oxygen demand) on the DO concentration of the overlying water column. As part of a geomorphically-based plan, creation of the tidal terrace (or marshplain) is one necessary and important component. However, this widening of the tidal zone increases the areas of shallow water, which lowers velocities in the tidal zone, increases the benthic community, and increases the residence time.

h) Nutrients. Short-term effects upon nutrient loading (i.e. nitrates and phosphates) in Napa River and Napa Creek will occur where vegetation is removed. Vegetation removal would slightly and temporarily reduce the supply of nutrients available from leaf litter and invertebrates associated with woody riparian habitat. All removed vegetation along the banks will be mitigated and replaced at a greater ratio.

i) Eutrophication. The project is not expected to affect eutrophication. The slope of channel will not be changed. Increased exposure to solar radiation and localized increases in temperature would be very minor, if at all. Therefore, it is unlikely that Napa River or Napa Creek would become eutrophic.

j) Others as appropriate. The project is not expected to affect other water characteristics.

(2) *Current Patterns and Circulation.*

a) *Current Patterns and Flow.* During construction, water circulation will be altered in order to de-water specific segments of the project for excavation above elevation +0.67 and for placement of fill. The completed project will permanently alter the pattern of water flow and circulation, diverting flows at the oxbow through the newly created dry bypass from the 2-year event up to the 100-year event. Approximately 50 percent of the flow in Napa River oxbow area during the 100-year flood event is diverted into the bypass channel. No flow would be diverted during low flow periods.

b) *Velocity.* Widening of the tidal zone (*i.e.*, marshplain terrace) increases the areas of shallow water, which could lower velocities in the tidal zone. No significant change in velocities is expected upstream of the oxbow region, or in the main part of the channel, or in Napa Creek.

c) *Stratification.* The project is not expected to significantly affect stratification.

d) *Hydrologic Regime.* The hydrologic regime would be specifically modified to improve flood protection in the study area. High flows would be held with existing and modified setback levees, constructed floodwalls and the creation of the marshplain and floodplain terraces. Containment of high level flows will isolate the floodplain within the downtown urban area. Open floodplain areas that have historically retained natural high waters and floodwaters will continue to serve in that capacity.

(3) *Normal Water Level Fluctuations.* The project is not expected to change normal water level fluctuations.

(4) *Salinity Gradients.* Salinity gradients form where the salt water (from the ocean) meets and mixes with fresh water (from the land). The project area of the Napa River is dynamic in that salinity levels vary from year-to-year and month-to-month, depending on the outflow of freshwater down the river. During the wet winter months, the amount of freshwater in the system moves the existing gradient well downstream of the project area. Conversely, the gradient can be noticed as far north as Trancas Street during the summer months. With the proposed project, salinity concentrations are not anticipated to change.

(5) *Actions Taken to Minimize Impacts.* Anticipated impacts on hydrology and water circulation are considered necessary since the purpose of the proposed project is to increase flood protection in the Napa area. All removed vegetation along the banks will be mitigated and replaced at a greater ratio. Deepening and widening of the channel bottom have been avoided; instead, creation of marshplain and

floodplain terraces, along with a dry bypass channel in the oxbow region, will allow more natural processes to occur.

C. Suspended Particulate and Turbidity Determinations.

(1) *Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Discharge and Fill Locations.* The project reach has aggradation problems under existing conditions, as manifested by the need for regular and periodic maintenance dredging of the navigation channel. The need for maintenance dredging will likely continue with or without the proposed project.

Elevated levels of suspended particles and increased turbidity are expected to occur during construction. The turbidity is not expected to increase significantly above existing background levels, primarily due to the presence of silt curtains which will be utilized.

(2) *Effects on Chemical and Physical Properties of the Water Column.* The proposed project would have no long-term impacts on the chemical or physical properties of the water column. Some minor short-term impacts could occur.

a) *Light Penetration.* Temporary increases in turbidity during construction could decrease light penetration in Napa River and Napa Creek. However, this impact would likely be small in magnitude and duration, dissipating within days.

b) *Dissolved Oxygen.* DO comparison revealed a maximum DO decrease of less than 1 mg/L in the project reach, and an average maximum decrease in DO following project implementation of less than 0.5 mg/L.

c) *Toxic Metals and Organics.* No contaminants would be introduced to Napa River or Napa Creek through placement of fill. Due to the inertness of the fill materials, there would be no exchange of constituents between the fill and aquatic systems. Excavation will disturb side slope soils, which could possibly release suspended sediment into the water column.

d) *Pathogens.* Implementation of the proposed project would not introduce pathogens to any aquatic community.

e) *Aesthetics.* Changes in turbidity would be of short duration and modest magnitude, and would not affect aesthetics of the project area.

(3) *Effects on Biota.* Napa River and Napa Creek have been subjected to a number of human-induced disturbances, including excavation and flood preventive measures. Most flora and fauna in the area appear generally well-adapted to withstand, or

recover from, disturbances including temporary increases in suspended particulates and turbidity. No long-term impacts to biota are anticipated to occur as a result of project-related temporary and minor increases in suspended particulates and turbidity.

a) Primary Production, Photosynthesis. The proposed project would not adversely affect primary production and photosynthesis as a result of temporary increases in suspended particulates and turbidity.

b) Suspension/ Filter Feeders. The proposed project would not adversely affect suspension or filter feeders as a result of temporary increases in suspended particulates and turbidity.

c) Sight Feeders. The proposed project would not adversely affect sight feeders as a result of temporary increases in suspended particulates and turbidity.

(4) *Action Taken to Minimize Impacts.* The turbidity is not expected to add significant amounts above existing background levels.

D. Contaminant Determinations. The amount and type of chemical contaminants now present in Napa River and Napa Creek would not be exacerbated with implementation of the proposed project. Furthermore, the following mitigation measure from the SEIS/EIR is presented here:

"HAZ-2a. A contingency plan will be formulated for construction and excavation activities to require testing of any materials encountered during grading and digging operations that are suspected to be hazardous. The plan will include sampling and assessment of results by a qualified individual to determine if suspicious materials are of concern.

HAZ-2b. If additional contamination is encountered during construction of the Preferred Alternative, the Corps of Engineers will notify NCFCWCD immediately and construction will be halted. Any additional contamination encountered on the work site will be sampled and tested to determine CERCLA or non-CERCLA classification. If the contamination is classified as non-CERCLA, the Corps will oversee remediation of the site. Once the site is remediated and verified to be clean under State and Federal regulations, construction can recommence.

HAZ-2c. If the contamination is classified as CERCLA, the Corps of Engineers will notify the NCFCWCD (the non-Federal sponsor) of their responsibility to remediate the site. Once the site is remediated and verified to be clean under state and federal regulations, construction can recommence."

E. Aquatic Ecosystem and Organism Determinations. The portion of the Napa River within the project area is best described as a tidally-influenced estuarine system, ranging from freshwater at the upstream limit of the project at Trancas Street, to brackish marsh at the lower limit of the project near Kennedy Park. Napa River and Napa Creek have experienced repeated disturbances and alterations in the past. As a result, the aquatic ecosystem has experienced modification in terms of composition, structure and processes. Most flora and fauna inhabiting the area appear adapted to repeated disturbance. Implementing the proposed project would likely adversely impact the aquatic ecosystem. However, project planning has incorporated avoidance and minimization of impacts where feasible. Unavoidable impacts would be fully mitigated through implementation of mitigation measures.

(1) *Effects on Plankton.* Construction activities would cause minor short-term impacts on plankton (a microscopic community of plants and animals usually swimming or suspended in water) in Napa River and Napa Creek. The type, and possibly the quantity, of litter entering the system from streamside vegetation would be impacted. Litter provides food for plankton and other aquatic organisms. Loss of emergent vegetation and woody riparian plants could cause changes in localized microclimates. However, since the amount of impacted vegetation actually shading the open water is relatively limited, only minor impacts are anticipated. The 0.19 acres of shaded riverine aquatic habitat lost will be mitigated with no net loss of in-kind habitat values or acreage (0.87 acres of SRA cover will be created with the project).

(2) *Effects on Benthos.* Construction activities will disturb or eliminate many benthic organisms, although recolonization can be fairly rapid, and original biomass may be achieved in 2 weeks to 4 months. Construction will also contribute to displacement and/or direct burial of the benthic community.

(3) *Effects on Nekton.* Nekton (i.e., fish and other free swimming organisms) would be adversely affected by construction activities in Napa River and Napa Creek. Foraging opportunities would be restricted for a longer period while vegetation, plankton and other invertebrates become reestablished.

(4) *Effects on Aquatic Food Web.* The aquatic food web, like the plankton, benthic and nekton communities, would suffer from modification to the existing conditions as a result of construction and maintenance activities. The removal of existing plant and animal life would cause changes in the food web associations, which would lead to a minor short-term decrease in productivity and nutrient export capability for previously mentioned fill and dredging sites.

(5) *Effects on Special Aquatic Sites.* The “special aquatic sites” in the project area include wetlands, intertidal mud flats, and some riffle and pool complexes within Napa Creek. Wetland habitat types that will be impacted consist of

riparian forest, riparian scrub/shrub, shaded riverine aquatic, and brackish-emergent marsh. Construction activities would cause the loss or disturbance of 6.4 acres of riparian forest, 1.8 acres of scrub/shrub, 7.32 acres of brackish-emergent marsh, 0.19 acres of shaded riverine aquatic, and 9.18 acres of seasonal wetlands. Loss of this vegetation would be compensated by the establishment of 7.07 acres of riparian complexes (which includes riparian forest, scrub/shrub, and shaded riverine aquatic habitats), and 65.05 acres of brackish-emergent marsh and intertidal mud flat complexes. A riffle and pool complex will be re-created on Napa Creek by utilizing appropriate design and placement of the grade control structure. No other special aquatic sites, such as sanctuaries, refuges, vegetated shallows and coral reefs would be affected by construction of the proposed project.

(6) *Threatened and Endangered Species.* According to the U.S. Fish and Wildlife Service, there are 10 threatened and endangered species, and proposed threatened and endangered species, that may occur in the project area. Endangered species are the salt marsh harvest mouse, American peregrine falcon, California freshwater shrimp, and Contra Costa goldfields. Threatened species are the bald eagle, northern spotted owl, California red-legged frog, and the Central California steelhead. Proposed endangered species is the showy Indian clover, and there is one proposed threatened species, the Sacramento splittail.

The Central California steelhead and the Sacramento splittail could be adversely affected by construction activities. Negative effects could include avoidance by adult or juvenile fish of active construction areas and areas affected by increased turbidity during in-water construction activities.

Construction activities and flood protection features may remove or disturb the Mason's lilaeopsis, which is a federal species of concern and is listed by the State of California as rare. No other adverse impacts to the other species are anticipated. Additional information on threatened and endangered species can be found in the SEIS/EIR in Section 3.4.

(7) *Other Wildlife.* Wildlife inhabiting the project area would be affected by construction activities, project design, and maintenance. Animals would be displaced to nearby habitat which may not always be capable of supporting them. This displacement would be temporary for those species which could adapt to the altered or different site conditions, but permanent for species whose only suitable habitat would no longer exist. During construction, small and less mobile animals could be killed by operating machinery. Other species could become more vulnerable to increased predation. Implementating the proposed project would also destroy some nesting and roosting habitat for birds. Compensation plantings, usually on-site or within the study area, would provide appropriate habitat for potentially displaced species.

(8) *Action Taken to Minimize Impacts.* The proposed work would be accomplished in the smallest practicable area, and all impacts would be fully mitigated. The following mitigation measures from the SEIS/EIR are presented here:

“BIO-6a. In-water construction activities will not occur between December 1 and May 1, which would avoid spawning seasons for both sensitive fish species.

BIO-6b. Construction activities will avoid submergent and emergent aquatic vegetation to the greatest extent possible.

BIO-6c. Silt curtains will be used around areas of bridge removal, bridge construction, and construction of culvert inlets and outlets to prevent suspended materials from spreading from localized areas;” and,

“BIO-7a. A survey will be completed for Mason’s lilaeopsis in the project area. The survey will be completed in consultation with DFG, and according to the agency’s guidelines.

BIO-7b. Where possible, Mason’s lilaeopsis will be avoided. If avoidance is not possible, the plants will be transplanted to other suitable locations. The specific plants to be transplanted, suitable transplant locations, and transplantation methods will be administered in consultation with DFG.”

No additional actions to those previously mentioned will be made.

F. Proposed Disposal Site Determinations. Material removed above elevation +0.67 would be stored at acceptable disposal sites and none of the material would be discharged into waters of the United States. Any materials removed from the project area would not be disposed of in an aquatic environment.

(1) *Mixing Zone Determination.* Not applicable.

(2) *Determination of Compliance with Applicable Water Quality Standards.* No water quality or effluent standards would be violated either during or after the construction period. With the exception of minimal releases from construction activities that would have a *de minimis* effect, none of the material would be discharged into waters of the United States.

(3) *Potential Effects on Human Use Characteristics.* The proposed project would not have any significant adverse effects to municipal and private water supply, recreational and commercial fisheries, or water-related recreation. There would be no national and historic monuments, parks, seashores, wilderness areas, research sites or similar preserves affected by the proposed project.

Temporary adverse impacts to the visual aesthetics in the area would occur during construction. This impact would result from equipment operations and placement of fill materials.

G. Determination of Cumulative Effects on the Aquatic Ecosystem. The effects described in this evaluation would be primarily temporary and minor in nature, or within acceptable limits. All impacts to wetland and riparian habitat would be fully mitigated, including conversion of degraded and marginal habitat into a wetland/upland complex vegetated with native wetland and riparian species. The project reach has aggradation problems under existing conditions, as manifested by the need for regular and periodic maintenance dredging of the navigation channel. The need for maintenance dredging is likely to continue under project conditions unless upstream sediment supply is reduced significantly.

H. Determination of Secondary Effects on the Aquatic Ecosystem. Future land use conditions are not expected to change significantly, with or without the proposed project. No secondary effects are anticipated on the aquatic ecosystem by construction of the proposed project. Nevertheless, any secondary effects that should happen to occur would likely be mitigated for each action in accordance with existing applicable Federal and State laws and regulations.

III. FINDING OF COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

1. No significant adaptations of the guidelines were made relative to this evaluation.
2. No open water disposal sites were considered for this project. With consideration to the existing conditions and uses of the proposed disposal sites, the least adverse impacts on the aquatic ecosystem would occur with selection of the Syar quarry and pasture/grassland sites as the discharge sites. Additional evaluation of the alternatives are contained in the SEIS/EIR, in Section 3.4 and also Chapter 4.
3. State water quality standards would not be violated. The proposed action would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
4. Use of the selected disposal site will not harm any threatened or endangered species, or their critical habitat. Temporary adverse impacts to the proposed Sacramento splittail and Central California steelhead may occur, but the action is not likely to jeopardize the continued existence of the species. This impact would be mitigated in accordance with the provisions of the final Biological Opinion which would be issued by the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act.
5. The proposed disposal of excavated material and placement of fill materials would not cause significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing. Construction activities could destroy benthic invertebrates, reduce nutrients, and affect life stages of other aquatic species. Plankton, benthic and nekton communities would likely be adversely affected by the proposed project. However, this impact is expected to be minor and of short duration. Aquatic ecosystem diversity would initially decline during construction and just after construction is concluded. Diversity would begin to recover almost immediately thereafter. Significant effects on aquatic ecosystem productivity and stability would not occur as a result of the proposed project. The proposed discharge would not affect recreation or economic values. Temporary adverse impacts to the visual aesthetics in the area would occur during construction.
6. Appropriate and practicable steps to minimize potential adverse impacts of discharge and fill on the aquatic ecosystem include: placing fill material only where it is needed for flood protection measures and bank stabilization, and confining it to the smallest practicable area; no deepening or dredging will occur; and disposal sites selected to avoid wetlands. The use of biotechnical design and features with limited toe rock protection will aid in quickly establishing vegetation on the channel banks, thereby curbing further degradation and lateral displacement. Construction is primarily scheduled for the drier periods of the year when the least amount of water is in the system, and there

is less likelihood of rain or flood events.

7. On the basis of the guidelines, the proposed disposal sites for the discharge of excavated material are specified as complying with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

For technical information, contact

Thomas Bonetti

U.S. Army Corps of Engineers, Sacramento District

Environmental Planning Section

CESPK-PD-R

1325 J Street

Sacramento, California 95814-2922

(916) 557-6727

Appendix I. Supplemental Fish and Wildlife Coordination Act Report



United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
650 Capitol Mall, Suite 8-300
Sacramento, California 95814



In Reply Refer To:
2024-0043509

December 12, 2024

Mr. Kevin Harper
Chief, Environmental Resources Branch, Planning Division
U.S. Army Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Supplemental Fish and Wildlife Coordination Act Report for the Napa River/Napa Creek Flood Protection Project Napa County, California; Floodwalls North of Bypass River Mile 15.5 to 17

Dear Kevin Harper:

Please find attached the subject report. If you have questions, please contact Steven Schoenberg of my staff at (916) 930-5672 or at Steven_Schoenberg@fws.gov, or Stephanie Millsap at (916) 930-2658 or at Stephanie_Millsap@fws.gov.

Sincerely,

DONALD
RATCLIFF

Digitally signed by
DONALD RATCLIFF
Date: 2024.12.12
09:56:25 -08'00'

Donald Ratcliff
Field Supervisor

cc:

Dave Fluesch, Corps of Engineers, Sacramento, CA
Darren Howe, National Marine Fisheries Service, Sacramento, CA
Melanie Day, California Department of Fish and Wildlife, Sacramento, CA
Nicholas Magnuson, California Department of Fish and Wildlife, Stockton, CA
Jeremy Sarrow, Napa County Flood Control and Water Conservation District, Napa, CA

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Supplemental Fish and Wildlife Coordination Act Report

NORTH OF DRY BYPASS FLOODWALL,
NAPA RIVER/NAPA CREEK FLOOD
PROTECTION PROJECT

PREPARED BY:

Steven Schoenberg, Senior Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Watershed Planning Division
San Francisco Bay Delta Fish and Wildlife Office
Sacramento, California

PREPARED FOR:

U.S. Army Corps of Engineers
Sacramento District
Sacramento, California

December 2024

SUMMARY

Since the supplemental Final Environmental Impact Statement and original Fish and Wildlife Coordination Act report for the Napa River/Napa Creek Flood Protection Project were issued in 1999, additional design changes are now proposed for the last remaining, yet-to-be constructed elements of the project within and upstream of the dry bypass. This report includes a semi-quantitative analysis of each of those changes using direct observation, plan overlays, and review of prior reports and documents, including the status of mitigation already accomplished. It is our finding that in nearly all cases, the proposed changes for individual elements will result in less impact than the original design. The now proposed extended and set back floodwall or sheetpile wall will greatly reduce riparian impacts including subsequent vegetation maintenance upstream of Lincoln Street compared to that which would have occurred with the original levee raise design. Rock bank revetment is no longer proposed except for a very minor area around piers of the Lincoln Street bridge. A very minor additional increment of brackish emergent marsh loss (0.03 acre) will occur within the dry bypass. Mitigation completed to date has not yet met all performance standards but substantially exceeds impact in aerial extent and may, over time, exceed impacts in terms of habitat value.

INTRODUCTION

Pursuant to our Scope of Work for FY 2025 this report supplements the U.S. Fish and Wildlife Service's (Service) April 1999 Fish and Wildlife Coordination Act (FWCA) report on the Corps of Engineer's (Corps) Napa River/Napa Creek Flood Protection Project, concerning revisions to the design of remaining work within and upstream of the Dry Bypass. Previous completed work includes the South Wetlands Opportunity Area (SWOA) in 2000-2001, east bank floodplain terracing in downtown Napa in 2002-2005, west bank floodwalls in downtown Napa in 2008, various improvements in lower Napa Creek completed in 2013, and nearly all improvements associated with a dry bypass in 2015. Extensive mitigation and enhancement features incorporated within this work have also been completed and monitored. The Corps has proposed design changes to the remaining work within and upstream of the dry bypass. Among other considerations such as cost, an additional intent of these design changes is to further avoid and minimize impacts to fish and wildlife habitats where possible.

In this supplemental report, we evaluate the extent to which this intent would be accomplished. Our approach is semi-quantitative, which is to say the extent is limited to that needed to determine whether or not the project as modified would have the same or lessor impact on fish and wildlife habitat area and value compared to what had been previously proposed.

COORDINATION HISTORY

Our original FWCA report for the entire project was based on the project description and designs in the Corps' 1998 Final Supplemental General Design Memorandum and 1999 Final Supplemental Environmental Impact Statement/Environmental Impact Report. In our report, we used Habitat Evaluation Procedures (HEP) to quantitatively assess habitat effects of construction and operation over the project life (Service 1999). We anticipated gains in area and value for most habitat types. Because of this surplus, we did not recommend further mitigation beyond habitat enhancement measures already included within the project. Shortly thereafter, in 2000, we issued a short supplemental report focusing primarily on a new bridge for the Napa Valley Wine Train (NVWT). Again, we determined that the project as a whole would at least replace habitat area and value. In 2009, we issued another supplement and HEP evaluation that re-evaluated effects on riparian forest and shaded riverine aquatic (SRA) cover types due to the need to construct additional elements on Napa Creek deemed necessary to pass the design flow and/or prevent erosion, including: two bypasses, channel smoothing, riparian floodplain excavation/creation, daylighting several culverted sections, and other changes (Service 2009). Although effects included reduced vegetation density in some areas, we determined that the habitat area and value benefits on-site as part of the project still sufficiently offset these effects. Later, in November 2023, Corps staff notified the Service of pending project modifications and held an initial Agency meeting on these changes in January 2024. A Scope of Work for this supplemental FWCA report was finalized in August 2024.

The primary information used for this report is the Supplemental Biological Assessment (SBA) with attached plans received in July 2024 as part of a reinitiation of formal consultation, now concluded (Corps 2024; Service 2024). A site visit with the Corps and local sponsor was held on August 27, 2024. Several communications followed with the local sponsor responding to Service

questions on the precise differences in impact between the original and currently proposed project designs, in terms of both construction as well as subsequent maintenance. We also reviewed the most recent of monitoring reports which have been regularly communicated to the Service since first construction.

PROPOSED PROJECT

The scope of this supplemental report is to address changes to remaining work on the west bank of the Napa River from River Mile 15.5 to 17.0, specifically:

- Within the dry bypass where there is a gap between the Soscol Avenue and NVWT Bridge embankments, the original design was to close the gap with a new floodwall section and install a 350 cubic feet per second pump station land side of the floodwall to address interior drainage. The revision is to install an outfall control structure with a manually operated sluice gate in line with the new floodwall rather than a pump station to control that drainage. This will involve installing a vault structure on the water side of the new floodwall to direct drainage.
- South of Lincoln Avenue, the trail was designed waterward of the length between the Ace & Vine and Pet Hospital business parcels and went underneath Lincoln Avenue Bridge, with one floodgate between these businesses. The current design now has a stoplog structure south of Wall Street with the trail running landside of the floodwall and crossing Lincoln Avenue at grade and two floodgates, one for each business parcel.
- Previously, the design called for a grade and scour control structure consisting of 18-inch riprap spanning the entire width of the channel bottom under Lincoln Street Bridge, The current design specifies a reduced extent of riprap around the bridge piers only.
- North of Lincoln Avenue: The prior design included biotechnical bank erosion protection in two sections: one along some eroded bank in the vicinity of Station (STA) 858+00 and the second in the vicinity of STA 890+00 (pdf page 37 *in* USFWS 2019; p. 11 *in* USFWS 1999; the term "biotechnical" combines rock bank armoring with live plants and/or engineered habitat elements). All of this previously proposed bank erosion protection has been deleted in the current design. This design change has been made possible because the floodwall location has now been set back farther from the bank so that erosion which could take place in the future will not undermine the floodwall footings.
- Also north of Lincoln Avenue, the prior design specified raising the existing levee 3 feet around Lake Park Development. The recreational trail would have ramped over the raised levee, run waterside, and connected with the existing City of Napa trail at the north end of Lake Park Development. In the current proposed design, the raised levee has been replaced with a concrete floodwall or sheetpile floodwall. The work will also be several hundred feet shorter, terminating on high ground, instead of extending north to Elks Lodge.

CHANGE IN EFFECTS

Soscol to NVWT Bridge: The revised drainage feature and vault structure installation will disturb a 0.14-acre area of mostly upland vegetation and a small amount of seasonal wetland that is included in the footprint of the vault itself (Figure 1). The wetland loss is estimated to be 0.03 acre or less. This is a new impact not previously identified.



Figure 1. View of additional impact area south of NVWT bridge (Soscol Avenue bridge in background) within oxbow dry bypass. The newly proposed concrete vault would permanently impact a portion of the seasonal wetland visible in center of photograph.

Trail and floodgates south of Lincoln Avenue: Although there are minor changes, the location of the floodwall is within the same footprint of impacts that were originally proposed (Figure 2). The currently proposed design has the trail crossing the floodwall via the newly proposed stop log structure, then crossing Lincoln Avenue at grade. This would avoid any impact to riparian habitat at the expense of creating a trail undercrossing beneath Lincoln Avenue. This specific impact was not identified previously in our analysis of the prior design but is indicated in the SBA (p. 12 *in* Corps 2024).



Figure 2. Overlay of 1999 General Design Memorandum (GDM) design and currently proposed design impact area downstream of Lincoln Avenue (NCFCWCD 2024).

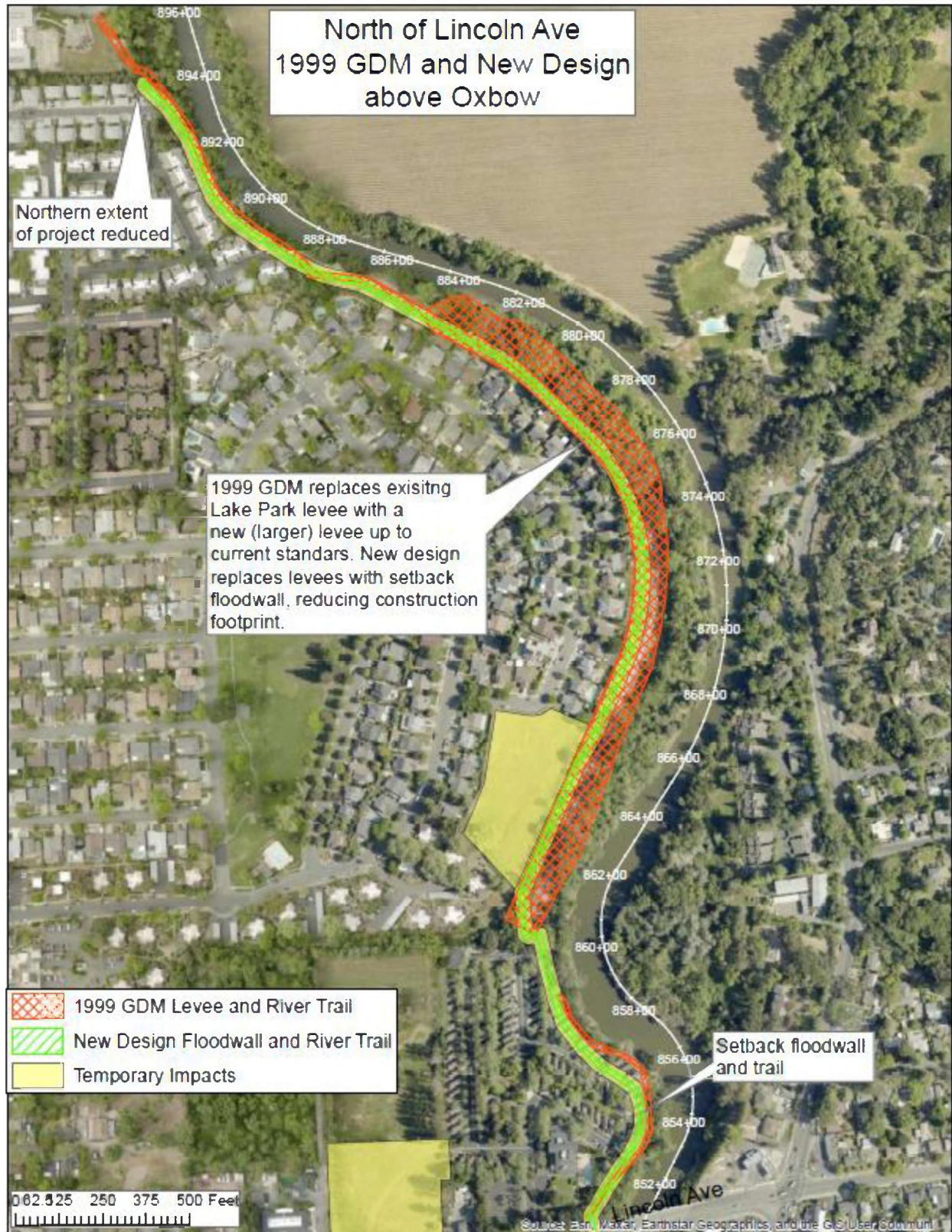


Figure 3. Overlay of 1999 GDM design and currently proposed design impact area upstream of Lincoln Avenue (NCFCWCD 2024).

Stone riprap under Lincoln Street Bridge: The prior design the Service evaluated included what is termed a 150-foot-wide submerged rock scour protection structure across the entire channel width (p. 14 *in* Service 1999). The current design involves placing riprap over about 40 x 50 feet (2,000 square feet; 0.05 ac) beyond the concrete aprons and piers which is less than half of that previously proposed (p. 12 *in* Corps 2024). This change will proportionately reduce the effect of such riprap on aquatic habitat.

Set back floodwall; eliminated rock bank protection north of Lincoln Street: Two biotechnical element sections in the 1999 design which have now been deleted were areas in which a rock toe would have been installed with enhancement structures such as root wads, pole plantings, or "lunkers" (i.e., a man-made structure in the bank where fish can hide). Rock fill was also deleted in one scour section (Figures 3, 4). Although there may have been some enhancement offset value of the biotechnical elements to fisheries and wildlife, avoiding impacts on natural banks is preferred over impacting the banks with rock and mitigating the impact. We estimate this change avoids the impact of installing riprap, either toe rock or bank scour fill, on at least 400 linear feet of bank. Where the floodwall is now proposed to be set back farther (~STAs 854+00 to 858+00), it will impact a smaller area of vegetation farther from the river edge as well as certain mobile home parcels.



Figure 4. Former design bank stabilization location, in the vicinity of STAs 858+00 to 860+00 (opposite bank, center of photograph). This element has been deleted in the new design.

Floodwall and/or sheetpile wall north of Lincoln Street: The most significant change in impact is the result of revising the section between STAs 860+00 and 884+00 from a raised levee to a floodwall. As shown in Figure 3, the prior levee raise design would have affected a large area of riparian forest within its footprint. The current design has a much narrower footprint. To the north of this floodwall is a section which has very little space between the floodwall and the riverbank (STAs 888+00 to 894+00). Here, a steel sheetpile I-shaped floodwall will be installed instead of a T-shaped concrete floodwall. All of these changes reduce temporary and permanent effects on habitat, especially riparian forest.

Considering all of these design changes together, the permanent riparian impact total is estimated to be reduced from 7.04 acres (1999 design) to 2.31 acres (currently proposed, or 2024, design) (NCFCWCD 2024). The 7.04 acres of riparian impact now estimated for the 1999 design is substantially larger than the 1.92 acres of riparian forest impact "above the oxbow" noted repeatedly in our 1999 FWCA report for that same design (pp. 31, 37, 40 *in Service 1999*); and which was used in the Habitat Evaluation Procedures analysis in that report. Although we have not attempted to fully reconcile why our 1999 report estimate was lower, we are confident that the estimates here, 7.04 acres for the 1999 design and 2.31 acres for the 2024 design, are correct based on the figure scales provided. It may have been that our 1999 report used a fixed impact width of 50 feet multiplied by the site length (p. A-2-1; assumption 5 *in Service 1999*) rather than the actual impact area from the construction drawings. Or, perhaps, some portion of riparian forest impact was previously considered "woodlands" and not differentiated above and below the oxbow. Nevertheless, it is clear that when comparing impacts today, the 2024 design has far less riparian impact than the 1999 design.

MITIGATION SUFFICIENCY

The above reanalysis warrants a limited discussion of the sufficiency of mitigation over the entire project. Upstream of the oxbow, we now estimate the 2024 design would have less riparian impact (2.31 acre) than the 1999 design would (7.04 acre, this supplemental report; previously estimated as a loss of 1.92 acres, net loss of -0.36 acre with 1.56-acre creation, *see Table 3 in p. 40 of Service 1999*). This 2.31-acre loss is more than the gross loss of 1.92 acres and the net loss of 0.36 acre, but it is not additional loss. Rather, it is avoidance of 4.73 acres of loss that was not accounted in our 1999 report. However, the 2.31 acres loss above the oxbow is still somewhat more than the 0.36-acre net loss previously estimated by about 2 acres. So, the further question remains as to whether this revised loss of 2.31 acres has been mitigated. Several factors need to be considered in assessing whether the project as a whole has adequately offset habitat impacts, including the remaining 2.31 acre increment of riparian forest loss that will occur with the proposed project:

- There has already been habitat creation accrued during project phases below the oxbow including 29.2 acres of riparian, 2.6 acres of SRA cover, 65.7 acres of what is termed high-value woodlands, and 635.8 acres of tidal wetland, seasonal wetland, mudflats, and grassland, largely in the SWOA (NCFCWCD 2022);
- Based on our review of the latest monitoring report, the aforementioned riparian, SRA, and woodland creation still show areas of suboptimal tree height and basal area NCFCWCD (2022). This may reflect site limitations on such cover as a result fluctuating salinity, age, or other factors.

- Some additional impact as well as further riparian forest creation, has occurred within the revised Napa Creek elements of the project; with a net surplus of about 0.4-acre riparian forest and 57% increase in riparian habitat value (Service 2009);
- Much of the 1.56 acre of formerly proposed riparian forest creation would have occurred in partially armored impacted areas now avoided in the current design; the Service typically prefers such avoidance to impact and mitigation;
- The permanent impact area (constructed feature plus standard maintenance of 15-foot vegetation free condition within and adjacent to both land and water sides of such features) is far less for the 2024 design than the prior 1999 design.
- The farther distance of the currently proposed floodwall from the active channel, including some vertical bank sections, make the floodway far less susceptible to damage during flood events that would require emergency measures including temporary rock bank revetment. Such emergency repairs diminish habitat value by limiting vegetative re-establishment.
- The only new impact without some on-site habitat benefit is the loss of 0.03 acre of seasonal wetland to accommodate the drainage vault feature water side of a floodwall section between Soscol and NVWT bridges. This only slightly increases the previously estimated impact on this cover type (44.18 acres), which remains far less than the 178.3 acres of seasonal wetland created in the SWOA downstream (NCFCWCD 2022).

Taking all of these considerations into account, we believe that the proposed design changes will incrementally avoid impacts to riparian and SRA cover compared to the original design. Additionally, the surplus in area of tidal wetland habitat creation is sufficient to offset the minor additional impact on seasonal wetland.

Whether the riparian habitat creation mitigates the impacts for all effects of the project cannot be easily confirmed from the monitoring. On one hand, monitoring has shown successively increased areas of riparian well beyond the 2-acre target (most recently, 29.2 acres; NCFCWCD 2022). However, the average tree height of 8.66 feet within that area is quite low for the age of establishment (2002-2006). The reported basal area of 1.58 square feet¹ is also extremely low for riparian forests (typically 50-75 square feet per acre). Both interim and final performance standard, to be assessed after 40 years, are planned to rely on comparison to reference sites which the 2022 monitoring report currently deems "unavailable". Notwithstanding these uncertainties, mitigation sufficiency is more likely with the proposed project redesign because impacts are reduced.

CONCLUSION

The proposed design changes to the Napa River/Napa Creek Flood Protection Project will partially avoid and hence reduce effects on fish and wildlife resources compared to the prior design. This is a consequence of a smaller area of permanent impacts on riparian and aquatic habitats, with one exception: a modest additional permanent effect on seasonal wetlands. Due to mitigation already completed that far exceeds this increment, no further mitigation is recommended. The Service has no additional recommendation in response to the proposed redesign.

¹ NCFCWCD (2022) reports this value as square feet without the denominator, however, the standard convention for basal area is feet squared per acre.

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