DRAFT

Supplemental Environmental Assessment II / Subsequent Environmental Impact Report

San Joaquin River Basin, Lower San Joaquin River, California, Project

Compensatory Mitigation Plan

CEQA State Clearinghouse Number: SCH 2010012027

May 2025

US Army Corps of Engineers®
Sacramento District

SAN JOAQUIN AREA FLOOD CONTROL AGENCY

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ACRONYMS AND ABBREVIATIONS

ACE	Annual Chance Exceedance
AF	Acre Feet
APE	Area of Potential Effects
bgs	Below ground surface
BMP	Best Management Practices
BO	Biological Opinion
BSSCP	Bentonite Slurry Spill Contingency Plan
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CAR	Coordination Act Report
CARB	California Air Resource Board
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CH_4	methane
CMP	Compensatory Mitigation Plan
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CV	Central Valley
CVFPB	Central Valley Flood Protection Board
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
Delta	Sacramento-San Joaquin Delta
DWR	California Department of Water Resources
EFH	Essential Fish Habitat
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EnvSA	Environmental Site Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESJ	Eastern San Joaquin
ESJGWA	Eastern San Joaquin Ground Water Authority
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration

IIFR/EIS/EIR	Integrated Interim Feasibility Report/Environmental Impact Statement/Environmental Impact Report
GGS	giant garter snake
GHG	Greenhouse gas
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWA	Groundwater Authority
HEP	Habitat Evaluation Procedure
HR	Hydrological Region
HSI	Habitat suitability index
IPaC	Information for Planning and Consultation
LAA	Likely to adversely affect
LERRD	Lands, Easements, Rights-of-Way, Relocations, and Disposal
LSJR	Lower San Joaquin River
LTS	Less Than Significant
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFS	Non-Federal Sponsor
NHPA	National Historic Preservation Act
NI	No Impact
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
N_2O	nitrous oxide
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M	operations and maintenance
PA	Programmatic Agreement
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
P.L.	Public Law
PM	particulate matter
PM_{10}	PM equal to or less than 10 micrometers in diameter
$PM_{2.5}$	PM equal to or less than 2.5 micrometers in diameter
PRC	Public Resources Code
PS	Potentially Significant
RWCF	Regional Wastewater Control Facilities
SEA	Supplemental Environmental Assessment
SEIR	Subsequent Environmental Impact Report
SEWD	Stockton East Water District

SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJAFCA	San Joaquin Area Flood Control Agency
SJR	San Joaquin River
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	Sulfur Dioxide
SPCCP	Spill Prevention, Control, and Counter Measures Plan
SR	State Route
SRA	Shaded riverine aquatic
SWPPP	Stormwater Pollution Prevention Plan
TPY	tons per Year
TOG	Total Organic Gasses
TS30L	Tenmile Slough, Reach 30 Left Bank
URA	Uniform Relocation Assistance & Real Property Acquisitions Policy Act
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle
VOC	Volatile organic compounds
WOTUS	Waters of the United States
WRDA	Water Resources Development Act
WOTUS	Waters Of The United States

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Chapter 1 INTRODUCTION

1.1 Summary

This combined supplemental environmental assessment/subsequent environmental impact report (SEA/SEIR) evaluates the environmental effects of implementing habitat mitigation through different methods than was identified in the 2018 San Joaquin River Basin, Lower San Joaquin River, CA, Final Integrated Interim Feasibility Report/Environmental Impact Statement/Environmental Impact Report (2018 LSJR IIFR/EIS/EIR). An updated project mitigation strategy proposes to establish up to six onsite and offsite habitat mitigation sites instead of purchase of mitigation bank credits due to their lack of availability in the project area.

The San Joaquin River Basin, Lower San Joaquin River, California, Project (LSJR Project) is a cooperative flood risk management effort by the U.S. Army Corps of Engineers (USACE) with its non-Federal sponsors (NFS), the Central Valley Flood Protection Board (CVFPB), as represented by the California Department of Water Resources (DWR), and the San Joaquin Area Flood Control Agency (SJAFCA). The purpose of the LSJR Project is to reduce flood risk to the City of Stockton associated with seepage, stability, overtopping, and erosion for levees along the San Joaquin River, Calaveras River, Fourteenmile Slough, Tenmile Slough, French Camp Slough, Mosher Slough, and Duck Creek. The NFS is responsible for demonstrating compliance with State of California requirements for the LSJR Project. The LSJR Project area experienced major flood events in 1955, 1958, and 1997, resulting in varying degrees of damage. Recent hydrologic models for the Central Valley forecast more frequent, short duration, high flow events that could potentially increase future flood risk. The existing levee system protects over 71,000 acres of mixed-use land, about 235,000 people, and an estimated $28.7 billion in damageable property.

The 2018 LSJR IIFR/EIS/EIR evaluated seven alternatives to reduce flood risk to the City of Stockton and surrounding areas. Alternative 7a was identified as the recommended plan and is now the authorized LSJR Project. The LSJR Project includes 23 miles of levee improvements and two closure structures, one at Fourteenmile Slough and the other at Smith Canal. The levee improvements include cutoff walls, deep soil mixing (seismic remediation), a new levee, levee geometry improvements, and erosion protection. The LSJR Project is divided into several components, which include the Smith Canal Gate structure, Tenmile Slough Reach 30 Left Bank (TS30L), and Phases A through F. Table 1 outlines each component of the LSJR Project, providing a brief description and the scheduled construction start year. Figure 1 shows an overview map of the proposed construction locations for the LSJR Project, including the closure structures and all phases. The Smith Canal Gate structure was completed in 2023. The Federal Emergency Management Agency (FEMA) anticipates issuing revised flood maps

of the Smith Canal area in 2025. Since the construction of the Smith Canal Gate structure has been completed, it is not discussed further in this document.

The 2018 LSJR IIFR/EIS/EIR identified unavoidable habitat impacts associated with the implementation of Alternative 7a, which has now become the authorized LSJR Project. According to Engineer Regulation 1105-2-100, Appendix C, Section C-3(b)(12), there are five methods to mitigation for adverse impacts: avoidance, minimization, rectification, reduction, and compensation. The mitigation strategy presented in the 2018 LSJR IIFR/EIS/EIR relied primarily on the purchase of mitigation bank credits to compensate for habitat impacts. However, mitigation banks within the Project's service area currently do not have sufficient quantities of credits available to meet the Project's compensatory mitigation requirements. For this reason, USACE and the NFS have updated the Project's mitigation strategy. The updated LSJR Project Compensatory Mitigation Plan (CMP, Appendix A) proposes the establishment of 6 mitigation sites within the project vicinity to address current estimated unavoidable project impacts to biological resources. Other actions taken to avoid, minimize, rectify, or reduce impacts are identified in the 2018 LSJR IIFR/EIS/EIR. Additional measures may be identified during the development of designs for each Project phase.

This combined SEA/SEIR satisfies the requirements of both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Each resource is analyzed first according to NEPA regulations, followed by CEQA, with a separate effect determination for each law.

1.1.1 CEQA Executive Summary

This Draft SEIR supplements the previously certified 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR and addresses proposed modifications, changed circumstances, and new information not described in those prior environmental documents. This Draft SEIR provides additional information needed to make the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR, as supplemented, adequate for the CMP. Consistent with CEQA Guidelines Section 15163, this Draft SEIR contains only the information needed to analyze the CMP, including changed circumstances and new information requiring additional environmental review.

The CMP identifies seven options for meeting the compensatory mitigation requirements for the LSJR Project. Based on feasibility and other screening criteria within the CMP, Option 4, which requires a combination of mitigation bank credit purchases and construction of mitigation sites, was ultimately chosen as the selected mitigation plan. Therefore, USACE and the NFS propose to purchase mitigation bank credits for available species and habitat types, and construct mitigation sites on one or more proposed land parcels to meet the remaining mitigation needs for the LSJR Project.

Purchase of habitat credits at an approved mitigation bank would not require any construction or operational impacts and therefore is not discussed further in this SEIR.

Construction of a mitigation site on one of the proposed land parcels could include the use of heavy construction equipment to change topography, restore hydrology, spread dredge material, plant and/or transplant vegetation, and/or remove rock. These activities have the potential to cause environmental impacts and would require mitigation, as summarized in Appendix B.

Operation of the CMP would consist of monitoring and adaptively managing the covered developed mitigation sites until success criteria are met. This description of operation and maintenance activities is consistent with that described and analyzed for biological mitigation sites in the 2023 TS30L Final SEIR; therefore, the analyses related to operational impacts of the CMP were not evaluated further in this Draft SEIR.

Development of the CMP includes all mitigation measures and environmental commitments contained in the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR, as listed below and incorporated here be reference:

- 2018 LSJR IIFR/EIS/EIR Environmental Commitments (Table 8-2 on pages 8-8 and 8-9 of the 2018 LSJR IIFR/EIS/EIR)
- 2018 LSJR IIFR/EIS/EIR Mitigation, Monitoring, and Adaptive Management Plan (Addendum J within Addendum D of the 2018 LSJR IIFR/EIS/EIR)
- 2018 LSJR FR/EIS/EIR resource area-specific Environmental Commitments (listed throughout sections 5.1 through 5.21)
- 2023 TS30L Final SEIR Mitigation Monitoring and Reporting Program (Appendix A of the 2023 TS30L Final SEIR)

With this, the impacts of CMP implementation would remain consistent with and would not result in new or more severe potentially significant impacts than those identified in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. See Appendix B for a summary table of impacts under CEQA and mitigation measures.

Table 1. Overview of the LSJR Project components and phases.

LSJR Project Component	Type of Work	Location	Length	Scheduled Construction Start Year
Smith Canal Gate structure	Floodwall tying into the existing levee, and gate structure for tidal exchange and boat access to Smith Canal.	Stockton, along the San Joaquin River from Dad's Point to the eastern boundary of the Stockton Golf & Country Club.	Approximately 800 ft	2020
TS30L	Levee fix in place with the addition of a cut-off wall, geometry reshaping, and waterside erosion protection.	Stockton, at the western border of the Brookside housing development, and north of March Lane along the Tenmile Slough.	Approximately 5,900 ft	2024
Phase A – Shima Tract	Levee fix in place with the addition of a cut-off wall, as well as the addition of waterside erosion protection.	North Stockton west of Interstate 5 and north of Schooner Drive to Sturgeon Road.	Approximately 8,400 ft	2028
Phase B – Fourteenmile Slough	Levee fix in place and new levees, with the addition of a cutoff wall, height improvements, geometry improvements, and a closure structure.	North Stockton along the Fourteenmile Slough.	Approximately 10,400 ft	2032
Phase C – Tenmile Slough, Calaveras River	Levee fix in place with the addition of a cutoff wall, seismic fixes, and levee reshaping and geometry improvements.	Right bank of the Calaveras River, south of March Lane to N. El Dorado Street (Phase C-2), including a small portion North of the Calaveras on the San Joaquin River (Phase C-1, reaches TS10L and TS20L).	Approximately 28,600 ft	2032
Phase D – Calaveras River, San Joaquin River	Levee fix in place with the addition of a cutoff wall, geometry improvements, height improvements and retention walls.	Left bank of the Calaveras River, north of Monte Diablo Avenue to N. El Dorado Street, including a small portion South of the Calaveras on the San Joaquin River near Smith Canal.	Approximately 27,500 ft	2035
Phase E – San Joaquin River, French Camp Slough, Duck Creek	Levee fix in place with the addition of a cutoff wall, construction of new levees, levee reshaping and geometry improvements.	South of the Port of Stockton along the San Joaquin River, French Camp Slough, and Walker Slough, adjacent to Van Buskirk Park to S. El Dorado Street.	Approximately 30,400 ft	2033
Phase F – Mosher Creek	Levee fix in place with the addition of a cutoff wall and height improvements.	North Stockton from Mosher Slough east to Thornton Road.	Approximately 10,700 ft	2032

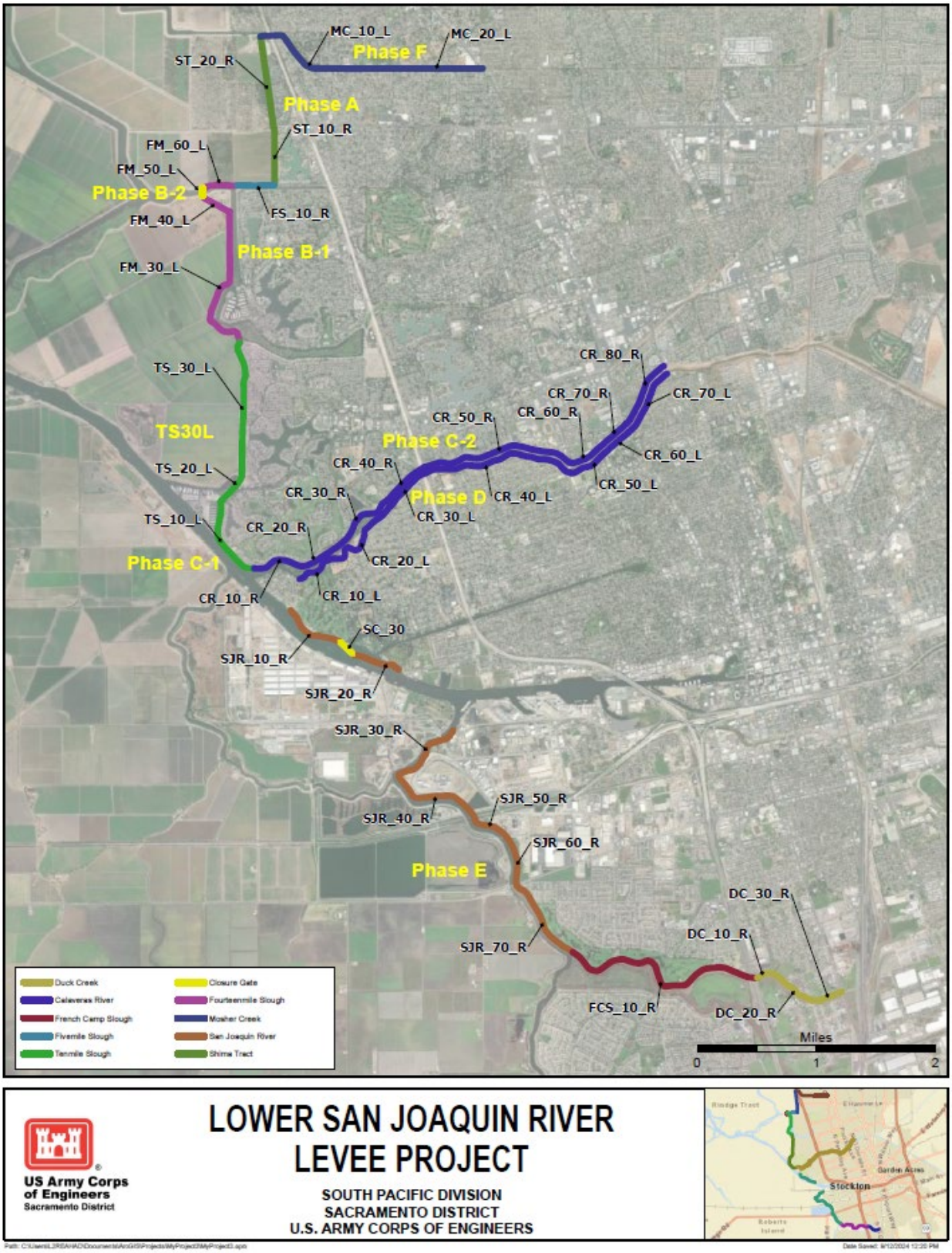

Figure 1. Map showing the phase locations and closure structures of the LSJR Project.

1.2 Authority

The LSJR Project was authorized for construction in America's Water Infrastructure Act of 2018 (Public Law 115-270), Title I, Subtitle D, Section 1401(2)1, "to be carried out by the Secretary substantially in accordance with the plans, and subject to the conditions, described in the respective reports designated in this section." The designated report in this case was the Chief's Report for the project, dated July 31, 2018, which references the 2018 LSJR IIFR/EIS/EIR Recommended Plan. In his report, the Chief of Engineers concurred with the "… findings, conclusions, and recommendations of the reporting officers. I recommend that the Recommended Plan (Alternative 7a) be authorized for implementation… with such modifications thereof as in the discretion of the Chief of Engineers may be advisable."

USACE regulations require mitigation for habitat impacts to be implemented prior to, or concurrent with, construction of the authorized project.

The specific procedures followed to develop the compensatory mitigation plan are found in ER 1105-2-100, Appendix C. It is the policy of The USACE Civil Works Program, and in accordance with Section 906 of WRDA 1986 (PL 99-662), as amended, to demonstrate that impacts to all significant ecological resources, both terrestrial and aquatic, have been avoided and minimized to the extent practicable, and that compensation is provided for any remaining unavoidable impacts.

1.3 Project Purpose and Need and Objectives

The LSJR Project purpose is to provide flood risk reduction for the City of Stockton. In accordance with the laws listed in Table 2, USACE and the NFS are statutorily required to mitigate for unavoidable losses of habitat that occur with the implementation of the LSJR Project, including riparian, wetland, and shaded riverine aquatic (SRA) habitats, essential fish habitat (EFH), and/or designated critical habitat.

The purpose of the Proposed Action evaluated in this document is to establish mitigation sufficient to compensate for unavoidable habitat impacts of the LSJR Project identified in the 2018 LSJR IIFR/EIS/EIR. The need for the Proposed Action is to identify acceptable alternatives to the current authorized mitigation strategy for the LJSR Project because existing mitigation banks do not have sufficient credit quantities to fully compensate for unavoidable habitat impacts of the LSJR Project. Applicable laws requiring mitigation for habitat loss as a result of the project are listed in Table 2. Compensation requirements are summarized in the CMP and again in Chapter 2 of this document.

Table 2. Laws requiring federal agencies to mitigate for loss of or adverse impacts to habitat.

Laws Requiring Mitigation
Clean Water Act (33 U.S.C. 1251 et seq)
Endangered Species Act (16 U.S.C. 1531 et seq)
Fish and Wildlife Coordination Act (16 U.S.C. 661-666c)
Magnuson – Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq)
Water Resources Development Acts of 1986 (PL 99-662), 1990 (PL 101-640), 2000 (PL 106-541), 2007(PL 110-114), 2014 (PL 113-121), and 2016 (PL 114-322)

1.4 Proposed Action Area

The Proposed Action area is located within the Sacramento-San Joaquin Delta. Five of the six proposed mitigation sites – Fourteenmile Slough Pumpstation, Van Buskirk Park, Manteca Parcel, Calaveras River Parcels, and On-River Parcels – are located in San Joaquin County. The sixth site, the In-River Parcel, is located within Sacramento County. All proposed parcels are within either the Primary or Secondary Zone of the Delta, as defined by the Delta Protection Act of 1992. An overview of the Proposed Action area with potential mitigation parcels is shown in Figure 2.

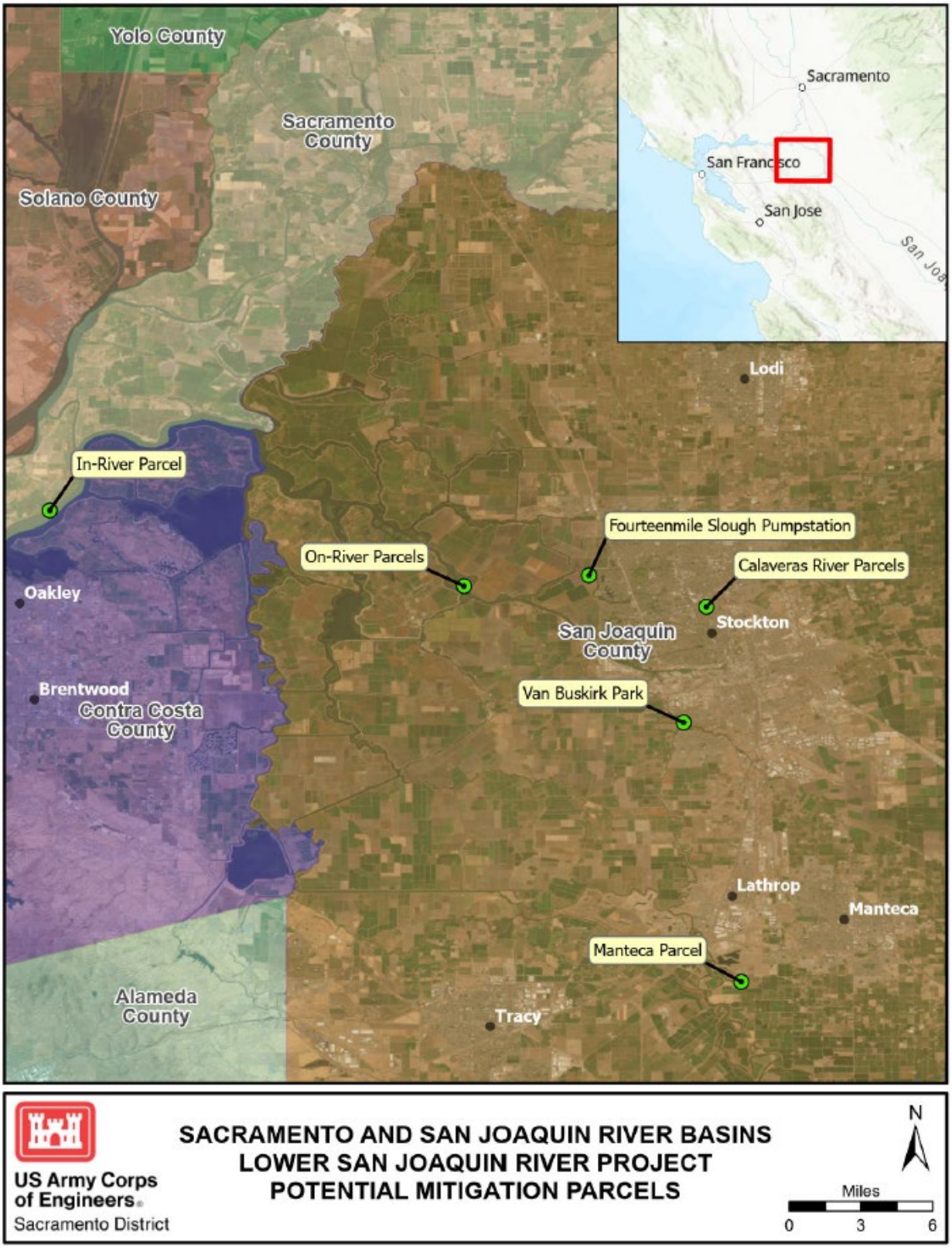

Figure 2. Map showing overview of the Proposed Action area and mitigation parcel locations.

1.5 Previous NEPA and CEQA Documentation and Other Approvals

The Record of Decision for the Final 2018 LSJR IIFR/EIS/EIR was signed by the Assistant Secretary of the Army (Civil Works) on February 8, 2019 as the NEPA lead agency. The SJAFCA Board of Directors certified the document as the CEQA lead agency on November 8, 2018 (SCH No. 2010012027). USACE conducted formal consultation on Alternative 7a with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), receiving Biological Opinions (BOs) from USFWS on June 13, 2016 (08ESMF00-2015-F-0206) and from NMFS on June 7, 2016 (WCR-2015-3809). For the National Historic Preservation Act Section 106 Consultation, a Programmatic Agreement for Alternative 7a was signed by USACE on May 11, 2016, in coordination with the State Historic Preservation Officer, CVFPB, and SJAFCA. Alternative 7a was also found to be the Least Environmentally Damaging Practicable Alternative under the Clean Water Act. Alternative 7a was authorized for construction in America's Water Infrastructure Act of 2018 (P.L. 115-270).

Detailed designs of the TS30L segment of the LSJR Project were evaluated under CEQA and NEPA in supplemental documents tiered from the 2018 LSJR IIFR/EIS/EIR. As lead agency under CEQA, the SJAFCA Board of Directors certified the Lower San Joaquin River Phase 1: Reach TS30L Levee Improvement Project Final Supplemental Environmental Impact Report (2023 TS30L Final SEIR) on September 29, 2023. As lead federal agency under NEPA, USACE prepared a Supplemental Environmental Assessment with a Finding of No Significant Impact signed by the Acting Sacramento District Commander on November 13, 2023.

1.6 Purpose of this SEA and Decision Needed

Under NEPA guidelines, a SEA is prepared to evaluate potential impacts of Project changes made after a Record of Decision or Finding of No Significant Impact (FONSI). This SEA describes the refinements developed since the 2018 LSJR IIFR/EIS/EIR pertaining to the mitigation required to compensate for the unavoidable loss of biological resources associated with the construction of the LSJR Project, as outlined in the CMP. This document analyzes the potential environmental effects of the Proposed Action and the No Action Alternative. Measures to avoid and minimize adverse environmental effects of the Proposed Action have been identified to ensure environmental effects are less than significant.

This Draft SEA/SEIR will be released for a 45-day public review period from May 20, 2025, to July 4, 2025. All substantive comments received as well as responses to comments will be included as Appendix C, Public Comments and Responses of the Final SEA/SEIR.

The District Engineer, Commander of the Sacramento District, must decide whether the Proposed Action qualifies for a FONSI under NEPA guidelines, or whether a Supplemental Environmental Impact Statement must be prepared.

1.7 Type of CEQA EIR

The lead agency for a project under CEQA may prepare a supplement to a previously certified EIR if certain conditions are met. Specifically, if the requirements to prepare a subsequent EIR are met, then a supplemental EIR may be prepared if “only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation” (Guidelines for Implementation of the California Environmental Quality Act [CEQA Guidelines] Section 15163).

In accordance with these requirements, this Draft SEIR supplements the previously certified 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR and addresses proposed modifications, changed circumstances, and new information not described in that prior environmental document. A CEQA Executive Summary is included in Appendix B.

This Draft SEIR provides additional information needed to make the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR, as supplemented, adequate for the CMP. Consistent with CEQA Guidelines Section 15163, this Draft SEIR contains only the information needed to analyze the CMP, including changed circumstances and new information requiring additional environmental review. Where information and analysis provided in the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR is applicable to the CMP, it is summarized and/or incorporated by reference.

An electronic version of the 2018 LSJR IIFR/EIS/EIR and addenda is available at:

https://www.spk.usace.army.mil/Missions/Civil-Works/Lower-San-Joaquin-River/

An electronic version of the 2023 TS30L Final SEIR and addenda is available at:

https://www.sjafca.org/maps/lower-san-joaquin-river-project

1.8 CEQA Environmental Review and Approval Process

Preparation of an SEIR involves multiple steps, during which the public is provided the opportunity to review and comment on the content of the SEIR, the scope of the analyses, results and conclusions presented, and the overall adequacy of the document to meet the substantive requirements of CEQA and provide full disclosure of the potential environmental consequences of implementing the CMP and alternatives. The following discussion describes the major steps in the environmental review process that are applicable to this Draft SEIR.

Notice of Preparation

In accordance with CEQA Guidelines Sections 15063 and 15082, SJAFCA originally prepared and published a Notice of Preparation (NOP) of an EIR on January 14, 2010 (see Addendum D of the 2018 LSJR IIFR/EIS/EIR). The NOP was circulated to the public and to federal, state, and local agencies and other interested parties to solicit comments on the proposed Project. The public comment period for the NOP closed on February 15, 2010. In addition to the public and agency comment period, a public scoping meeting was held on January 27, 2010, at the University of the Pacific's Regents Dining Room.

Concerns raised in response to the NOP and oral comments received at the scoping meetings were considered during preparation of the 2018 LSJR IIFR/EIS/EIR and this Draft SEIR. The scoping comments were included in Addendum D of the 2018 LSJR IIFR/EIS/EIR. Preparation of this Draft SEIR does not require the release of another NOP.

Draft Supplemental EIR

This Draft SEIR is available to federal, state, and local agencies and interested organizations and individuals who may want to review and comment on the analysis in this document. Publication of the Draft SEIR marks the beginning of a 45-day public review period. The 45-day public review period for the CMP extends from mid-May, 2025, through early July, 2025, ending at 5 p.m. During the public comment period, written comments should be delivered to:

Omar Al-Hindi, Executive Project Manager
San Joaquin Area Flood Control Agency (SJAFCA)
2800 West March Lane, Suite 200
Stockton, CA 95219
350-333-1139
omar.alhindi@sjafca.org

The Draft SEIR is available for public review at the Cesar Chavez Central Library, located at 605 North El Dorado Street, Stockton, CA 95202. An electronic copy of the document is available on SJAFCA's website via the following link:

https://www.sjafca.org/maps/lower-san-joaquin-river-project

SJAFCA will also conduct in-person public meeting in coordination with USACE to receive comments on the adequacy of the analysis included in the Draft SEIR. The meetings will be held on:

Date: June 2, 2025
Time: 6:00 pm – 7.:00 pm
Location: Stribley Center, 1760 East Sonora St., Stockton, CA 95205

Final Supplemental EIR

After the Draft SEIR has been circulated and the public comments and responses to comments have been incorporated, SJAFCA will publish a Final SEIR, which will be submitted to SJAFCA's Board of Directors for formal review and consideration. The Final SEIR will also be made available to the public for review. The Board of Directors will review the CMP and its anticipated or potential environmental impacts, as identified in the SEIR, and will decide whether or not to certify the Final SEIR and approve the CMP.

If the Board of Directors decides to certify the SEIR, SJAFCA may proceed with the CMP. CEQA requires that the lead agency neither approve nor implement a project unless the project's significant environmental effects have been reduced to less-than-significant levels, essentially "eliminating, avoiding, or substantially lessening" the expected impacts, unless specific findings are made. If the lead agency approves the project despite residual significant adverse impacts that cannot be mitigated to less-than-significant levels, the agency must state the reasons for its action in writing. This "Statement of Overriding Considerations" must be included in the record of project approval.

Mitigation Monitoring and Reporting Program

CEQA Section 21081.6(a) requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." All mitigation measures identified in the Final SEIR for the CMP, including the applicable mitigation measures from the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR, will be included in a mitigation monitoring and reporting program, which will identify all compliance measures and responsible parties.

Chapter 2 PROJECT DESCRIPTION

2.1 CMP Background

Compensatory mitigation is the "restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances, preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved" (see 40 CFR 230.92). It is the policy of the USACE civil works program, and in accordance with Section 906 of WRDA 1986 (PL 99-662), as amended, to demonstrate that impacts to all significant ecological resources, both terrestrial and aquatic, have been avoided and minimized to the extent practicable, and that compensation is provided for any remaining unavoidable impacts.

Requirements for LSJR project compensatory mitigation were defined by the quantified results of that habitat evaluation procedure (HEP) assessment models completed as part of the feasibility study. For the study impact analysis, the yellow warbler habitat suitability index (HSI) model (USFWS 1982) was applied to shrubby riparian and wetland habitats, the black-shouldered kite HSI model (USFWS 1987) was applied to grassland habitat, and the mink HSI model (USFWS 1986) was applied to woody riparian habitat. The habitat value used to determine mitigation needs was calculated by multiplying the habitat quantity (in acres) by habitat quality, represented by the model-generated HSI values. See the LSJR Feasibility Study Habitat Mitigation, Monitoring, and Adaptive Management Plan (Environmental Addendum J of the 2018 LSJR IIFR/EIS/EIR) for additional information on the HEP models. Impacts to federally listed species' habitats and associated mitigation needs were determined in consultation with USFWS and NMFS (see the biological opinions included in Environmental Addendum I of the 2018 LSJR IIFR/EIS/EIR). Compensation requirements for the LSJR Project were determined to be as follows:

- The loss of 139 acres of riparian habitat in the San Joaquin River basin.
- The loss of 10.75 acres of wetland habitat in the San Joaquin River basin.
- Unavoidable loss/damage to up to 19,630 linear feet of shaded riverine aquatic habitat within the San Joaquin River watershed.
- Unavoidable loss/damage of an estimated 0.5 acres of aquatic giant garter snake habitat within the recovery unit.
- Unavoidable loss/damage of an estimated 12.5 acres of upland giant garter snake habitat within the recovery unit.

- Unavoidable loss/damage of an estimated 134.5 acres of riparian and non-riparian habitat (as applicable) supporting elderberry shrubs in accordance with the 2017 VELB framework within the recovery unit.
- Complete loss of shallow water habitat that supports Delta Smelt, green sturgeon, spring-run Chinook salmon and steelhead, due to construction of the two closure structures.
- Permanent impacts of partial loss of shallow water habitat function within an estimated 170 acres in Fourteen-mile Slough, due to operation of the closure structures.
- Unavoidable loss/damage of an estimated 1.52 acres of open water habitat within federally designated Delta Smelt critical habitat.

As project-level designs are refined for each phase of the LSJR Project and additional phase-specific HEP modeling is completed, these values may require revision.

The compensatory mitigation strategy included in the 2018 LSJR IIFS/EIS/EIR primarily relied on mitigation bank credits to compensate for unavoidable impacts to ecological resources, including fish and wildlife. However, a lack of appropriate mitigation bank habitat credit types and quantities needed to fulfill the project's compensatory mitigation and project schedule requirements made credit purchase options infeasible. USACE will continue to monitor and purchase any available credits in compliance with the original plan. This CMP is a supplement to the mitigation plan published with the 2018 LSJR IIFR/EIS/EIR.

2.2 Summary of CMP

The goal of the CMP and its implementation is to fully compensate for the unavoidable effects to ecological resources that would occur with implementation of the LSJR Project, listed above in Section 2.1. The CMP identifies seven possible options for meeting the compensatory mitigation requirements for the LSJR Project. The options are summarized in Table 3.

Option 1 was eliminated from further consideration since there are not sufficient habitat credits to meet the needs of the LSJR Project.

Option 2 was eliminated from further consideration since there are no existing program types to cover the required species and habitat types required to meet the needs of the LSJR Project.

Option 3 was eliminated to grant the government the flexibility to use credits where available, and credits have already been purchased in support of the LSJR Project.

Option 5 was eliminated since there are no existing programs which cover needed resources in the watershed and existing cost estimates were over 10 years old; therefore, this option was too speculative to carry forward.

Option 6 was eliminated since no feasible sites could be identified to implement the mitigation.

Both Option 4 and Option 7 could meet mitigation requirements for the LSJR Project, but based on screening criteria within the CMP (availability for acquisition prior to project construction, ability to acquire the site in fee, distance from project sites, proximity to source populations, habitat connectivity, etc.) as well as estimated costs, Option 4 was ultimately chosen as the selected mitigation plan.

Table 3. Summary of the seven options presented in the CMP for meeting LSJR Project compensatory mitigation requirements.

Option Number	Name	Description
1	Purchase mitigation bank credits	USACE would purchase appropriate habitat credits from a USFWS- or NMFS-approved bank, as appropriate, in the service area.
2	Purchase credits from an approved in-lieu fee program	This measure addresses the mitigation objectives through the purchase of in-kind credits from an approved in-lieu fee program with credits available in the basin. An in-lieu fee program could also include funding needed studies for the benefit of ESA-listed species, in coordination with USFWS and NMFS.
3	Construct a mitigation project (on or off-site)	Construct mitigation on one or more parcels that have been identified on both on and off-site locations as potential candidates. The creation of habitat could include any of the following measures: • the use of dredge material to create shallow water Delta Smelt habitat, • restoration of hydrology to create wetland and riparian habitats, • change in topography to create wetland and riparian habitats, • planting suitable wetland and riparian vegetation, • removal of rock to restore shaded riverine aquatic habitat, and • transplant of elderberry shrubs into an area to be preserved in perpetuity and planting additional seedlings, as required, to avoid loss of habitat value.

Option Number	Name	Description
4	Combination of mitigation bank credit purchase and constructed mitigation	Purchase mitigation bank credits for available species and habitat types, including giant garter snake, valley elderberry longhorn beetle, Delta Smelt, NMFS-listed fish, and wetlands. Also, construct one or more of the proposed mitigation sites described in Option 3 to meet remaining mitigation needs
5	Combination of in-lieu fee program and constructed mitigation	Contribute to an in-lieu fee program or a research grant for available species and habitat types and construct one or more of the proposed mitigation sites described in Option 3 for remaining species and habitat types.
6	Remove rock along reaches of river where no longer required for flood protection purposes	Remove rock to restore shaded riverine aquatic habitat. This measure addresses the mitigation objectives by removing bank hardening where it is no longer needed for the benefit of listed fish species.
7	Form partnership with another agency who is working on a project which could serve as mitigation for this project and purchase bank credits	The California Department of Fish and Wildlife has completed a feasibility study for restoration of the Franks Tract State Recreation area. The Franks Tract State Futures project is seeking funding, which presents a partnership opportunity. Many of the project goals align with the goals of the compensatory mitigation needed for the LSJR Project. Specifically, the Franks Tract Futures project would create many acres of needed habitat within the correct regions. Habitat created would be suitable for Delta Smelt and all NMFS listed species.

Note: The CMP also included an eighth option as a "no action" baseline, for the sake of comparison. However, performing no mitigation work would be contrary to law and policy, so that option is not discussed here.

2.3 No Action Alternative

Under the No Action Alternative, there would be no change to the LSJR Project compensatory mitigation strategy as it is described in the 2018 LSJR IIFR/EIS/EIR Alternative 7a (the Recommended Plan). Mitigation bank credits would be purchased as available to compensate for impacts to ecological resources, including wetland and riparian habitats, fish, and wildlife, and 14 acres of riparian habitat would be constructed on-site at Fourteenmile Slough (see Table 8-3 in Section 8.1.2 of the 2018 LSJR IIFR/EIS/EIR). Mitigation for impacts to riparian, shaded riverine aquatic, and wetland habitats was to be accomplished through the purchase of credits from Cosumnes

Floodplain Mitigation Bank (CFMB). However, at this time, all credits are sold out from CFMB, and no other mitigation bank within the service area has sufficient credit to meet LSJR Project needs. If new mitigation credits become available in the future at CFMB or other banks, USACE will purchase them at that point.

Policy mandates that mitigation, including acquisition of lands or interest, shall be undertaken or acquired by USACE and it's NFS before any construction of the project commences, with the exception that physical construction required for mitigation purposes may be undertaken concurrently with construction of the project (33 U.S.C. §2283(a)(1)). Therefore, under this alternative, construction of the LSJR Project phases could not commence until mitigation bank credits become available and are purchased by USACE, resulting in potentially severe delays in the authorized project schedule.

2.4 Proposed Action

The Proposed Action consists of Option 4 as identified in the CMP. USACE and the NFS propose to purchase mitigation bank credits for available species and habitat types, and construct mitigation sites on one or more proposed land parcels to meet the remaining mitigation needs for the LSJR Project.

2.4.1 Purchase of Mitigation Bank Credits

In order for USACE to purchase credits from a mitigation bank, the bank must:

- Be approved through the USACE Regulatory Program, as well as by USFWS and/or NMFS, as demonstrated by a banking instrument.
- Provide available or potential in-kind credits.
- Comprise a service area including the locations of LSJR Project impacts.
- Have a complete functional analysis of credits using a USACE certified habitat assessment model (Implementation Guidance for Section 1163 of WRDA 2016).

Given these requirements, the mitigation banks with credits that could be used as compensatory mitigation for this project are summarized in Table 4. Other mitigation banks that become available in the future may be considered as well. Purchase of habitat credits at an approved mitigation bank would not require any construction or operational impacts and will not be evaluated further in this SEA/SEIR.

Table 4. Mitigation banks with credits available for use as compensatory mitigation for the LSJR Project.

Bank Name	Operator	Species/ Habitat Type	USFWS/ NMFS Approved?	Acres/credits available
Grasslands Mitigation Bank	Westervelt Ecological Services	Giant Garter Snake	USFWS Approved	Yes
		Wetlands	USFWS Approved	Yes
French Camp Mitigation Bank	Delta Habitat LLC	Valley Elderberry Longhorn Beetle	USFWS Approved	New credits soon available
River Ranch Conservation Bank	Wildlands Inc.	Valley Elderberry Longhorn Beetle	USFWS Approved	Yes
Fremont Landing Conservation Bank	Wildlands Inc.	Riparian / Salmonids (SRA)	USFWS/ NMFS Approved	Yes
Johnson Cosumnes	Westervelt Ecological Services	Riparian / Salmonids (SRA)	No	Anticipated Approval 2024-2025
Zacharias Ranch	Westervelt Ecological Services	Riparian / Wetland / Salmonid (SRA)	No	Anticipated Approval 2025-2026
Cache Slough Mitigation Bank	Westervelt Ecological Services	Riparian / Wetland / Salmonid (SRA)/ Sturgeon	No	Anticipated Approval 2026-2027

2.4.2 Description of Off-Site Mitigation Parcels

To address remaining mitigation needs of the LSJR Project, six land parcels were identified in the CMP as candidates for construction of mitigation sites. The quantity of

each type of habitat that could be established on each parcel varies. Table 5 summarizes the habitat potential for each parcel.

Table 5. Parcels identified as candidates for compensatory mitigation construction.

Name	Wetland (acres)	Riparian (acres)	GGS	VELB	Delta Smelt	NMFS Fish (SRA)
Fourteenmile Slough Pumpstation	7	65	X	X	-	-
In-River Parcel	5	20	-	X	X	15,000 LF
Van Buskirk Park	10	27	X	X	X	9,600 LF
Manteca Parcel	0	145	X	X	-	-
Calaveras River Parcels	0	40	X	-	-	11,000 LF
On-River Parcels	25	75	-	X	X	15,000 LF

Note: The amounts of habitat that could be created for ESA-listed species is variable dependent on design. An X denotes that suitable habitat for a listed species could be created. A dash (-) indicates that suitable habitat could not be created on the subject parcel due to distance from known populations, hydrology, or other factors. Exact values are subject to change based on lost acres due to existing easements, access roads, and other unusable acres. NMFS Fish refers to SRA habitat in linear feet (LF).

More detailed descriptions of each potential mitigation parcel and their habitat potential are outlined below.

Fourteenmile Slough Pumpstation

This parcel is publicly owned by the City of Stockton. It is adjacent to both the Fourteenmile Slough proposed levee improvement and the proposed closure structure for the LSJR Project. The property is generally subsided and sits an average of 2 feet below sea level. It is surrounded by levees with access roads on the channel facing side

Figure 3). Historically, the parcel was used as a wastewater treatment area which featured a pumpstation and oxidation and sludge ponds. Operations at the property ended in 1979, and the original pumping plant was demolished in 2008. There is uneven grading on the site due to the presence of the ponds, and there is the potential for residual contamination of some regulated substances. The USACE and its non-federal sponsors completed a Phase 1 Environmental Site Assessment, which recommended further soil testing. A Phase 2 Environmental Site Assessment was completed in December 2024, which reported no contaminants at levels that would qualify them as

hazardous wastes; most were within local background levels. During a site visit, it was observed that volunteer vegetation has established in several locations. Some species appeared to be native. Songbirds and raptors were present on the day of the site visit. Compensatory habitat could be built for GGS and VELB, in addition to wetland and riparian habitats. However, because there are properties that still require protection from flooding adjacent to this site, notching the levee to allow hydraulic connection would not be feasible, which precludes habitat creation for Delta Smelt and NMFS listed fish species.

Development of this mitigation site was evaluated for CEQA at a project-level in the 2023 TS30L Final SEIR and that document is incorporated here by reference, including all analysis and determinations of significance of identified environmental impacts.

In-River Parcel

This privately-owned parcel is located in the legal Delta near the LSJR Project area and is listed for sale at the time of this Draft SEA/SEIR. The parcel is an island with no access by land (Figure 4). Native vegetation surrounds the shoreline, with some native shrub vegetation near the islands center. The parcel is low-lying in the channel and could provide SRA habitat and would be suitable for riparian habitat in the center. Because it is low-lying, the island is vulnerable to rising sea levels.

Van Buskirk Park

Van Buskirk Park was a public golf course; however, due to insufficient funding, the golf course was shuttered. The City of Stockton has recently been working on redesign plans for the entire park. Discussions with City staff have indicated the desire to convert half the park to habitat for low impact recreational activities such as walking, running, and nature appreciation, while reserving the other half of the park for developed recreation uses (Figure 5). The public has generally been supportive of the split park idea. Currently, the park has an estimated 350 ornamental trees planted with some wildlife value and some of the old golf course features that have become degraded wetlands. Construction of this site would entail setting back the levee from its current configuration to restore hydrology, grading and planting to establish appropriate elevations for wetland and riparian habitat and removing rock from the remnant levee. There is also a possibility to transplant elderberry to this site as the French Camp mitigation bank is just on the opposite side of French Camp Slough.

Development of this mitigation site was evaluated for CEQA at a program-level in the 2023 TS30L Final SEIR and that document is incorporated here by reference, including all analysis and determinations of significance of identified environmental impacts.

Manteca Parcel

This privately owned parcel has been used for row crop agriculture in the past. The property owner is a willing seller. It is currently on the waterside of a newly improved levee and is outside the planned development area for the City of Manteca (Figure 6). Manteca is rapidly developing, and if the site is used, accommodations for pedestrian access may be needed to control and funnel foot traffic. Quality riparian habitat exists in the slough adjacent to the parcel; however, the waterway is cut off from the San Joaquin River and therefore not able to serve as SRA habitat. Since large mature elderberry are present in and around the site, the site could also be used for elderberry transplants. Numerous songbirds and raptors have been observed on site.

Development of this mitigation site was evaluated for CEQA at a program-level in the 2023 TS30L Final SEIR and that document is incorporated here by reference, including all analysis and determinations of significance of identified environmental impacts. Note that in the 2023 SEIR, this site was referred to as the San Joaquin River South site.

Calaveras River Parcels

While many of the parcels on the waterside of the levees along the Calaveras River are in public ownership, there are a few remaining private parcels. The three adjacent parcels proposed for mitigation are privately owned by a single landowner, who is willing to sell. The parcels partially overlay some of the area where levee improvements are planned (Figure 7). Large woody vegetation is completely absent from the site, but the river is still hydraulically connected, and fish are believed to travel up the Calaveras River to the Stockton Diverting Canal, making restoration in this area a key priority for habitat connectivity. Work in this area would be directly along the Calaveras River. The existing habitat is severely degraded. The topography of the site would need to be regraded to ensure sufficient hydraulic capacity in the channel after vegetation is planted. There are no elderberry shrubs near the site, and the waterbody is too large to serve as giant garter snake habitat. Likewise, as the channel is not tidally influenced, the site would not be suitable for Delta Smelt.

On-River Parcels

These two privately owned parcels are listed for sale at the time of this Draft SEA/SEIR (Figure 8). The larger parcel has been used as a private hunting club in the past and has an existing boat dock. The habitat condition of the two parcels is currently unknown, but likely possesses some mature vegetation. There are no levees around the sites. Habitat improvement at the on-river parcels could consist of cutting additional channels for juvenile rearing habitat. Topography could be modified to support desired habitat and vegetation could be planted. It is unknown if elderberry exist at these sites, although elevations appear to be appropriate near the middle of the parcels.

Unidentified Parcels

In addition to the parcels described above, the CMP allows for the possibility of acquiring currently unidentified parcels for mitigation, if additional publicly- or privately-owned parcels become available in the future and are suitable for the construction of mitigation to compensate for LSJR Project impacts. Parcels would likely be within or adjacent to the Lower San Joaquin River feasibility study area, as depicted in Figure 1-3 of the 2018 LSJR IIFR/EIS/EIR, and be located on undeveloped and/or agricultural lands, similar to the mitigation parcels discussed within this document. Any parcels identified in the future would undergo the same screening criteria as those mentioned in the CMP and additional NEPA/CEQA compliance would be completed as needed.

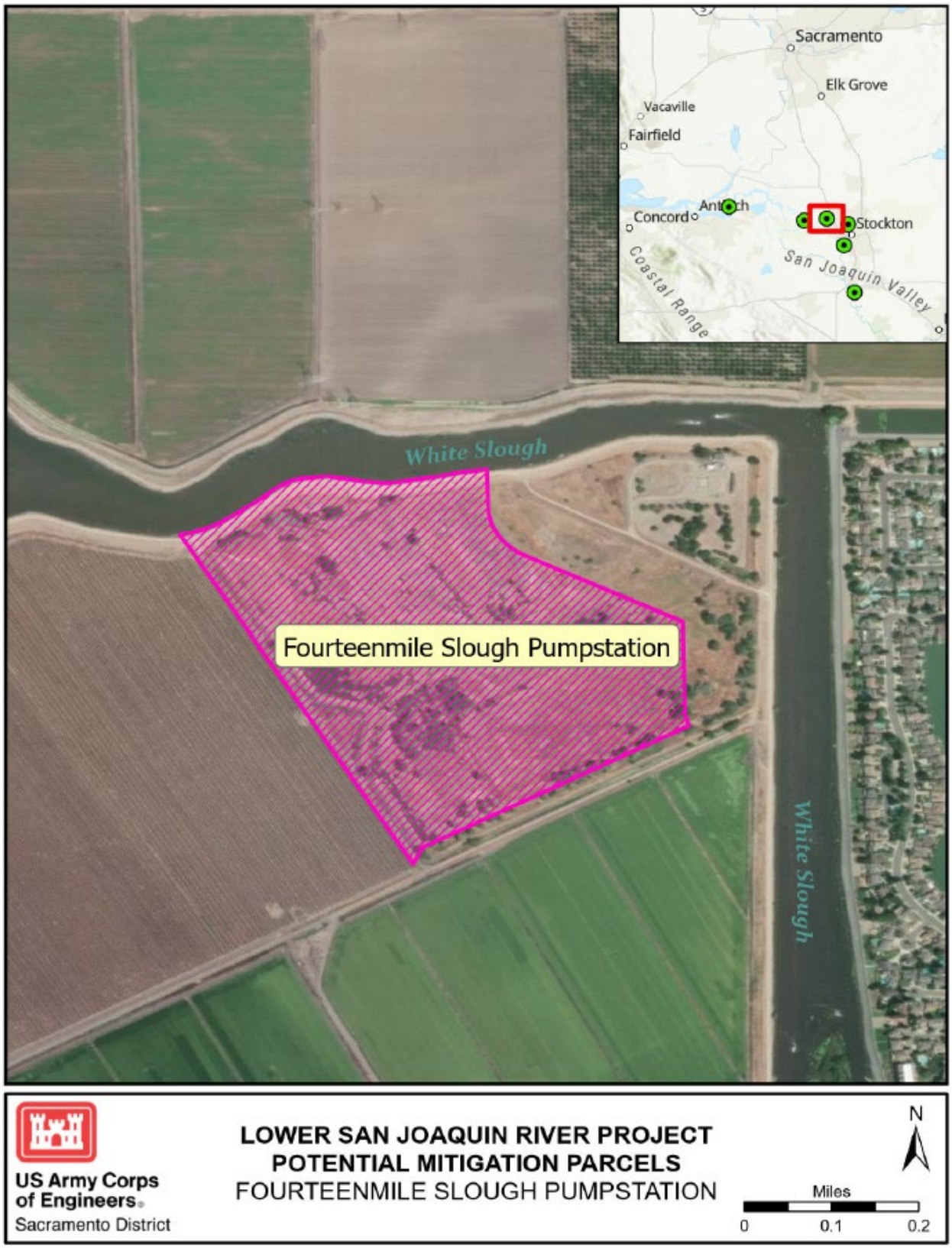

Figure 3. Map of Fourteenmile Slough Pumpstation location.

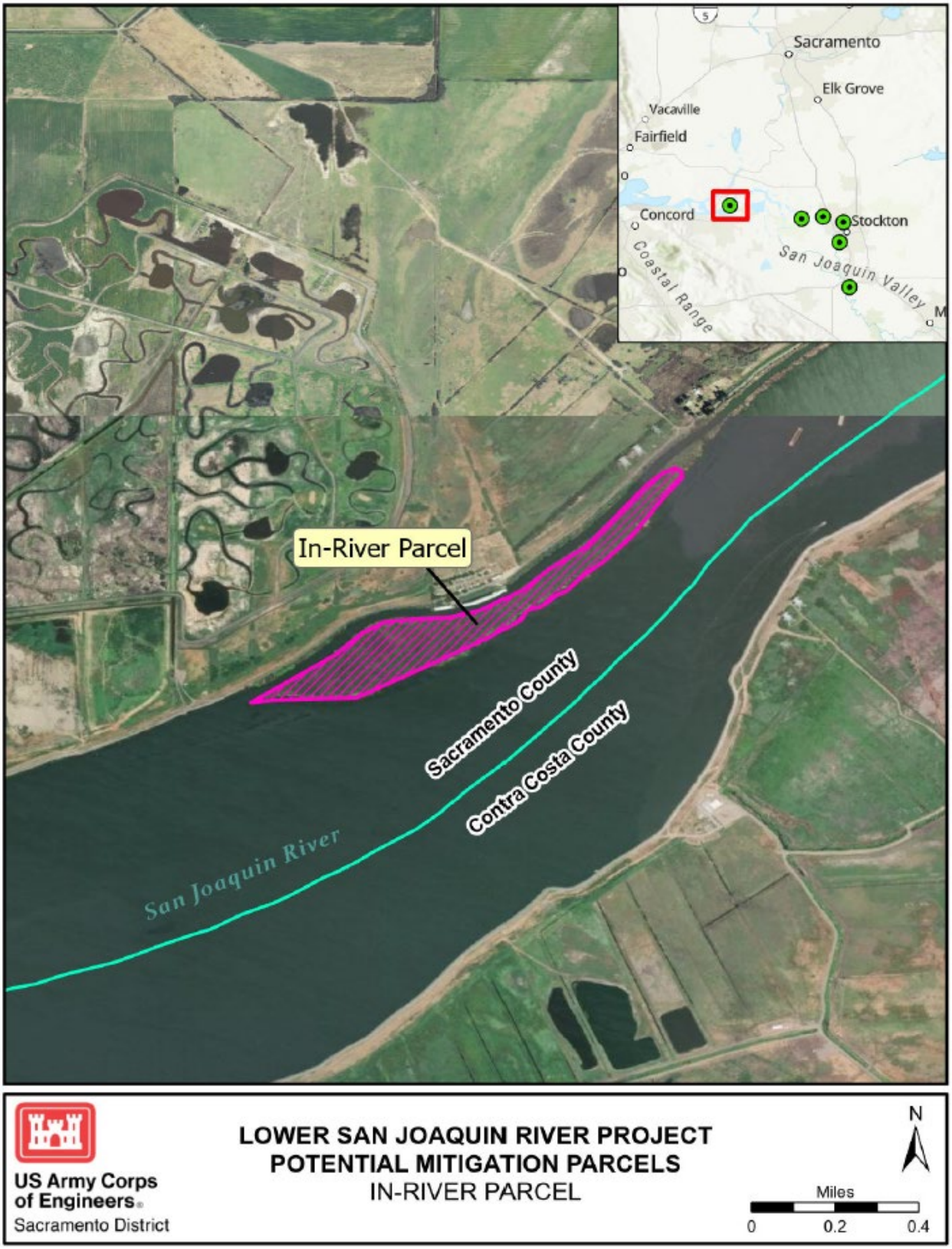

Figure 4. Map of In-River Parcel location.

Figure 5. Map of Van Buskirk Park mitigation area location.

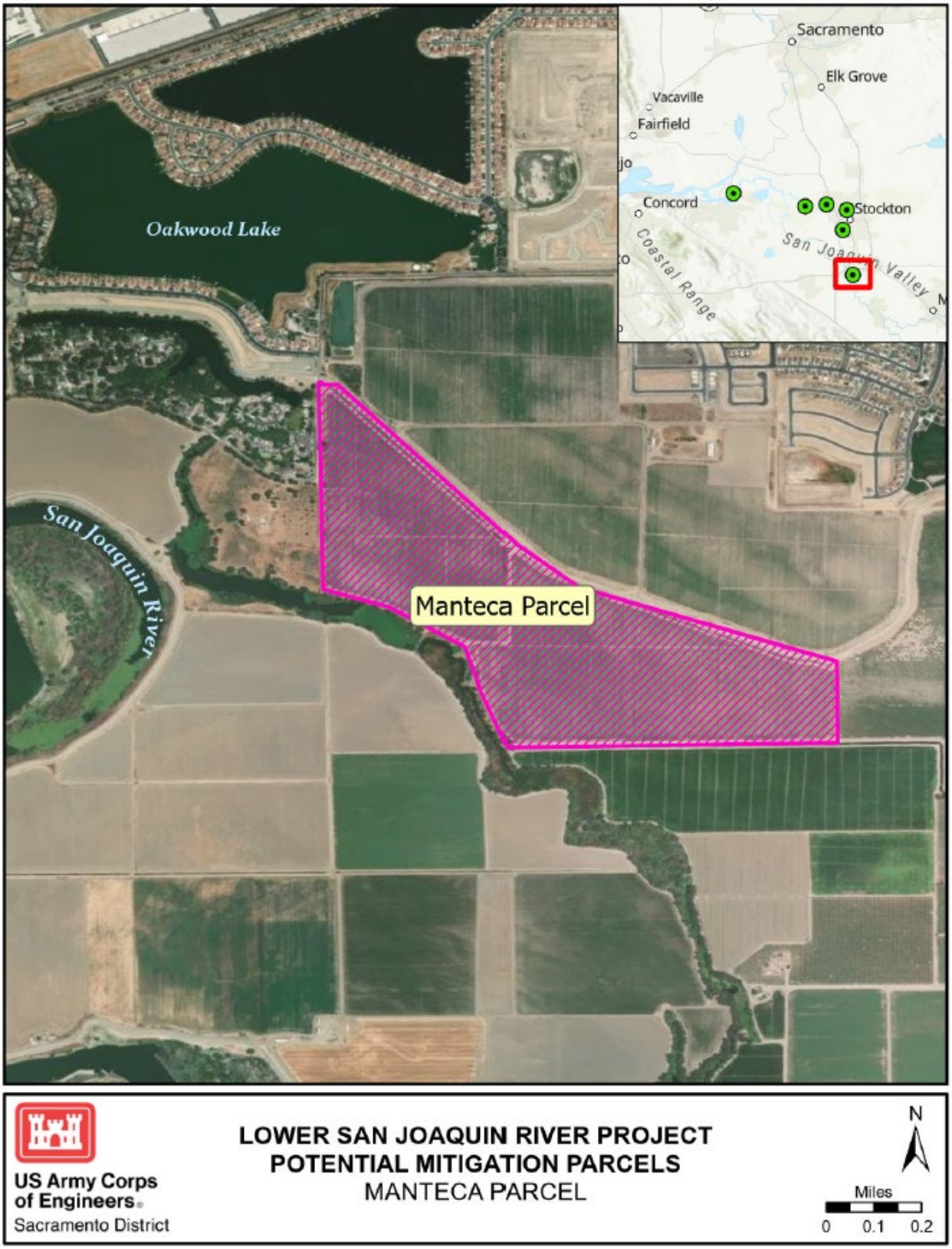

Figure 6. Map of Manteca Parcel location.

Figure 7. Map of Calaveras River Parcels location.

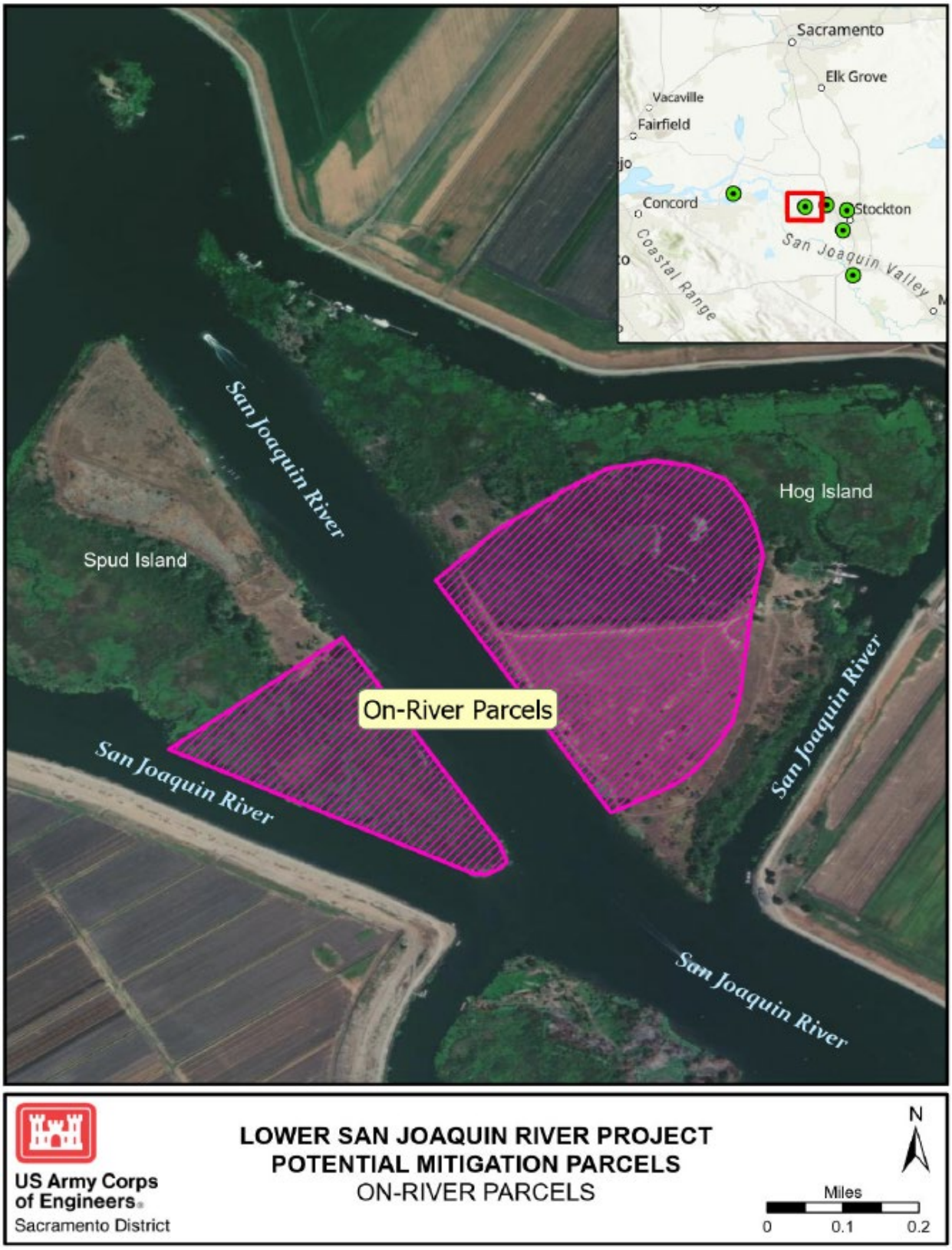

Figure 8. Map of On-River Parcels location.

2.4.3 Construction of Off-Site Mitigation Parcels

The construction of a mitigation site is complex; therefore, implementation could include any combination of the following measures:

- the use of dredge material to create shallow water Delta Smelt habitat,
- restoration of hydrology to create wetland and riparian habitats,
- change in topography to create wetland and riparian habitats,
- planting suitable wetland and riparian vegetation,
- removal of rock to restore shaded riverine aquatic habitat, and
- transplant of elderberry shrubs into an area to be preserved in perpetuity and planting additional seedlings, as required, to avoid loss of habitat value.

Site preparation and construction for any of the potential mitigation sites would require a similar process. Vegetation would be cleared, and the site would be graded to establish a construction staging/stockpile area, protecting in place and enhancing any existing wetland and riparian features or valley elderberry shrubs. Topography would be graded to elevations that support wetland and riparian habitats. It is expected that grading and fill would be balanced at each mitigation site, meaning that any soil or material that is excavated would be used as fill material elsewhere on the site.

In addition to the above, construction of the Van Buskirk Park site would entail setting back the levee from its current configuration to restore hydrology and removing rock from and partially or fully degrading the remnant levee. The construction of the setback levee and a full analysis of its effects will be presented in future supplemental NEPA documentation for Phase E of the LSJR Project.

Appropriate vegetation would be planted as needed, including the transplanting of valley elderberry shrubs where appropriate (to reduce the amount of mitigation bank credits required). While the exact planting palette for a proposed mitigation site would depend on site specifics, a list of the types of vegetation that could be planted for each habitat type is included in Table 6.

The general type and usage of equipment required for development of the mitigation sites would be minimal compared to levee improvements described in the 2018 LSJR IIFR/EIS/EIR. Expected equipment includes excavators, loaders, dozers, skid steers, water truck, foreman truck, or similar. For island parcels, construction equipment may be delivered to the construction site via barge. Staging areas would be located within or adjacent to the mitigation site footprint and would not conflict with any of the existing utility easements. If a staging area is established outside of the project footprint, it would be on land with low habitat value, such as previously disturbed ground, ruderal, non-native, and/or invasive grassland, etc. After construction, staging areas would either be

vegetated according to the planting palette if within the project footprint or seeded with native grasses and forbs. If a staging area is established outside of the project footprint, further supplemental NEPA analysis would be completed as needed to evaluate and disclose any additional impacts. It is expected that no fill material would be imported to any of the sites; but if so, material would either be delivered by barge or truck. Truck haul routes would be confined to designated truck routes and would avoid school zones and residential areas to the extent possible.

Table 6. Examples of plant species that may be planted within constructed mitigation sites.

Habitat Type	Potential Species (including but not limited to)
Riparian	*Acer negundo* (box elder), *Cercis occidentalis* (western redbud), *Fraxinus latifolia* (Oregon ash), *Juglans californica* (California black walnut), *Platanus racemosa* (Western sycamore), *Populus fremontii* (Fremont's cottonwood), *Quercus lobata* (valley oak), *Salix* spp. (willow), *Rubus ursinus* (California blackberry), *Frangula californica* (coffeeberry), *Cephalanthus occidentalis* (buttonbush), *Helinium puberlum* (sneezeweed), *Oenothera hookerii* (evening primrose)
Wetland	*Carex aquatilis* (water sedge), *Baccharis salicifolia* (mulefat), *Bolboschoenus robustus* (sturdy bullrush), *Cyperus eragrostis* (umbrella sedge), *Juncus effusus* (soft rush), *Sagittaria latifola* (Wappato), *Schoenoplectus acutus* (Hardstem bulrush)
Grassland	*Achillea millefolium* (yarrow), *Asclepias fascicularis* (narrow leaved milkweed), *Clarkia purpurea* (purple clarkia), *Elymus glaucus* (Blue wildrye), *Festuca microstachys* (small fescue), *Lupinus bicolor* (miniature lupine), *Trifolium wormskioldii* (cows clover)

USACE policy requires the preparation of a mitigation monitoring plan, to include performance criteria against which the success of the installed mitigation can be measured. For the LSJR Project, the CMP contains this plan in Chapter 14 – Ecological Success Criteria and Chapter 15 – Monitoring and Adaptive Management. Each constructed mitigation site would be monitored for success annually for the first five years, and again at 10 and 25 years post-construction. At 50 years post-construction, a final comprehensive monitoring report would be prepared. A supplemental habitat and monitoring and adaptive management plan would be developed for each constructed mitigation site to allow for specificity at each site.

Constructed mitigation sites would be actively maintained for a period of time, typically three to five years. This would include irrigation of the installed vegetation, weeding, mowing, replacement of failed plantings, etc. The source(s) of water for irrigation may include installation of wells, siphons for drawing up adjacent surface water, or importing

water to the site. Electrical sources would be identified as needed to support irrigation and pumping.

Construction Schedule and Phasing

Construction sequencing and schedule for the proposed mitigation parcels is summarized in Table 7. Note that these are anticipated dates based on the current LSJR Project schedule but are subject to change as the project progresses and the schedule and designs are refined.

Table 7. Sequence and timing of mitigation site construction.

Parcel	Date of Construction Completion
Fourteenmile Slough Pumpstation	2026
In-River Parcel	2027-2028
On-River Parcels	2027-2028
Calaveras River Parcels	2029
Manteca Parcel	2030
Van Buskirk Park	2032
Fourteenmile Slough Setback Levee	2033

2.4.4 Development of On-site Mitigation Opportunities

Finally, there are a number of on-site mitigation opportunities that could provide cost effective mitigation without compromising flood risk reduction measures. In particular, the following reaches could be suitable for implementation of on-site mitigation:

- Levee Setback at Fourteenmile Slough – The 2018 LSJR IIFR/EIS/EIR included a potential levee setback along Fourteenmile Slough which could create up to 14 acres of riparian habitat, portions of which may also serve as VELB and GGS habitat(.
- Calaveras River Levee Improvements – Numerous locations along the Calaveras River would be improved. Some segments of the levee have bank area waterward of the levee that could be planted, provided there is sufficient hydraulic capacity in the channel.

Project design has not been initiated for the above-listed on-site mitigation options; therefore, the precise acreage of mitigation that the on-site locations may provide is not known. If on-site mitigation is to be constructed, project-level environmental review of

relevant options would be included as part of the Proposed Action in supplemental NEPA and CEQA documentation for the associated LSJR Project phase.

2.5 2018 LSJR IIFR/EIS/EIR Program Alternatives (CEQA Alternatives)

This section briefly summarizes the alternatives considered in the 2018 LSJR IIFR/EIS/EIR and discusses the potential for the CMP to change the previous alternatives analysis. For the reasons described below, no additional analysis of these alternatives is warranted, and the alternatives analysis in the 2018 LSJR IIFR/EIS/EIR remains adequate.

2.5.1 Alternative 1 - No Action

The analysis of the No Action (or No Project) Alternative, Alternative 1, in the 2018 LSJR IIFR/EIS/EIR evaluated what would reasonably have been expected to occur in the foreseeable future if USACE would not participate in improvements to the existing flood risk management system in the study area.

As described in Section 2.3, No Action Alternative, the CMP No Action Alternative would mean that there would be no change to the LSJR Project compensatory mitigation strategy as it is described in the 2018 LSJR IIFR/EIS/EIR. Under this Alternative, mitigation bank credits would be purchased as available to compensate for impacts to ecological resources, including wetland and riparian habitats, fish, and wildlife, and 14 acres of riparian habitat would be constructed on-site at Fourteenmile Slough (see Table 8-3 in Section 8.1.2 of the 2018 LSJR IIFR/EIS/EIR).

At this time, no mitigation bank within the service area has sufficient credit availability to meet LSJR Project needs. Policy mandates that mitigation, including acquisition of lands or interest, shall be undertaken or acquired by USACE before any construction of the project commences, with the exception that physical construction required for mitigation purposes may be undertaken concurrently with construction of the project (33 U.S.C. §2283(a)(1)). Therefore, under this alternative, construction of the LSJR Project phases could not commence until mitigation bank credits become available and are purchased by USACE, resulting in potentially severe delays in the authorized project schedule.

Therefore, just as with the No Action Alternative described in the 2018 LSJR IIFR/EIS/EIR, operational processes (e.g., through and under seepage, slope stability, overtopping and erosion) would continue and likely become worse, increasing the risk of future levee failure during high flows. Existing environmental resources, particularly native vegetation, wildlife, special status species, and water quality would be at risk from levee failure and flooding. Adverse effects could include future loss or damage to terrestrial and/or aquatic habitats.

The CMP would not change this conclusion. Thus, the CMP would not alter any of the findings in the 2018 LSJR IIFR/EIS/EIR impact analysis for the No Action Alternative. No additional analysis is warranted, and the analysis of the No Project Alternative in the 2018 LSJR IIFR/EIS/EIR remains adequate.

2.5.2 Water Supply Alternatives 2-5

The 2018 LSJR IIFR/EIS/EIR also considered additional alternatives:

- Alternative 7b—North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River Levee Improvements and RD 17 Levee Improvements, which included the same levee improvement measures as with Alterative 7a, with the addition of RD 17 levee improvements.

- Alternatives 8a and 8b— North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River, Stockton Diverting Canal Levee Improvements, and RD 17 Levee Improvements (Alternative 8b Only), which included the same levee improvements as Alternatives 7a and 7b, respectively, and would also include additional improvements along the Lower Calaveras River and Stockton Diverting Canal.

- Alternative 9a and 9b— North and Central Stockton, Delta Front, Lower Calaveras River, San Joaquin River Levee Improvements, Morman Island Channel Bypass and RD 17 Levee Improvements (Alternative 9b Only), which included the same levee improvements as 7a and 7b, respectively, and would also include construction of a flood bypass and diversion structure in Old Mormon Slough.

The purpose and need for the CMP is to mitigate for biological impacts, allowing for implementation of the LSJR Project to occur and fulfillment of its flood protection objectives. The CMP includes similar (or lower intensity) construction and operation activities as described for Alternative 7a in the 2018 LSJR IIFR/EIS/EIR. Therefore, the alternatives evaluated and conclusions regarding the alternatives' ability to meet Project objectives, the consistency of the alternatives with the existing plans and policies, and their impacts compared to Alternative 7a impacts, as described in the 2018 LSJR IIFR/EIS/EIR, are still applicable for the CMP.

Therefore, no additional analysis is warranted, and the analysis of Alternatives 7b – 9b presented in the 2018 LSJR IIFR/EIS/EIR is adequate.

Chapter 3 EXISTING CONDITIONS AND ENVIRONMENTAL EFFECTS ANALYSIS

3.1 NEPA Approach to Analysis

The mitigation strategy proposed under Alternative 7a, the recommended alternative in the 2018 LSJR IIFR/EIS/EIR (see Section 1.1 of this document), is the No Action Alternative in this SEA. This SEA focuses its analyses on changes to the No Action Alternative, specifically the construction of habitat mitigation at one or more proposed parcels as identified in Option 4 of the CMP. The existing conditions and regulatory settings for each resource area were described in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L SEA and SEIR and incorporated in the SEA by reference. Avoidance and minimization measures from the 2018 document are also applicable to both the No Action Alternative and the Proposed Action.

3.2 CEQA Approach to Analysis

According to CEQA Guidelines Section 15163, this Draft SEIR/SEA is required to contain only the information needed to analyze the proposed project as modified from the original project previously evaluated under CEQA, including changed circumstances and new information requiring additional environmental review. Where existing information and analysis in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR are sufficient to evaluate the impacts of the CMP, no additional environmental review is warranted. The following discussion summarizes environmental issues for which potential impacts of the CMP are adequately addressed in the certified 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR and no further analysis is required. This chapter also provides information on other CEQA considerations, alternatives, and resources requiring additional CEQA analysis beyond the analysis in the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR.

The environmental settings and impact analyses described in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR remain applicable to the proposed project, as described by resource area below, and are incorporated here by reference.

As discussed in Chapter 2, Project Description, the potential environmental impacts related to construction of the Fourteenmile Slough Pumpstation mitigation parcel were evaluated at a project level under CEQA in the 2023 TS30L Final SEIR. As further noted in Chapter 2, environmental impacts related to construction of the Van Buskirk Park and Manteca mitigation parcels were evaluated at a program level in the 2023 TS30L SEIR. As project design has been further developed for these parcels, there have been no substantive changes to the existing land uses, proposed habitat types and acreages, or

planned construction methods or intensity that was described in the 2023 TS30L Final SEIR. Construction of these parcels under the CMP is therefore consistent with the 2023 TS30L Final SEIR; the analysis provided by the 2023 TS30L Final SEIR remains applicable and adequately addresses potential impacts related to the construction of these parcels. Therefore, for CEQA, Fourteenmile Slough Pumpstation, Van Buskirk Park, and Manteca mitigation parcels are not evaluated further in this document.

The CMP includes two options for on-site mitigation opportunities as described in Section 2.4.4 of this document: 1) a levee setback at Fourteenmile Slough and 2) levee improvements at unidentified parcels along the Calaveras River. As described in Chapter 2, the 2018 LSJR IIFR/EIS/EIR included a potential levee setback along Fourteenmile Slough that could create up to 14 acres of riparian habitat, as well as VELB and GGS habitat mitigation. There has been no further development in design or planning of this mitigation site beyond what was covered in the 2018 LSJR IIFR/EIS/EIR. The analysis in the 2018 LSJR IIFR/EIS/EIR remains applicable and no further analysis is provided in this document. Prior to construction of this mitigation site, project-level environmental review would be required in supplemental CEQA documentation.

Similarly, project design has not been initiated for the Calaveras River levee improvements, nor have locations of potential improvements been identified. The same is true for the “unidentified parcels” described as potential off-site mitigation opportunities outlined in Section 2.4.3 of this document. The analysis contained in this SEIR can be applied as program-level coverage for future environmental review of this type of on or off-site mitigation opportunity as long as the environmental setting conditions described in this document remain relevant to the mitigation sites once identified, and if proposed habitat types and planned construction methods/intensity remain consistent with that described for the mitigation sites analyzed at a project-level in this SEIR (i.e., In-River Parcel, Calaveras River parcels, On-River parcels). Prior to construction of any of these on or off-site mitigation opportunities, project-level environmental review would be required in supplemental CEQA documentation.

Furthermore, operation of the CMP would consist of monitoring and adaptively managing the covered developed mitigation sites until success criteria are met, as described in Chapter 2 of the Mitigation, Monitoring, and Adaptive Management Plan included in Addendum J within Addendum D of the 2018 LSJR IIFR/EIS/EIR (incorporated here by reference). The O&M Manual developed by USACE would include long-term operational plans for the mitigation sites and identify maintenance responsibilities. A performance period of three to five years would be required for the mitigation sites, during which USACE would be responsible for plant establishment and monitoring and reporting on success criteria outlined in the O&M Manual. After the performance period concludes, the NFS would take on maintenance responsibility of the established habitat within the mitigation sites. This description of operation and maintenance activities is consistent with that described and analyzed for biological mitigation sites in the 2023 TS30L Final

SEIR; therefore, the analyses related to operational impacts of the CMP are not evaluated further in this SEIR.

3.3 Resources Not Discussed in Detail

The resources not discussed in detail are described first for NEPA and then for CEQA. Since NEPA and CEQA have different requirements for supplemental documents the "resources not discussed in detail" are not the same resources for both.

3.3.1 Resources Not Discussed in Detail under NEPA

Several resources are not evaluated in detail within this SEA because the Proposed Action would not create additional impacts to the resource beyond what has been described in the 2018 LSJR IIFR/EIS/EIR, or the effects to the resources from the Proposed Action are negligible. Resources eliminated from further analysis are listed in Table 8. A full analysis of the expected LSJR Project impacts to these resources can be found in the 2018 LSJR IIFR/EIS/EIR.

Table 8. Resources not discussed in detail.

Resource	2018 LSJR IIFR/EIS/EIR Section
Geology and Geomorphology	5.1
Seismicity	5.2
Transportation	5.15
Recreation	5.17
Noise	5.19

Geology and Geomorphology

The existing conditions as related to geology and geomorphology previously described in Section 5.1.1 of the 2018 LSJR IIFR/EIS/EIR are still generally applicable to the Proposed Action area. The construction of riparian and wetland habitats on the proposed mitigation parcels would not have an effect on geology or regional geologic resources or processes. The Proposed Action may have a temporary effect on local geomorphology due to soil disturbance during grading of the sites; this effect would be negligible in comparison to the geologic conditions in the San Joaquin Valley and adjacent foothills.

Seismicity

The existing conditions as related to seismicity described in the 2018 LSJR IIFR/EIS/EIR are still generally applicable to the Proposed Action area today, including the information on faults and seismic activity, and liquefaction and settlement. One additional large earthquake has occurred in the region since the 2018 LSJR IIFR/EIS/EIR was published; this earthquake (5.1 magnitude) occurred in October 2022 along the Calaveras Fault and was centered in Seven Trees, California near San Jose, approximately 49 miles from Stockton.

The On-River mitigation parcel is located adjacent to an Alquist-Priolo Fault Zone; however, the creation of a mitigation site at this rural location (which may involve minor grading and planting of vegetation) would not expose people or structures to hazards related to rupture of a known fault, strong ground shaking, seismic related ground failure, or landslides. Mitigation construction at any of the proposed sites would have less than significant effects on known seismic faults and would not cause ground movement along faults.

Transportation

The existing conditions as related to transportation previously described in the 2018 LSJR IIFR/EIS/EIR are still generally applicable to the project area of the Proposed Action.

At the island parcels (In-River and On-River), construction equipment is likely to be delivered to the site via barge; at all other sites, equipment would be delivered by truck and trailer. The staging areas for each parcel would either be within the project footprint or adjacent to the footprint. Staging areas would be planned so that their locations and the movement of equipment between the staging and construction site would not result in a disruption to traffic in the area.

It is expected that grading and fill would be balanced at each mitigation site, meaning that any soil or material that is excavated would be used as fill material elsewhere on the site. For this reason, it is not expected that any material would be imported to the site. Therefore, haul trucks are not likely to be used. Extra traffic is expected to be generated during the Proposed Action primarily through the commute of the construction personnel to and from the work site each day in their personally owned vehicles. This is not expected to cause an increase in traffic in the region. Most of the sites (Fourteenmile Slough Pumpstation and In-River, On-River, and Manteca Parcels) are located in rural areas and access roads are very lightly trafficked. The Calaveras River Parcels and Van Buskirk Park are in urbanized areas, but the minimal increase in vehicle traffic due to worker commute is not expected to have a noticeable impact on traffic or transportation in the area.

Recreation

The existing conditions as related to recreation have been previously described in the 2018 IIFR/EIS/EIR and are still generally applicable to the Proposed Action area. In general, the proposed mitigation parcels do not have high recreation value. The In-River and On-River Parcels are surrounded by water and are not accessible to the public. The Manteca Parcel is privately owned and also not publicly accessible. Van Buskirk Park was historically a golf course but has been out of operation since 2019. As a result, the area is not currently accessible to the public for recreation. Fourteenmile Slough Pumpstation and the Calaveras River Parcels are not accessible to the public, however, recreationists may use the adjacent levee roads at the Pumpstation and the Calaveras River bike path for walking, running, bicycling, wildlife viewing, etc.

During construction of the proposed mitigation at Fourteenmile Slough Pumpstation and the Calaveras River Parcels, recreation use may be temporarily impacted, as pedestrians' access to the adjacent levee road at the Pumpstation or Calaveras River bike path may be impeded. Since there is no current recreational use at the other proposed parcels, there would be no temporary impact to recreation at those sites. After construction of the proposed habitat mitigation at each parcel, recreation access at each site would be restored to existing conditions. Over the long term, the Proposed Action would have a beneficial impact to recreation. Upon completion, public recreational access would be permitted at Van Buskirk Park, outside of the revegetated areas. Restoration of riparian and wetland habitat at each of the proposed parcels would increase opportunities for nature-based recreation, such as birdwatching and wildlife viewing.

Noise

The existing conditions as related to noise described in Section 5.19.1 of the 2018 LSJR IIFR/EIS/EIR are still generally applicable to the project area of the Proposed Action today, including the information relating to the regulatory framework.

The In-River Parcel and On-River Parcels are located in rural areas where the noise levels of construction would not affect any sensitive communities. While the Fourteenmile Slough Pumpstation, Van Buskirk Park, Manteca Parcel, and Calaveras River Parcels are located in more developed areas adjacent to residential communities, the noise levels of mitigation construction would be much lower than levels generated by the LSJR Project levee construction, and noise impacts are within the scope of effects as described in Section 5.19.4 of the 2018 LSJR IIFR/EIS/EIR. Therefore, noise will not be considered in detail in this SEA.

3.3.2 Resources Not Discussed in Detail under CEQA

Where existing information and analysis in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR are sufficient to evaluate the impacts of the CMP, no additional

environmental review is warranted. The following discussion summarizes environmental issues for which potential impacts of the CMP are adequately addressed in the certified 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR and no further analysis is required.

Aesthetics

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.18.4, determined that aesthetics impacts would be **significant and unavoidable** with construction of Alternative 7a due to removal of trees and shrubs, reduction of shade, and changes to the quality of views and visual character of the project sites. The 2023 TS30L Final SEIR, Section 3.2.1, found that the aesthetic impacts of TS30L, including the development of biological mitigation sites, would include vegetation clearing and grading and/or excavation, including removal of trees and shrubs and riparian vegetation. The 2023 TS30L Final SEIR found these impacts would remain similar to those described in the 2018 LSJR IIFR/EIS/EIR and that the previous document adequately addressed potential impacts related to aesthetics.

Development of CMP-covered mitigation sites would require the same type of site preparation and construction activities as described for TS30L, including vegetation clearing, removal of trees and shrubs, grading, and excavation. As with Alterative 7a and TS30L, the aesthetic impacts of these activities would be reduced with the implementation of mitigation measures related to minimizing loss of vegetation. The aesthetic impacts of the CMP would therefore remain consistent with and would not result in new or more severe potentially significant impacts than those identified in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to aesthetics under CEQA and these effects are not discussed further in this SEIR.

Agricultural and Forestry Resources

Impacts to agricultural resources from Alternative 7a were discussed in Section 5.14.3 of the 2018 LSJR IIFR/EIS/EIR. At the time of the analysis, it was anticipated that Alternative 7a would require conversion of approximately 1 acre of farmland along the Calaveras River. This impact was determined to be **less than significant** because of the abundance of farmland that would remain in the Alternative 7a study area, and because such conversion would be significantly less than the loss farmland that could occur during a flood event, the severity of which would be greater without implementation of Alternative 7a. Related to forestry resources, forestland, timberland, and timberland zoned Timberland Production was not discussed in the 2018 LSJR IIFR/EIS/EIR.

The 2023 TS30L Final SEIR re-examined this issue area and found that development of biological mitigation sites evaluated as part of TS30L would result in Prime and Unique Farmland and Farmland of Statewide Importance (Special Designated Farmland) being converted to wetland and riparian habitat, a non-agricultural use. Despite the fact that

TS30L would provide significant additional flood protection to agricultural lands in the region and would improve resiliency and facilitate drainage to surrounding farmland, this impact was found to be potentially significant. Mitigation Measure 3.5-1 was included to minimize impacts to Special Designated Farmland, but even with implementation of mitigation, the impact of TS30L related to conversion of Special Designated Farmland or conflicts with existing zoning for agricultural use was found to be **significant and unavoidable**. Related to forestry resources, TS30L was determined to have **no impact** because it is not located within or adjacent to zoned forestland, timberland, or Timber Production.

The CMP-covered mitigation sites evaluated in this SEIR include the In-River parcel, Calaveras River parcels, and On-River parcels. The In-River parcel is zoned Delta Waterways with a Natural Streams overlay and has a land use designation of Recreation per Sacramento County's zoning code and general plan. The Calaveras River parcels are zoned as public facilities, low-density residential, and high-density residential in the City of Stockton zoning code, and have been given a land use designation of parks and recreation, low density residential, and high density residential by the City of Stockton general plan (City of Stockton 2018). The On-River parcels are zoned as Agriculture General 80-acres (AG-80) and have been designated as Open Space by San Joaquin County (San Joaquin County 2016). The Farmland Mapping and Monitoring Program (FMMP) classifies the In-River parcel as "Other Land", the Calaveras River parcels as "Urban and Built-Up Land", and the On-River parcels as "Nonagricultural and Natural Vegetation." Refer to Section 3.15, Land Use, in this document for additional details related to land use and zoning designations.

The CMP-covered mitigation sites are not located on Special Designated Farmland. They are also not located within or adjacent to land zoned for agricultural use, forestland, timberland, or Timber Production. Therefore, development of the CMP-covered mitigation sites would not directly or indirectly convert Special Designated Farmland to non-agricultural use or conflict with existing zoning for agricultural lands or forest lands. The impacts of the CMP related to agricultural and forestry resources would not result in new or more severe potentially significant impacts than those identified in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to agricultural and forestry resources under CEQA and these effects are not discussed further in this SEIR.

Air Quality

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.8.4, determined that impacts related to air quality emissions would be **less than significant with mitigation** with construction of Alternative 7a. Criteria air pollutants were modeled for the analysis in the 2018 LSJR IIFR/EIS/EIR using the Road Construction Emission Model (RCEM). This model is used to estimate emissions from linear construction projects and estimates emissions for both vehicle exhaust and fugitive dust. The 2018 LSJR IIFR/EIS/EIR used

quantitative criteria developed by the San Joaquin Valley Air Pollution Control District (SJVAPCD) to evaluate the significance of criteria air pollutants generated by Alternative 7a. Table 5-9 in Section 5.8.10 of 2018 LSJR IIFR/EIS/EIR displays the quantitative results of this evaluation and shows that emissions from Alternative 7a construction would be below significance thresholds for all pollutants except NOx, which would exceed SJVAPCD's significance thresholds in certain years. This impact was found to be potentially significant. However, the 2018 LSJR IIFR/EIS/EIR determined that with implementation of the mitigation measure outlined in Section 5.8.10, which calls for the use of all Tier 3 vehicles, which would reduce NOx emissions below the conformity threshold.

As described for Alternative 7a in the 2018 LSJR IIFR/EIS/EIR, the 2023 TS30L SEIR, Section 3.2.2, described that TS30L had the potential to generate NO_X emissions over the SJVAPCD conformity threshold. However, as with Alternative 7a, implementation of TS30L would include mitigation measures, including a requirement to use Tier 4 equipment, that would reduce NO_X emissions below the conformity threshold.

The Calaveras River parcels and the On-River parcels are within the San Joaquin Valley Air Basin, which is fully described in the 2018 LSJR IIFR/EIS/EIR. The In-River parcel is in the Sacramento Valley Air Basin (SVAB) and has the same characteristics as assessed in SJVAB. Criteria air pollutants were modeled for the CMP analysis by USACE using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.29. This model is used to estimate emissions from linear construction projects and estimates emissions for both vehicle exhaust and fugitive dust. For each proposed mitigation parcel covered by the CMP, emissions were estimated using CalEEMod for each year of construction and included a grubbing/land clearing phase and a grading and excavation phase. Modeled estimated fugitive dust emissions were based on the maximum area of land disturbed daily and accounted for fugitive dust reductions required by SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions).

Table 9 shows the estimated emissions during construction for each parcel in tons per year and compared against the SJVAPCD thresholds of significance. As shown below, all criteria air pollutant emissions would be below their respective thresholds.

The implementation of Mitigation Measure 3.2.2-1 from the 2023 TS30L Final SEIR (which calls for the use of Tier 4 off-road emission standards for all off-road vehicles greater than 25 horsepower) would reduce NOx emissions from construction equipment. The proposed mitigation parcels would also have to comply with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions). Therefore, the air quality impacts of the CMP would remain consistent with and would not result in new or more severe potentially significant impacts than those identified in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to air quality under CEQA and these effects are not discussed further in this SEIR.

Table 9. Estimated emissions by parcel during construction in tons per year.

Parcel	ROG	NOx	PM_{10}	$PM_{2.5}$
Fourteenmile Slough Pumpstation	0.01	0.12	< 0.01	< 0.01
In-River Parcel	< 0.01	0.03	< 0.01	< 0.01
Van Buskirk Park	< 0.01	0.08	< 0.01	< 0.01
Manteca Parcel	0.02	0.27	< 0.01	< 0.01
Calaveras River Parcels	< 0.01	0.06	< 0.01	< 0.01
On-River Parcels	0.01	0.16	< 0.01	< 0.01
SJVAPCD Threshold	10	10	15	15
Exceeds threshold?	No	No	No	No

Source: USACE CalEEMod results.
ROG = Reactive organic gas
NOx = Nitrogen oxides
PM_{10} = Particulate matter with diameter less than or equal to 10 micrometers
$PM_{2.5}$ = Particulate matter with diameter less than or equal to 2.5 micrometers

Energy

The existing conditions as related to Energy Use and Conservation described in Section 5.16.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.8.1 of the 2023 TS30L Final SEIR are still generally applicable to the project area today, including the information relating to the regulatory framework.

Energy use and conservation is not analyzed in the 2018 LSJR IIFR/EIS/EIR, but the 2023 TS30L Final SEIR concluded that impacts related to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation or conflict with or obstruct a state or local plan for renewable energy or energy efficiency would be **less than significant**.

Construction activities associated with the CMP-covered mitigation sites would be similar to the activities previously analyzed and involve equipment resulting in similar energy use. Construction equipment activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would be temporary and cease upon completion of construction activities. In addition, there are no unusual characteristics that would require the use of construction equipment

or haul vehicles that are less energy efficient than are necessary for similar construction efforts in other parts of the state. Therefore, construction equipment-related fuel consumption associated with the CMP would not result in inefficient, wasteful, or unnecessary energy use. Construction equipment used for the CMP would comply with all federal and state-mandated energy regulations and would not conflict with the energy policies stated in the local general plans. In addition, operation would not require any new or expanded energy usage as compared to existing conditions. As such, the CMP would have a less than significant impact on energy resources and would not conflict with state and local plans for renewable energy and energy efficiency. Energy impacts would be less than significant, similar to the conclusion in the 2023 TS30L Final SEIR. Therefore, energy impacts of the CMP are within the scope of effects as described in Section 3.8.3 of the 2023 TS30L Final SEIR and are not discussed further in this SEIR.

Geology and Geomorphology, Seismicity, Soils and Mineral Resources, Paleontological Resources

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.1.4, determined that Alternative 7a ground-disturbing activities associated with vegetation clearing; excavating, stockpiling, and/or removing soil material; and depositing and shaping soils could result in erosion and sedimentation, the potential for surface water to carry sediment into local waterways, or increase airborne dust due to erosion. However, it was determined that erosion control Best Management Practices (BMPs) and a Storm Water Pollution Prevention Plan (SWPPP) (as part of the National Pollutant Discharge Elimination System [NPDES] CGP) would reduce these short-term impacts to geology and geomorphology to **less than significant**.

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.2.4, found there are no identified active faults in the Alternative 7a area. In addition, the 2018 LSJR IIFR/EIS/EIR stated the design, construction and maintenance of Alterative 7a must comply with the regulatory standards of USACE, and would meet or exceed applicable design standards for static and dynamic stability, seismic ground shaking, liquefaction, subsidence, and seepage, minimizing the potential for significant damage. Therefore, the 2018 LSJR IIFR/EIS/EIR found Alternative 7a would have **no impact** to the existing seismicity of the area or expose people or structures to potential risk or injury.

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.3.4, determined Alternative 7a would have no short-term or long-term effects on the acquisition, mining, or processing of the mineral resources in the project area, as none of the existing sand and gravel mining or processing operations common in the vicinity are located at the work sites. It was further determined that implementation of Alternative 7a would not reduce or eliminate availability of mineral resources for future use, and therefore impacts to mineral resources would be **less than significant**.

The 2023 TS30L Final SEIR, Section 3.2.3, found impacts related to Geology and Geomorphology, Soils, Mineral Resources, and Seismicity would remain similar to those described in the 2018 LSJR IIFR/EIS/EIR and that the previous document adequately addressed these potential impacts. As it relates to Paleontological Resources, the 2023 TS30L Final SEIR found in Section 3.7 that ground-disturbing activities associated with the development of biological mitigation sites, which may require excavation depths ranging from 1.5 to 3 feet below ground surface, have the potential to uncover unique paleontological resources. The severity of this potential impact would be reduced to **less than significant with mitigation** with implementation of Mitigation Measure 3.7-4, which requires that preconstruction training be conducted, that monitoring occur in areas of high paleontological sensitivity, and that work halt in the vicinity of a find until a qualified paleontologist can make an assessment and provide further recommendations.

The CMP would require the same type of site preparation and construction activities as described for TS30L, including vegetation clearing, removal of trees and shrubs, grading, and excavation. As with Alterative 7a and TS30L, development of CMP-covered mitigation sites would include erosion control BMPs and a SWPPP would be implemented as part of the NPDES permitting process. In addition, the proposed mitigation sites would be designed, constructed, and maintained in accordance with applicable standards and would include mitigation to minimize impacts to paleontological resources. Therefore, the CMP is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to geology, soils, mineral resources, seismicity, and paleontological resources under CEQA and these effects are not discussed further in this SEIR.

Greenhouse Gas Emissions

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.8.4, determined that impacts related to greenhouse gas (GHG) emissions would be **less than significant** with construction of Alternative 7a. Criteria air pollutants were modeled for the analysis in the 2018 LSJR IIFR/EIS/EIR using the Road Construction Emission Model (RCEM). Since RCEM estimates CO_2 emissions but not CO_{2e} emissions (for evaluation of GHG emissions), CO_2 emissions estimates were conservatively increased by 5 percent to represent total CO_{2e} emissions for the 2018 LSJR IIFR/EIS/EIR analysis. At the time of the 2018 LSJR IIFR/EIS/EIR, no quantitative criteria had been developed for local significance standards related to GHG emissions; therefore, the 2018 LSJR IIFR/EIS/EIR evaluated emissions against a threshold of 25,000 metric tons of CO_{2e} per year (based on draft National Environmental Policy Act [NEPA] guidance at the time). In the 2023 TS30L Final SEIR, Section 3.2.2, it was stated that, for those emissions calculated in the 2018 LSJR IIFR/EIS/EIR that were below evaluated significance criteria thresholds for Alternative 7a as a whole (including all GHG emissions), the existing information and analysis was found sufficient to evaluate the impacts of TS30L.

GHG emissions would be generated during the construction period of the proposed CMP-covered mitigation sites from construction equipment and on-road mobile sources. GHG emissions from construction of the proposed mitigation parcels were modeled by USACE using the California Emissions Estimator Model (CalEEMod). This model is used to estimate emissions from linear construction projects and estimates emissions for both construction equipment and on-road mobile sources. The results from USACE modeling show that there would be a total of 273.5 $MTCO_2e$ per year for the construction of the proposed mitigation parcels, which is well below the significance threshold used in the 2018 LSJR IIFR/EIS/EIR. Therefore, construction of the mitigation parcels as proposed in the CMP is consistent with and would not result in new or more severe potentially significant impacts than those identified in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to GHG emissions under CEQA and these effects are not discussed further in this SEIR.

Hydrology and Hydraulics

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.4.4, and 2023 TS30L Final SEIR, Section 3.2.5, determined that **no impacts** or **less than significant impacts** related to hydrology and hydraulics would occur with construction of Alternative 7a and TS30L, respectively. The analyses determined Alternative 7a and TS30L would not substantially alter the existing drainage patterns of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site. Therefore, impacts were considered to be less than significant. Additionally, the analyses determined that Alternative 7a and the TS30L would not contribute runoff water in excess of current baseline conditions and would not exceed the capacity of existing or planned stormwater drainage systems, and so would have less than significant effect. Finally, the analyses determined that the placement of structures associated with Alternative 7a would impede or redirect flood flows in areas within the 1 percent (1/100) annual chance exceedance (ACE) special flood hazard area, and therefore could reduce the exposure to people or structures to significant risk of loss, injury or death involving flooding in the study area. Therefore, impacts were considered to be beneficial or to have no effect.

Development of the CMP-covered mitigation sites would not have a significant effect on hydrology and hydraulics. As described in Chapter 2, Project Description, development of the CMP-covered mitigation sites would include construction methods similar to Alternative 7a and TS30L. Construction of the proposed mitigation sites may temporarily change existing drainage patterns by altering the course of adjacent rivers, streams, and canals; however, these changes would be temporary and would not be anticipated to result in substantial erosion or siltation on or off site, particularly with implementation of erosion control BMPs and a SWPPP. Once developed, the proposed mitigation sites would be anticipated to provide enhanced wetland and riparian habitat for native species

while still providing flood risk reduction. Therefore, development of the CMP-covered mitigation sites is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to hydrology and hydraulics under CEQA and these effects are not discussed further in this SEIR.

Noise and Vibration

The existing conditions as related to noise described in Section 5.19.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.10.1 of the 2023 TS30L Final SEIR are still generally applicable to the project area today, including the information relating to the regulatory framework. The mitigation parcels analyzed in these documents are located within the cities of Stockton, Manteca and Lathrop and unincorporated San Joaquin County. One of the additional mitigation parcels identified under the CMP is located within the jurisdiction of Sacramento County and not discussed in previous documents.

For the evaluation of construction noise impacts, the analysis in the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR used the recommended analysis methodology from the Federal Transit Administration (FTA) assuming simultaneous operation of the three loudest pieces of construction equipment to estimate resultant noise levels at nearby receptors. Although construction noise in the affected jurisdictions is primarily regulated through restrictions on construction hours and is exempt from quantitative noise standards, the analysis conservatively used exterior noise exposure criteria for stationary sources at residential receptors to evaluate impacts. The analysis identified significant impacts as the resultant noise levels at receptors were found to exceed the daytime noise standards of San Joaquin County and the Cities of Stockton and Manteca. Even with implementation of mitigation, the impact was concluded to be **significant and unavoidable**. The In-River and On-River Parcels are located in rural areas where the noise levels of construction would not affect any sensitive receptors. The Calaveras River Parcels are located in developed areas adjacent to residential communities and noise levels at receptors and implementation of the mitigation measure outlined in Section 5.19.10 of the 2018 LSJR IIFR/EIS/EIR (Mitigation Measure 3.10-1 in the 2023 TS30L Final SEIR) would be required for the CMP. Even with mitigation, construction noise from the CMP would be similar to levels generated by Alternative 7a levee construction resulting in similar construction noise impacts as previously analyzed. Therefore, noise impacts of the CMP are within the scope of effects as described in Section 5.19.4 of the 2018 LSJR IIFR/EIS/EIR and Section 3.10.3 of the 2023 TS30L Final SEIR.

The 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR evaluated the impact of vibration generated by construction equipment such as pile drivers, bulldozers, loaded trucks and jackhammers which are the highest vibration generating equipment likely to be used for construction. The analysis concluded that vibration impacts associated with

levee construction and material hauling would be significant. Even with the implementation of the mitigation measure outlined in Section 5.19.10 of the 2018 LSJR IIFR/EIS/EIR (Mitigation Measure 3.10-1 in the 2023 TS30L Final SEIR), vibration impacts were found to be **significant and unavoidable**.

While construction vibration associated with the In-River and On-River parcels would not result in impacts due to the absence of sensitive receptors in their vicinities, the Calaveras River Parcels located in developed areas adjacent to residential communities would result in similar impacts as previously analyzed and implementation of mitigation identified in the 2018 LSJR IIFR/EIS/EIR (Mitigation Measure 3.10-1 in the 2023 TS30L Final SEIR) would be required. Even with implementation of mitigation, CMP vibration impacts would be **significant and unavoidable**, similar to the conclusions in previous documents. Therefore, vibration impacts of the CMP are within the scope of effects as described in Section 5.19.4 of the 2018 LSJR IIFR/EIS/EIR and Section 3.10.3 of the 2023 TS30L Final SEIR. For these reasons, construction noise and vibration impacts are not discussed further in this SEIR.

Mitigation Measure 3.10-1 from the 2023 TS30L Final SEIR shall apply.

Hazards, Hazardous Materials and Public Safety

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.20.4, determined fuels and lubricants could be accidentally released into the environment at the Alternative 7a construction site and along haul routes, causing environmental or human exposure to these hazards. The analysis in the 2018 LSJR IIFR/EIS/EIR also determined there is the potential that known or previously undocumented hazardous materials could be encountered at Alternative 7a work sites. Excavation and construction activities at or near areas of currently unrecorded soil or groundwater contamination could result in the exposure of construction workers, the general public, and/or the environment to hazardous materials such as petroleum hydrocarbons, pesticides, herbicides, fertilizers, contaminated debris, or elevated levels of other chemicals that could be hazardous. However, it was found that compliance with applicable Federal, State, and local regulations and requirements, including a SWPPP; Spill Prevention, Control, and Counter Measure Plan (SPCCP); remediation of known Hazardous, Toxic, and Radioactive Waste (HTRW) sites prior to project construction; and the implementation of avoidance and minimization measures would reduce the potential for accidental release of hazardous materials during Alternative 7a construction activities. This impact was found to be **less than significant with mitigation**.

The 2023 TS30L Final SEIR, Section 3.2.4, found these impacts would remain similar to those described in the 2018 LSJR IIFR/EIS/EIR and incorporated similar mitigation (Mitigation Measure 3.2.4-1) to reduce hazards associated with potential exposure to hazardous substances. It was therefore determined that the previous document adequately addressed potential impacts related to hazards and hazardous materials.

The CMP would include similar construction methods as described for TS30L. In addition, environmental commitments (including SWPPP and SPCCP) and the implementation of avoidance, minimization, and mitigation measures would ensure minimal risk of accidental spills and releases into the environment due to implementation of the CMP-covered mitigation sites. As with Alternative 7a and TS30L, the CMP would include mitigation measures for hazards and hazardous materials impacts. Therefore, the CMP is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to hazards and hazardous materials under CEQA and these effects are not discussed further in this SEIR.

Recreation

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.17.4, determined that construction activities associated with Alternative 7a, such as grading, removing vegetation, trenching, and constructing cutoff walls would affect the scenery and thus passive recreational activities (e.g., walking, photography, bird watching). These impacts were found to be **significant and unavoidable** even with implementation of mitigation measures aimed at minimizing and compensating for the loss of vegetation. The 2023 TS30L Final SEIR, Section 3.2.9, found that TS30L would include similar construction activities that would affect the scenery and thus passive recreation activities, and that the impacts of vegetation removal on bird and wildlife viewing would remain consistent with the 2018 LSJR IIFR/EIS/EIR, despite implementation of similar mitigation measures (Mitigation Measures 3.6-16 through 3.6-19).

While development of CMP-covered mitigation sites would require similar construction activities as described for TS30L, including vegetation clearing, removal of trees and shrubs, grading, and excavation, it would not require construction of cutoff walls. Once developed, the mitigation sites would be anticipated to provide enhanced wetland and riparian habitat for native species as compared to the existing agricultural or ruderal landscape at the sites. In addition, the CMP does not add new residents, cause changes in land uses that could affect recreational facilities, or preclude recreation activities at parks, including those designated as a park and recreation district. The CMP would also not increase the use of existing recreational facilities or cause the expansion of recreational facilities.

Therefore, the CMP would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to recreation under CEQA and these effects are not discussed further in this SEIR.

Mitigation Measures 3.6-16 through 3.6-19 from the 2023 TS30L Final SEIR shall apply.

Transportation

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.15.4, found that Alternative 7a would have potentially significant impacts related to construction traffic near schools and residences interfering with the use of main roadways for emergency evacuation routes, which would conflict with local plans and policies addressing the circulation system and potentially slow emergency response times. This was found to be a **significant and unavoidable** impact. The analysis in the 2023 TS30L Final SEIR, Section 3.11, found that implementation of TS30L, including site access and haul routes, would fit within the description presented for Alternative 7a and remain significant and unavoidable.

The analysis in the 2023 TS30L Final SEIR also found that implementation of TS30L would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b), which define vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts, and this impact would be **less than significant**. The CEQA Guidelines define VMT as the amount and distance of automobile travel attributable to a project. In accordance with guidance provided by the Governor's Office of Planning and Research, automobiles (in the context of VMT analysis and screening) refer to on-road passenger vehicles, specifically cars and light trucks, and therefore truck trips needed for construction materials hauling to and from the site are not evaluated (OPR 2018). According to the statewide guidance documented in the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Guidelines), absent substantial evidence indicating that a project would generate a potentially significant level of VMT or inconsistency with a Sustainable Communities Strategy or general plan, projects that generate fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact.

The CMP would require the same type of site preparation and construction activities as described for TS30L, including vegetation clearing, removal of trees and shrubs, grading, and excavation. Therefore, consistent with the determination made for Alternative 7a and TS30L, construction traffic associated with development of CMP-covered mitigation sites could create a significant impact due to conflict with local plans and policies, slowed emergency response times, and interference with emergency evacuation routes. Even with implementation of Mitigation Measure 3.11-1, the impact would remain significant and unavoidable, consistent with the determination in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. Furthermore, similar to the findings for TS30L, implementation of the CMP would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b) during construction. Construction-generated trips would be temporary and would result in fewer than 40 trips per day during the peak construction traffic period, when there would be as many as 20 daily commuter trips generated by construction crew travel to and from the site.

Therefore, implementation of the CMP-covered mitigation sites is consistent with and would not result in new or more severe potentially significant impacts than identified in

the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to transportation under CEQA and these effects are not discussed further in this SEIR.

Mitigation Measure 3.11-1 from the 2023 TS30L Final SEIR shall apply.

Utilities, Service Systems, and Public Services

The analysis in the 2018 LSJR IIFR/EIS/EIR, Section 5.16.4, determined implementation of Alternative 7a would encroach on multiple types of utility equipment and facilities, including storm drains, irrigation lines, electric power lines and gas pipelines. Alternative 7a construction activities, including grading and excavation, would require removal or reconnection of facilities and could damage identified and unidentified utility equipment and facilities. In addition, required relocation of existing electrical lines and gas pipelines could interrupt service. This impact was found to be **less than significant with mitigation** calling for consultation and coordination with service providers. The 2023 TS30L Final SEIR, Section 3.2.8, found these impacts would remain similar to those described in the 2018 LSJR IIFR/EIS/EIR and incorporated similar mitigation (Mitigation Measure 3.2.8-1 and 3.11-1) requiring coordination with utility providers, preparation of a utility damage response plan, and preparation of a traffic safety plan that requires notification of construction to all appropriate emergency service providers. It was therefore determined that the previous document adequately addressed potential impacts related to hazards and hazardous materials.

CMP-covered mitigation parcels include overhead and underground utility services that would be protected in place. As with TS30L, the CMP would include mitigation measures for utility and service system impacts (Mitigation Measure 3.2.8-1 and 3.11-1). As with TS30L, the design of CMP-covered mitigation sites included consultation with known service providers to ensure facilities are avoided and protected to minimize disruptions during construction. In addition, construction of mitigation sites would not require the construction of new or expanded utility systems, including water supply facilities, nor would it add new residents or changes in land uses, and therefore, would not generate any new demands for fire protection, police protection, schools, parks, or related services. Therefore, the CMP is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR. These previous documents adequately address potential impacts related to utilities, service systems, and public services under CEQA and these effects are not discussed further in this SEIR.

Wildfire

The 2023 TS30L Final SEIR, Section 3.13, found that TS30L was not located within or near state responsibility areas or lands classified as very high fire hazard severity zones; however, the proximity of heavy construction equipment and vehicles to residential

communities could lead to an increased risk of ignition of dry vegetation within and around the project site, leading to a potentially significant impact. The worker health and safety plan required by Mitigation Measure 3.13-1, would call for fuel, equipment, and hazards Best Management Practices that would reduce the risk of igniting a wildfire to **less than significant with mitigation**. It was further found that TS30L would not include the construction or maintenance of infrastructure (i.e., roads, fuel breaks, emergency water sources, power lines, or other utilities) that could exacerbate fire risk, nor would it expose people or structures to significant risks such as downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes.

Similar to TS30L, the CMP-covered mitigation sites are not located within an SRA or lands classified as very high hazard severity zones. The development of biological mitigation sites would require transitioning land from agricultural or undeveloped use to wetland and riparian habitat. These sites would be graded to support wetland hydrology and vegetation, thereby requiring ground saturation for much of the year, which would not exacerbate wildfire risk in the area. As with TS30L, Mitigation Measure 3.13-1 would be implemented requiring a worker health and safety plan. The CMP would require similar construction activities as described for TS30L, including vegetation clearing, removal of trees and shrubs, grading, and excavation. Therefore, as with TS30L, construction of CMP-covered mitigation sites would not include the construction or maintenance of infrastructure that could exacerbate fire risk, nor would it expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the CMP is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2023 TS30L Final SEIR. The 2023 TS30L Final SEIR adequately addresses potential impacts related to wildfire under CEQA and these effects are not discussed further in this SEIR.

Mitigation Measure 3.13-1 from the 2023 TS30L Final SEIR shall apply.

3.4 Soils and Mineral Resources

3.4.1 Existing Conditions

The Lower San Joaquin River Basin presents a diverse range of soils and mineral compositions due to its extensive alluvial deposits and unique hydrological features. The region is crucial for both agriculture and flood control infrastructure, including levee systems designed to protect urban and agricultural areas. The environmental and regulatory framework and existing conditions described in Section 5.3.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.2.3 of the 2023 TS30L Final SEIR are generally applicable to the analysis in this SEA. Additional supplementary information is provided below.

Soils

The soils in the Lower San Joaquin River Basin are predominantly composed of alluvial deposits derived from the Sierra Nevada and Coast Ranges. These soils are a mixture of clays, silts, sands, and gravels, which have been transported over millennia by fluvial processes from upstream sources and deposited throughout the basin. The alluvial fans and floodplains that characterize the region are typically formed by periodic flooding and sediment deposition, providing fertile soils for agriculture and sustain other features such as wetlands and riparian habitat. The soils near the river channels and floodplains are often classified as Entisols and Inceptisols, which are young soils with limited horizon development. These soils tend to be well-drained, with high permeability due to their sandy and loamy textures. In contrast, more expansive clay soils are found in the basin's lower, flatter areas, which can lead to poor drainage and the potential for soil salinization.

Minerals

The mineralogy of the soils in the Lower San Joaquin River Basin is closely linked to the geological history of the Central Valley. Soils in this region contain a mixture of quartz, feldspars, and clay minerals, such as illite and montmorillonite. These clays are significant in influencing the soil's water retention and nutrient-holding capacity, making them critical for agricultural practices. The presence of clay minerals also affects the soil's pH, which can vary from neutral to slightly alkaline, particularly in irrigated areas where evaporative processes can concentrate salts.

The California Geological Survey established a classification system to denote the location and significance of key extractive resources. Sand and gravel aggregate are the principal mineral resources in San Joaquin County. According to the California Department of Conservation, Division of Mines and Geology (2012, 2018), the proposed In-River Parcel, Calaveras River Parcels, and Van Buskirk Park mitigation sites are classified as MRZ-1, meaning that no significant mineral deposits are present in this area or that little likelihood exists for their presence. The Manteca Parcel is primarily classified as MRZ-1, but a small portion of the site may be MRZ-2 (significant mineral deposits are known to be present or are highly likely to be present and is designated as being of regional significance) or and/or MRZ-3 (potential for mineral resources in this area). The Fourteenmile Slough Pumpstation and On-River Parcels have not been classified. Lands classified as MRZ-1 or MRZ-3 are not affected by State policies pertaining to the maintenance of access to regionally significant mineral deposits under the California Surface Mining and Reclamation Act of 1975. Lands classified as MRZ-2 are subject to these State policies that support mining operations, including dredging and quarrying and are intended to ensure that mineral resources will be available when their development is necessary or economically feasible.

3.4.2 NEPA Environmental Effects Analysis

No Action Alternative

The purchase of mitigation credits under the No Action Alternative would have no effect on soils or mineral resources, as no physical action would occur. The soil types and minerology that characterizes the Proposed Action area within the Lower San Joaquin River Basin, consisting of alluvial deposits and unique hydrological features which would be expected to remain the same and unchanged, only considering natural processes occurring over time. The construction of the setback mitigation area at Fourteenmile Slough may have short-term, direct effects on soils during active construction but would not have any significant long-term effects. Additional effects on soils and mineral resources are included in the analysis for Alternative 7a in Section 5.3.4 of the 2018 LSJR IIFR/EIS/EIR.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of a levee breach and subsequent flooding, this would result in direct impacts to soils through increased scouring, erosion, saturation, and loss of topsoil, as well as indirect impacts to communities and infrastructure due to possible damages caused by soil deposition from floodwaters. Principal mineral resources in San Joaquin County consist of sand and gravel aggregate and mining operations of these resources would be directly affected in the event of levee failure and flooding, by disruption, damage, or loss of mineral resources. The No Action Alternative poses potentially significant adverse impacts to soils and mineral resources.

Proposed Action Alternative

The Proposed Action for construction of mitigation at the potential sites will have less than significant effects to soils and mineral resources within or near the sites. For direct effects, construction activities for the mitigation would involve some soil disturbance, including clearing and excavating soils during site preparation, stockpiling and/or moving soil material, and depositing and shaping soils the proposed parcel locations. Current estimates of excavation volumes at each proposed mitigation site are listed in Table 10. These direct disturbances to soils would be temporary and limited to mitigation construction. For indirect effects, there would be some minor benefits to soil as the new vegetation on the newly constructed mitigation sites grows and matures and causes reduction of soil erosion. The long-term effects of the Proposed Action would be beneficial to soils and mineral resources by creating habitat including planting native vegetation, restoring natural river hydrology features, and improving habitat connectivity, which would help minimize erosion and degradation of soils at the parcel sites.

The large amount of excavation and the creation of a new setback levee at Van Buskirk Park may have additional effects to soils and mineral resources not listed here. Effects due to construction of the setback levee would be fully analyzed in supplemental NEPA documentation during the development of designs for the LSJR Project Phase E.

Table 10. Excavation volume estimates at the proposed mitigation parcels.

Parcel	Total Excavation (cubic yards)
Fourteenmile Slough Pumpstation	16,400
In-River	63,000
Van Buskirk Park	254,000
Manteca	15,700
Calaveras River	14,000
On-River	8,700

3.4.3 CEQA Environmental Effects Analysis

Under CEQA, “Geology and Geomorphology, Seismicity, Soils and Mineral Resources, and Paleontological Resources” are environmental issues not requiring detailed analysis. See Section 3.3.2 “Resources Not Discussed in Detail under CEQA” in this document.

3.4.4 Avoidance and Minimization Measures

The Proposed Action would not significantly alter or impact soils or mineral resources within or near the area of the potential mitigation sites. The following best management practices (BMPs) would be implemented to minimize any short-term impacts during active construction activities:

- The construction contractor would prepare a spill control plan and a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction. These plans would be reviewed and approved by USACE before construction begins.
- Properly dispose of oils or other liquids.
- Fuel and other hazardous materials would not be stored on site.
- Inspect and maintain vehicles and equipment to prevent dripping oil and other fluids.

Under CEQA, Mitigation Measure 3.7-4 from the 2023 TS30L Final SEIR shall apply.

3.5 Hydrology and Hydraulics

3.5.1 Existing Conditions

The environmental and regulatory framework and existing conditions described in Section 5.4.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.2.5 of the 2023 TS30L Final SEIR are generally applicable to the analysis in this SEA and therefore are not repeated here. Additional supplementary information is provided below.

The Sacramento and San Joaquin River Basins make up California's largest watershed and is a key water source throughout the Central Valley, the San Francisco Bay Area, and Southern California. California hydrology is highly variable, with both drought and precipitation records broken in recent years (RAND 2014). The San Joaquin River, originating in the high elevation Eastern Sierra Nevada mountain range, flows southwest to the San Joaquin Valley, and has three major tributaries, the Merced, Tuolumne, and Stanislaus rivers, as well as additional tributaries including the Cosumnes, Mokelumne, and Calaveras rivers, which join with the Sacramento River at the tidally influenced Sacramento-San Joaquin Delta. This region has been extensively modified through the building of dams, levees, and canals to support flood control and protection, and water supply distribution to urban areas and agricultural land that have been developed in the lower river floodplains (NOAA Fisheries 2024).

The potential mitigation parcel sites are all located within the San Joaquin River Basin. The In-River Parcel is located within the Delta and is situated in the San Joaquin River, as it is a low-lying island potentially affected by tidal influences and fluctuating water levels. The Van Buskirk Park parcel was a former public golf course that is currently abandoned and is located within the City of Stockton. It is adjacent to the San Joaquin River, which borders the southwest side of the site. The Manteca Parcel is currently agricultural land, and it is not within or adjacent to the San Joaquin River or a major tributary. It borders Walthall Slough, a small backwater channel cut off from the San Joaquin River, at the southwest side of the parcel. The Calaveras River Parcels are situated along the Calaveras River, a tributary to the lower San Joaquin River, on the waterside of the Mormon Slough - Calaveras River right bank - RD 2074 levee system. The On-River Parcels are two separate sites situated on islands within and intersected by the San Joaquin River. The smaller parcel to the west is located on Spud Island and the larger parcel to the east is located on Hog Island.

3.5.2 NEPA Environmental Effects Analysis

No Action Alternative

The purchase of mitigation credits under the No Action Alternative would have no effect on hydrology or hydraulics, as no physical action would occur. The construction of a mitigation area at Fourteenmile Slough may involve minor grading and altering of the

hydrology to create riparian habitat. However, this would result in an overall beneficial effect to restore natural hydrologic features at the site.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. The hydrology of the area has been widely altered and modified to provide flood protection, as well as water supplies for agriculture. In the event of a levee breach and subsequent flooding, changes to the current, existing hydrology and hydraulics of the region would occur. This may result in direct impacts by altering the current path of rivers and streams and flooding currently dry lands, as well as indirect impacts due to erosion and sedimentation of downstream waterways. Therefore, the No Action Alternative may pose significant impacts to hydrology and hydraulics.

Proposed Action

The Fourteenmile Slough Pumpstation and the Manteca parcel do not have connectivity to the adjacent waterways and construction of mitigation at these parcels would not involve any in-water work and would not modify the waterways. Therefore, there would be no effect to hydrology and hydraulics due to the construction of these two sites.

The Calaveras River parcels lie on the right bank of the Calaveras River, while the In-River and On-River parcels lie on islands within the San Joaquin River. At the In-River and On-River parcels, minor excavation and grading will be done on land to enhance the topography for riparian and wetland habitats. In addition, channels may be cut through the parcels with connectivity to the river to create SRA habitat. These channels would be designed in a way to either benefit or have negligible effect to the hydrology and hydraulics in the area, e.g., they would not increase bank erosion, sedimentation, flood risk, or severely alter the flows in a way that would be detrimental to the ecology of the river in the area. At the Calaveras River parcels, minor grading would be done to create riparian and SRA habitat. Some in-water work may be required, and temporary water diversions, such as berms or cofferdams, would be installed to allow for the work to occur. This would directly modify the hydrology and hydraulics in the river in the vicinity of the parcels, but the effect would be temporary and less than significant with BMPs. Similar to the In-River and On-River parcels, mitigation at the Calaveras River parcels would be designed so as to not have long-term adverse effects to the hydrology and hydraulics of the river.

Construction of mitigation at Van Buskirk Park would involve construction of a new setback levee and the degradation of the existing levee, with small channels constructed in the setback area to create additional backwater habitat. This would directly alter the flow regime of the San Joaquin River in the area around the mitigation site. The design team would conduct hydraulic and hydrologic modeling during the development of the

site designs to ensure that the change would not result in an adverse impact. Since the overall purpose of the LSJR Project is to reduce flood risk to the city of Stockton and surrounding areas, the setback levee design would align with this purpose, and would not increase erosion or adversely affect flood risk to the surrounding areas. The full hydrological analysis would be presented in supplemental NEPA documentation for LSJR Project Phase E2 construction, which includes the construction of the setback levee.

3.5.3 CEQA Environmental Effects Analysis

Under CEQA, “Hydrology and Hydraulics” do not require detailed analysis. See Section 3.3.2 “Resources Not Discussed in Detail under CEQA” in this document.

3.5.4 Avoidance and Minimization Measures

The Proposed Action would not significantly alter or change the hydrology in the area and therefore no mitigation would be needed. Standard BMPs listed in Appendix F would be implemented to ensure that the Proposed Action would have no significant effects to the hydrology and hydraulics at the parcel sites and would minimize any short-term impacts during active construction activities.

Under CEQA, no mitigation is required.

3.6 Water Quality

3.6.1 Existing Conditions

The existing environmental and regulatory conditions related to water quality described in Section 5.5.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.2.6 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels. This section describes the existing conditions relating to the water quality of surface waters, in addition to the relevant information pertaining to water quality presented in the previous environmental documents, incorporated here by reference.

The project area is largely in the southeastern portion of the Delta, within the legal boundary of the Delta, as defined by Section 12220 of the California Water Code. The Delta is divided into a Primary and Secondary Zone, as defined by the Delta Protection Act of 1992. Land uses in the Primary Zone are regulated to protect the area for agriculture, wildlife habitat, and recreational uses. The Secondary Zone, where urban development activities occur, is where efforts should be taken to ensure that these activities do not adversely affect Delta waters, Primary Zone habitat, or recreational uses. The In-River Parcel and On-River Parcels are within the Primary Zone; Fourteenmile Slough Pumpstation, Van Buskirk Park, the Manteca Parcel, and the Calaveras River Parcels are in the Secondary Zone.

Many of the surface waters listed in Section 5.5.1 of the 2018 LSJR IIFR/EIS/EIR are in the vicinity of the proposed mitigation sites; specifically, San Joaquin River, Fivemile Slough, Tenmile Slough, Fourteenmile Slough, Calaveras River, French Camp Slough, and Duck Creek (also referred to as Walker Slough). In addition, Walthall Slough runs along the southeastern edge of the Manteca parcel.

The latest version of the Section 303(d) list for California issued by the State Water Resources Control Board (SWRCB) (adopted February 6, 2024) identifies impaired status for waterways in the project area. Listed waterways are summarized in .

Factors that contribute to declining water quality in the Delta include population growth and urban runoff; wastewater inputs; agriculture and associated fertilizer, herbicide, and pesticide use; harmful algal blooms; landscape alteration; sea-level rise; and regional weather changes (Delta Independent Science Board 2018). The Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan, CVRWQCB 2019) establishes water quality objectives for inland surface waters within both basins. The Basin Plan contains objectives applicable to the surface waters in the Sacramento-San Joaquin Delta for the following contaminants:

- Bacteria
- Biostimulatory substances
- Chemical constituents
- Arsenic, barium, copper, cyanide, iron, manganese, silver, zinc
- *Cryptosporidium* and *Giardia*
- Color
- Dissolved oxygen
- Floating material
- Methylmercury
- Oil and grease
- pH
- Pesticides
- Chlorpyrifos, diazinon
- Radioactivity
- Salinity
- Sediment
- Settleable material
- Suspended material
- Tastes and odors
- Temperature
- Toxicity
- Turbidity

The Central Valley Regional Water Quality Control Board (CVRWQCB) is the regulating agency responsible for ensuring compliance with the objectives.

Table 11. 303(d) listed waterways within the Proposed Action area.

Water Body Name	Water Body Type	Size Affected	Pollutant
Calaveras River, Lower (in Delta Waterways, eastern portion)	River & Stream	5.66 miles	Organic Enrichment/Low Dissolved Oxygen, Indicator Bacteria, Mercury
Delta Waterways (eastern portion)	Estuary	2,971.55 acres	DDT, Invasive Species, Diazinon, Mercury, Chlorpyrifos, Group A Pesticides, Toxicity
Delta Waterways (southern portion)	Estuary	3,125.44 acres	DDT, Group A Pesticides, Toxicity, Electrical Conductivity, Invasive Species, Chlorpyrifos, Diazinon, Mercury
Delta Waterways (western portion)	Estuary	14,523.4 acres	DDT, Group A Pesticides, Electrical Conductivity, Chlorpyrifos, Mercury, Diazinon, Invasive Species, PCBs, Chlordane, Dieldrin, PAHs, Arsenic, Toxicity, Total DDT
Five Mile Slough (Alexandria Place to Fourteen Mile Slough; in Delta Waterways, eastern portion)	River & Stream	1.66 miles	Indicator Bacteria, Organic Enrichment/Low Dissolved Oxygen, Chlorpyrifos, Diazinon
San Joaquin River from Delta Waterways to Stockton Ship Channel	River & Stream	36.72 miles	Temperature, imidacloprid, toxicity
San Joaquin River (in Delta Waterways, southern portion)	River & Stream	30.52 miles	Temperature
Walker Slough (in Delta Waterways, eastern portion)	River & Stream	2.85 miles	Indicator Bacteria
Walthall Slough (in Delta Waterways, eastern portion)	River & Stream	9.94 miles	Total Dissolved Solids, Oxygen, Dissolved

DDT = Dichlorodiphenyltrichloroethane
PCBs = Polychlorinated biphenyls
PAHs = Polycyclic Aromatic Hydrocarbons

3.6.2 NEPA Environmental Effects Analysis

No Action Alternative

The No Action Alternative includes purchasing habitat mitigation credits from approved mitigation conservation banks and the construction of a mitigation area at the Fourteen Mile Slough setback. The purchase of mitigation credits under the No Action Alternative would have no effect on water quality, as no physical action would occur. The construction of a mitigation area at Fourteenmile Slough may involve minor grading and altering of the terrain and hydrology to create riparian habitat, which may result in the release of contaminants and pollutants, such as oils and fuels, into adjacent waterways from construction activities. However, these impacts would be temporary and short-term, limited during active construction work. Indirect effects in the long-term would be beneficial to water quality, as creating habitat and planting native vegetation would help reduce soil erosion and sedimentation, and filter water pollutants, having an overall beneficial effect in the future. Additional effects of this action on water quality are included in the analysis for Alternative 7a in Section 5.5.4 of the 2018 LSJR IIFR/EIS/EIR.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of a levee breach and subsequent flooding of urban and agricultural lands, direct impacts to the water quality of the San Joaquin River and its tributaries would be likely to occur, as floodwaters may introduce pollutants into these waterways, including but not limited to, pesticides, herbicides, nutrients, petroleum products, chemicals, and other toxic materials. Additionally, long-term indirect effects from contamination of waters within the region may result. Therefore, the No Action Alternative may pose significant impacts to water quality.

Proposed Action

Mitigation construction activities have the potential to temporarily impair water quality if disturbed and eroded soil, petroleum products, or construction-related wastes are discharged into receiving waters or onto the ground where they can be carried into receiving waters. Soil and associated contaminants that enter receiving waters can increase turbidity, stimulate algae growth, increase sedimentation of aquatic habitat and introduce compounds that are toxic to aquatic organisms. Accidental spills of construction-related substances such as oils and fuels can contaminate both surface water and groundwater. With BMPs in place, the likelihood and severity of spill events would be reduced. Since the Proposed Action involves the construction of mitigation sites on mostly rural parcels, construction-related waste and debris such as concrete,

brick, and other building materials that could be contaminated with hazardous materials (*e.g.*, asbestos or lead) would be minimal. Ultimately, the Proposed Action does have the potential to create adverse effects to water quality. However, water quality contamination incidents would be unlikely to happen and low severity if they do, so effects would be less than significant.

The conversion or restoration of the proposed parcels to naturally functioning riparian and wetland habitats could improve local water quality. Natural riparian and wetland vegetation is important in preserving water quality as flooding or runoff occurs through reducing water velocities, capturing sediments, filtering pollutants, etc., and can stabilize soil and supply organic matter to soils and water channels (Wentzel and Hull 2021, Dosskey et al. 2010). This constitutes a beneficial effect of the proposed action.

3.6.3 CEQA Environmental Effects Analysis

Impact WQ-1: Would implementation of the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The analysis in the 2018 LSJR IIFR/EIS/EIR determined that less than significant impacts with environmental commitments incorporated or less than significant impacts would occur related to water quality with construction and operation of Alternative 7a. The analysis in the 2018 LSJR IIFR/EIS/EIR determined Alternative 7a would require extensive ground-disturbing activities, including borrow site activities, deep soil mixing, and cutoff walls. Much of the construction activities would occur near local drainages and waterways that could be contaminated by soil or construction disturbance. Specifically, the analysis in the 2018 LSJR IIFR/EIS/EIR determined temporary impacts from Alterative 7a could result from construction of the cutoff walls and seismic remediation, and therefore before construction begins, a Stormwater Pollution Prevention Plan (SWPPP), Bentonite Slurry Spill Contingency Plan (BSSCP), and Spill Prevention, Control, and Countermeasure Plan (SPCCP) would be prepared and water quality certification from the Central Valley Regional Water Quality Control Board would be obtained. BMPs would be implemented to avoid, minimize, and mitigate effects on water quality during construction. Therefore, the potential for release of soil or construction-related materials in the waterways and local agricultural drainage canals under Alternative 7a would have a less-than-significant impact on water quality.

The analysis in the 2023 TS30L Final SEIR determined that because TS30L includes construction of a deep soil bentonite (SB) slurry cutoff wall and project-specific borrow, staging, and barge off-haul sites, as well as biological mitigation sites, with construction methods and intensity similar to those described in Alternative 7a, preparation of a SWPPP, BSSCP, and SPCCP as required under Alternative 7a shall be included as design features of TS30L. The CMP-covered mitigation opportunities not discussed in these previous documents include specific mitigation parcels (i.e., the In-River Parcel,

Calaveras River Parcels, On-River Parcels, and Unidentified Off-site Parcels) as well as broader mitigation opportunities (e.g., Calaveras River Levee Improvements). Implementation of the CMP-covered mitigation opportunities could result in a significant impact on water quality if construction or operation resulted in a violation of any water quality standards or waste discharge requirements, or otherwise degrade surface water or groundwater quality.

Implementation of the CMP-covered mitigation opportunities would involve construction of mitigation sites on parcels in existing wetland and riparian areas (refer to Table 3 in Chapter 2, *Project Description,* for approximate acreage). Construction activities associated with each mitigation site would vary and may include site preparation, vegetation clearing for the establishment of staging and stockpile areas, dredging to create shallow water habitat, restoration of the existing hydrology and/or grading to change topography to create wetland and riparian habitats, planting suitable wetland and riparian vegetation. Some sites would entail general levee improvements (e.g., Calaveras River Levee Improvements), setting back the levee and removing rock from the remnant levee (e.g., the Van Buskirk Park), or notching an existing berm (e.g., Manteca Parcel). Once developed, the mitigation sites would be anticipated to provide enhanced wetland and riparian habitat for native species while still providing flood risk reduction. The mitigation sites may be periodically inspected to ensure serviceability and that maintenance measures are being effectively carried out.

As described in Chapter 2, *Project Description*, the CMP-covered mitigation opportunities would include construction methods and O&M procedures similar to Alternative 7a and TS30L. Construction activities associated with the CMP-covered mitigation opportunities could introduce the potential for surface water or groundwater contamination. Primary construction-related contaminants include sediment, oil and grease, and hazardous materials. Construction associated with the Calaveras River Levee Improvements could require the use of soil-bentonite slurry. Once established, the mitigation sites would not entail the use of contaminants that could degrade surface water or groundwater quality. The release of contaminants into surface water or groundwater during construction could degrade surface or ground water quality, resulting in a potentially significant impact.

Implementation of the CMP-covered mitigation opportunities are consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR, and the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR adequately addresses potential impacts related to water quality. Consistent with Alternative 7a and TS30L the CMP-covered mitigation opportunities would include mitigation measures for water quality impacts during construction. Therefore, implementation of the CMP-covered mitigation opportunities would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, and impacts would be **less than significant with mitigation**.

Refer to Section 3.8, Wetlands and Other Waters of the United States, in this document for a description of the existing conditions and environmental effects related to waters of the U.S. (WOTUS), including wetlands.

Impact WQ-2: Would implementation of the project conflict with or obstruct implementation of a water quality control plan?

The Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan, CVRWQCB 2019) is the applicable water quality control plan for the project area. The Basin Plan establishes water quality objectives for inland surface waters within both basins. Consistent with Alternative 7a and TS30L, before construction begins, a SWPP, BSSCP, and SPCCP would be prepared and water quality certification from the Central Valley Regional Water Quality Control Board would be obtained. Also consistent with the Alternative 7a and TS30L, development of the CMP-covered mitigation opportunities would include mitigation measures for water quality impacts during construction. Therefore, implementation of the CMP-covered mitigation opportunities would not conflict with or obstruct implementation of the Basin Plan and impacts would be **less than significant with mitigation.**

3.6.4 Avoidance and Minimization Measures

The following best management practices (BMPs) would be implemented to ensure that the Proposed Action would have no significant effects to water quality at the parcel locations and would minimize any short-term impacts during active construction activities:

- A Section 401 Water Quality Certification from the CVRWQCB would be obtained as required.
- The construction contractor would prepare a spill control plan and a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction. These plans would be reviewed and approved by USACE before construction begins. Construction workers would be trained in SWPPP and how to respond to, control, contain and clean up spills.
- Implement appropriate measures to prevent debris, soil, rock or other material from entering the water. Use a water truck or other appropriate measures to control dust on haul roads, construction areas, and stockpiles.
- Implement appropriate measures for handling and disposing of concrete and concrete washout water.
- Properly dispose of oil or other liquids.

- Fuel and maintain vehicles in a specified area that is designed to capture spills. This area cannot be near any ditch, stream or other body of water or feature that may convey water.
- Fuels and hazardous materials would not be stored on site.
- Inspect and maintain vehicles and equipment to prevent dripping oil and other fluids.
- Schedule construction to avoid the rainy season as much as possible. If rains are forecasted during construction, erosion control measures would be implemented and maintained during construction. Control measures would be inspected before, during and after a rain event.
- Revegetate disturbed areas in a timely manner to control erosion.
- Materials would be covered and protected from wind, rain and runoff to avoid unwarranted dispersal.

Under CEQA, Mitigation Measure 3.2.6-1 from the 2023 TS30L Final SEIR shall apply in addition to all requirements of the SWPPP, BSSCP, and SPCCP.

3.7 Groundwater

3.7.1 Existing Conditions

The existing environmental and regulatory conditions related to groundwater described in Section 5.6.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.4.1 of the 2023 TS30L Final SEA, and Section 3.2.7 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels. Additional supplementary information is provided here.

The San Joaquin River Hydrologic Region (HR) is divided into three groundwater basins. The proposed mitigation parcels are within the San Joaquin Valley Basin, which is further divided into 11 sub-basins. All but one of the proposed mitigation parcels are associated with the Tracy and Eastern San Joaquin (ESJ) sub-basins. The On-river parcel is within the adjacent Sacramento River HR in the Solano sub-basin. Since all of the sites are within or adjacent to the ESJ sub-basin, that basin is the focus of this section.

The ESJ sub-basin is managed by the ESJ Groundwater Authority (GWA), comprised of 17 Groundwater Sustainability Agencies (GSAs) covering the entire ESJ sub-basin. The ESJ GWA was established as a public entity to insure initial and ongoing Sustainable Groundwater Management Act (SGMA) compliance. SGMA required governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge by 2022. SGMA

empowers local agencies to form GSAs to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs). The ESJ GWA provides a forum for the 17 GSAs of the ESJ basin to work together to develop and implement a single GSP. The ESJ GSP (ESJ GWA 2024) was amended in 2024 and is the applicable groundwater management plan for the project area.

The region encompassing the Proposed Action area relies heavily on groundwater. The San Joaquin River HR accounts for more than a fifth of all groundwater use in the state, averaging nearly 4 million acre-feet (maf) annually, the second-highest volume of any HR. Groundwater accounts for nearly half of the region's total water supply, which is supplemented with surface water delivered by the federal Central Valley Project (DWR 2021). Over 92% of groundwater use in the HR is for agricultural purposes; the remaining volume is used to support urban uses and managed wetlands. The Sacramento River HR uses around 2.78 maf of groundwater annually. Of this volume, 88% is used for agricultural purposes, 11% is applied to support the region's residents, and 1% supplies water to managed wetlands (DWR 2021).

Most of the groundwater in each of the ESJ, Tracy, and Solano sub-basins occurs at depths less than 200 feet. Groundwater levels are trending lower in much of the San Joaquin River and Sacramento River HRs. Between 1998 and 2018, approximately 77 percent of monitoring wells in each region experienced a declining trend. In both regions, 21 percent of wells reported a stable trend while the remaining one percent showed an increasing trend (DWR 2021). Within the ESJ sub-basin, the greatest declines have occurred in the central portion, while the western and southern portions have experienced less change in groundwater levels, due in part to minimal groundwater pumping in the Delta area and the import of surface water for agricultural and urban uses (ESJGWA 2024). Groundwater depth in the Delta varies generally from about 25 feet below ground surface (bgs) to less than three feet bgs (DWR 2024).

In water year (WY) 2023, total groundwater use in the ESJ sub-basin was estimated to be approximately 806,000 acre-feet (AF) across all use sectors. Groundwater inflow occurred via deep percolation from the root zone (294,500 AF), recharge from streams (281,600 AF), recharge from managed aquifer projects, unlined canals or reservoirs, and ungauged watersheds (186,800 AF), and boundary flows from surrounding sub-basins (112,500 AF) (ESJGWA 2024). Thus, in WY 2023, the sub-basin saw an increase of 69,400 AF in groundwater storage.

Groundwater quality in the ESJ sub-basin varies. Areas along the western margin experience higher levels of salinity. Sources of salinity in the sub-basin include Delta sediments, deep saline groundwater, and irrigation return water. Elevated concentrations of other constituents, such as nitrate, arsenic, point-source contaminants, etc., tend to be localized generally related to natural sources or land use activities (ESJGWA 2024).

3.7.2 NEPA Environmental Effects Analysis

No Action Alternative

The No Action Alternative includes purchasing habitat mitigation credits from approved mitigation conservation banks and the construction of a mitigation area at the Fourteenmile Slough setback. Effects of this action on groundwater resources are included in the analysis for Alternative 7a in Section 5.6.4 of the 2018 LSJR IIFR/EIS/EIR.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of a levee breach and subsequent flooding of urban and agricultural lands, direct impacts to groundwater could occur through the contamination of groundwater supplies, which could also lead to indirect effects in the long-term by limiting groundwater availability. Therefore, under the No Action Alternative, potentially significant impacts to groundwater may occur.

Proposed Action

Construction of the proposed mitigation sites would involve grading to modify the site topography and hydrology to support wetland and riparian habitats. In areas with a shallow water table, *i.e.*, several feet bgs, the water table could become exposed during the grading, and localized direct effects to groundwater quality, such as increased sedimentation, exposure to pollutants such as fuel, oil, or other heavy equipment fluids, etc., could occur. However, such effects would be small in scale and temporally confined to the mitigation construction period. BMPs would be implemented to minimize the likelihood of spills or contamination (see Section 3.7.4). Over the long-term, the Proposed Action would have indirect effects on groundwater, since restoration of the proposed mitigation parcels from their current conditions, which include agricultural land, defunct park land, barren/non-native grassland, etc., to native riparian and wetland habitat with natural-functioning hydrology would restore natural processes at the mitigation sites and could improve groundwater quality.

Mitigation constructed at any of the proposed parcels would require maintenance for a period of time, typically three to five years, which would include irrigation. Groundwater may be used as a source of irrigation water, constituting a direct effect to groundwater supply in the area. The amount of water needed for each mitigation site would vary depending on the distribution of planting hydrozones. As an example, for 72 acres of mitigation planting at the Fourteenmile Slough Pumpstation, estimated irrigation needs during maintenance are approximately 208 AF annually, equating to roughly 0.02% of the total groundwater use in the ESJ sub-basin. Even in years when all six sites may be

under irrigation, if all sites use only groundwater as a water source, it would sum to less than 0.15% of the sub-basin's total use. Additionally, at the sites in the Delta, groundwater is efficiently recharged by the San Joaquin River, so usage of small volumes of groundwater would be less than significant.

Overall, with implementation of the BMPs listed in Section 3.7.4, the Proposed Action would result in less than significant direct effects to groundwater resources over the short term, and indirect beneficial effects in the long term.

3.7.3 CEQA Environmental Effects Analysis

Impact GW-1: Would implementation of the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The analysis in the 2018 LSJR IIFR/EIS/EIR determined that less than significant impacts related to groundwater supply would occur with construction and operation of Alternative 7a. The 2023 TS30L Final SEIR determined that the TS30L is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR and the 2018 LSJR IIFR/EIS/EIR adequately addressed potential impacts related to groundwater supply. The CMP-covered mitigation opportunities not discussed in these previous documents include specific mitigation parcels (i.e., the In-River Parcel, Calaveras River Parcels, On-River Parcels, and Unidentified Off-site Parcels) as well as broader mitigation opportunities (e.g., Calaveras River Levee Improvements). Implementation of the CMP-covered mitigation opportunities could result in a significant impact on groundwater if construction or operation resulted in substantial decrease in groundwater supplies or substantial interference with groundwater recharge.

Implementation of the CMP-covered mitigation opportunities would involve construction of mitigation sites on parcels in existing wetland and riparian areas (refer to Table 3 in Chapter 2, *Project Description*, for approximate acreage). Construction activities associated with each mitigation site would vary and may include site preparation, vegetation clearing for the establishment of staging and stockpile areas, dredging to create shallow water habitat, restoration of the existing hydrology and/or grading to change topography to create wetland and riparian habitats, planting suitable wetland and riparian vegetation. Some sites would entail general levee improvements (e.g., Calaveras River Levee Improvements), setting back the levee and removing rock from the remnant levee (e.g., the Van Buskirk Park), or notching an existing berm (e.g., Manteca Parcel). Once developed, the mitigation sites would be anticipated to provide enhanced wetland and riparian habitat for native species while still providing flood risk reduction. The mitigation sites may be periodically inspected to ensure serviceability and that maintenance measures are being effectively carried out.

Overall, the current pattern of groundwater extraction and recharge would be expected to remain the same. Development of the mitigation sites would not require the use of groundwater supplies, and therefore, there would be no change in groundwater use compared to existing conditions. Construction of the CMP-covered mitigation opportunities could temporarily restrict the movement of groundwater towards and away from the adjacent rivers, streams and canals, which could change localized near-surface groundwater levels in the areas immediately adjacent to the parcels. However, these changes would be temporary and would not interfere with groundwater recharge at the basin-scale. The analysis in the 2018 LSJR IIFR/EIS/EIR determined that, based on prior studies in the Central Valley, groundwater elevation would not change by more than 3 feet and that changes to groundwater elevations would occur at 10 to 50 feet (or more) below ground surface in the project area. Consistent with this analysis, development of the mitigation sites would not change land use such that the rate of groundwater recharge would decrease the effective well yields. Once established, groundwater recharge across the mitigation sites would be consistent with existing conditions, enhancing wetland and riparian habitat. Improved wetland and riparian habitat function could replenish groundwater by absorbing surface water and allowing it to percolate into the ground, resulting in significant beneficial impact on groundwater.

Implementation of the CMP-covered mitigation opportunities is consistent with and would not result in new or more severe potentially significant impacts than identified in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR, and the 2018 LSJR IIFR/EIS/EIR and 2023 TS30L Final SEIR adequately addressed potential impacts related to groundwater supply and recharge. Implementation of the CMP-covered mitigation opportunities would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Therefore, impacts would be **less than significant**.

Impact GW-2: Would implementation of the project obstruct implementation of a groundwater management plan?

The ESJ sub-basin is managed by the ESJ Groundwater Authority (GWA), comprised of 17 Groundwater Sustainability Agencies (GSAs) covering the entire ETS sub-basin. The ESJ Groundwater Authority was established as a public entity to insure initial and ongoing Sustainable Groundwater Management Act (SGMA) compliance. SGMA requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge by 2022. SGMA empowers local agencies to form GSAs to manage basins sustainably and requires those GSAs to adopt Groundwater Sustainability Plans (GSPs). The ESJ GWA provides a forum for the 17 GSAs of the ESJ basin to work together to develop and implement a single GSP. The ESJ GSP (ESJ GWA 2024) was amended in 2024 and is the applicable groundwater management plan for the project area.

As described in Impact GW-1, implementation of the CMP-covered mitigation opportunities would not result in changes to groundwater supplies or groundwater recharge compared to existing conditions. Development of the mitigation sites would not require the use of groundwater supplies and nor would it change land use such that the rate of groundwater recharge would decrease the effective well yields. Once established, groundwater recharge across the mitigation sites would be consistent with existing conditions, enhancing wetland and riparian habitat. Improved wetland and riparian habitat function could replenish groundwater by absorbing surface water and allowing it to percolate into the ground. Therefore, implementation of the CMP-covered mitigation opportunities would not obstruct implementation of the ESJ GWA's GSP (ETS GWA 2024) and impacts would be **less than significant**.

3.7.4 Avoidance and Minimization Measures

The following BMPs would be implemented during mitigation site construction to minimize potential impacts to groundwater resources:

- The construction contractor would prepare a spill control plan and a SWPPP prior to initiation of construction. These plans would be reviewed and approved by USACE before construction begins.
- Properly dispose of oils or other liquids.
- Fuel and other hazardous materials would not be stored on site.
- Inspect and maintain vehicles and equipment to prevent dripping oil and other fluids.
- Vehicles would be fueled and maintained in an area designed to capture spills.

Under CEQA, no mitigation is required.

3.8 Wetlands and Other Waters of the United States

3.8.1 Existing Conditions

The existing environmental and regulatory conditions related to wetlands and other Waters of the United States (WOTUS) described in Section 5.7.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.5.1 of the 2023 TS30L Final SEA, and Section 3.6.1 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels. Information pertaining to wetlands and WOTUS in the Proposed Action area presented in the previous environmental documents is incorporated here by reference.

On December 30, 2022, the Environmental Protection Agency (EPA) and the U.S. Department of the Army announced the final "Revised Definition of 'Waters of the United States'" rule, which took effect on March 20, 2023. On May 25, 2023, the Supreme

Court decided *Sackett v. EPA*, affecting the definitions of WOTUS and wetlands. On August 29, 2023, the agencies issued a final rule to amend the January 2023 rule to conform the Supreme Court's decision in *Sackett*. The final conforming rule, "Revised Definition of 'Waters of the United States'; Conforming," became effective on September 8, 2023, upon publication in the Federal Register. This rule is not operative in some states due to litigation; however, in California, this is the operative rule.

In 33 C.F.R. 328.3, WOTUS are defined as:

(1) Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide; the territorial seas; or interstate waters.

(2) Impoundments of waters otherwise defined as WOTUS in this definition.

(3) Tributaries of waters identified in (1) or (2) above that are relatively permanent, standing or continuously flowing bodies of water.

(4) Wetlands adjacent to waters identified in (1) above or relatively permanent, standing or continuously flowing bodies of water identified in (2) or (3) and with a continuous surface connection to those waters.

(5) Intrastate lakes and ponds not identified in (1) through (4) that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in (1) or (3).

Wetlands are defined as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

For non-tidal waters, the extent of USACE jurisdiction extends to the limit of adjacent wetlands, if present. If wetlands are not present, jurisdiction extends to the ordinary high water mark, defined as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in character of soil, destruction of terrestrial vegetation, the presence of litter and debris, etc.

The Proposed Action area supports WOTUS, including rivers, estuarine sloughs, and wetlands. The wetlands and other WOTUS in the area are highly altered as a result of flood-risk management projects, reclamation for agriculture and urbanization, and navigation projects. Perennial drainages that are within or adjacent to the proposed mitigation parcels include San Joaquin River, Fivemile Slough, Tenmile Slough, Fourteenmile Slough, Calaveras River, French Camp Slough, Duck Creek (also referred to as Walker Slough), and Walthall Slough. Additionally, agricultural ditches are present

within the Fourteenmile Slough Pumpstation and along the southern edge of the Manteca Parcel.

The National Wetland Inventory (NWI) indicates the presence of wetland habitat within and adjacent to the proposed mitigation parcels, summarized in Table 12. Note that not all wetlands identified by the NWI would be considered WOTUS. Formal wetland delineations would be completed during project design as needed.

Table 12. NWI wetlands occurring within or adjacent to the parcels proposed for mitigation.

Parcel	NWI Wetlands
Fourteenmile Slough Pumpstation	Areas of Freshwater Emergent Wetland habitat (seasonally saturated) and Freshwater Forested/Scrub wetland habitat (seasonally saturated) exist throughout the parcel.
In-River Parcel	Entire island is covered by Freshwater Scrub-Shrub Wetland habitat (temporary-flooded tidal) and Freshwater Emergent Wetland habitat (temporary-flooded tidal).
Van Buskirk Park	Man-made ponds on site (appear to be seasonally inundated), one of which has small patches of Freshwater Scrub-Shrub Wetland habitat. Adjacent to parcel within the San Joaquin River and French Camp Slough are areas of Freshwater Emergent Wetland and Freshwater Forested Wetland habitats (temporary flooded-tidal).
Manteca Parcel	No wetlands within the parcel; adjacent to Freshwater Emergent Wetland habitat (temporarily to seasonally flooded) in the Walthall Slough.
Calaveras River Parcels	Tidal Riverine habitat along the parcels, but no wetlands identified.
On-River Parcels	Areas of Freshwater Emergent Wetland habitat (seasonally saturated and temporary-flooded tidal) and Freshwater Scrub-Shrub wetland habitat (temporary-flooded tidal and a small amount of seasonally saturated) throughout the parcels. Small semi-permanently flooded Freshwater Pond habitat also present.

3.8.2 NEPA Environmental Effects Analysis

No Action Alternative

The No Action Alternative includes purchasing habitat mitigation credits from approved mitigation conservation banks and the construction of a mitigation area at the

Fourteenmile Slough setback. The purchase of mitigation credits under the No Action Alternative would have no effect on wetlands and other WOTUS, as no physical action would occur. The construction of a mitigation area at Fourteenmile Slough may involve minor grading and altering of the hydrology to create riparian habitat, but effects would be minimal and are included in the effects analysis for Alternative 7a in Section 5.7.4 of the 2018 LSJR IIFR/EIS/EIR.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of a levee breach and subsequent flooding of urban and agricultural lands, direct pollution of the San Joaquin River and downstream waterways would likely occur and may also contribute to temporary and long-term indirect effects through water quality degradation. Contaminated flood flows and other materials and debris may be deposited in wetland areas and enter into WOTUS. Therefore, the No Action Alternative may pose significant impacts to these resources.

Proposed Action

During construction of the mitigation sites, existing wetlands on each parcel would be minimally impacted. To the extent practicable, all high-quality wetland habitat would be preserved during the construction of new mitigation habitat. Newly constructed wetland habitat would enhance existing wetlands in each parcel. If existing wetlands do have to be removed or modified in order to construct new habitat mitigation, they would be replaced with equal or higher quality habitat on site. There would be no net loss of wetland habitat acreage at any site. The constructed habitat on the parcels would be preserved in perpetuity. Ultimately, there may be temporary, less than significant effects to existing wetlands due to destruction or modification during habitat construction, but the creation and preservation of additional wetland habitat on site would be a long-term, beneficial effect.

3.8.3 CEQA Environmental Effects Analysis

Impact WW-1: Would implementation of 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?

A formal delineation of waters of the United States and state has not been conducted for the evaluated CMP sites. Wetlands and other aquatic resources could occur within the proposed CMP project areas that would qualify as jurisdictional under the Clean Water Act or Porter-Cologne Water Quality Control Act. The In-River parcel, Calaveras River parcels, and On-River parcels would be cleared and grubbed to remove existing

unwanted vegetation and then graded to target elevations. Construction of the CMP sites may result in direct fill, alteration of local hydrology, and/or erosion and sedimentation of federally and state protected wetlands and waters. Therefore, this impact would be potentially significant, if the location of protected aquatic resources within the CMP sites is not known and therefore cannot be avoided in advance of construction implementation.

Following implementation of Mitigation Measure 3.6-20 from the 2023 TS30L Final SEIR, the location of potential wetlands and other waters that fall under state and federal jurisdiction within the CMP sites would be identified and would be protected to the extent possible through design. While temporary impacts to such aquatic resources may still result from construction of the CMP sites – including those associated with removal of invasive species and regrading the site – the CMP is inherently intended to result in functional lift of state or federally protected wetlands and other waters. Completion of restoration actions on the CMP sites would be expected to result in an overall net gain of wetlands. Given these considerations, impacts to state or federally protected wetlands would be less than significant with mitigation.

3.8.4 Avoidance and Minimization Measures

To reduce any adverse impact to wetlands and other WOTUS, the following measures would be implemented:

- Before construction, a qualified biologist would survey the project area as necessary, and wetlands and other WOTUS may be subject to a formal jurisdictional determination and delineation to determine the extent and value of the wetlands present.
- To the extent practicable, existing wetland habitat would be protected in place during the construction of new mitigation habitat. A construction buffer may be constructed around wetlands and waterways.
- Construction worker awareness training would be conducted prior to construction to ensure that personnel working the site know the location of and protocols for working around sensitive habitat.

Under CEQA, Mitigation Measure 3.6-20 from the 2023 TS30L Final SEIR shall apply.

3.9 Air Quality

3.9.1 Existing Conditions

The information provided in Section 5.8.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.13.1 of the 2023 TS30L Final SEA, and Section 3.2.2 of the 2023 TS30L Final SEIR

including existing conditions and regulatory framework, is still applicable to the analysis in this SEA and not repeated here.

With the exception of the In-River Parcel, all proposed parcels are within the San Joaquin Valley Air Basin (SJVAB), which is fully described in the 2018 LSJR IIFR/EIS/EIR. The In-River Parcel is in the Sacramento Valley Air Basin (SVAB), which includes 11 counties in the Sacramento Valley. The Sacramento Metro Air Quality Management District (SMAQMD) regulates the air quality within this portion of the SVAB The San Joaquin County and Sacramento County attainment statuses of the National Ambient Air Quality Standards (NAAQS) for each of the criteria pollutants are included in Table 13, along with the applicable de minimis thresholds in tons per year (tpy).

Table 13. Attainment status of San Joaquin and Sacramento Counties for criteria pollutants.

Pollutant	San Joaquin Co. Attainment Status	Sacramento Co. Attainment Status	General Conformity *de minimis* emission level (tpy)
Ozone (8-hour, 2008)[1]	Non-attainment, extreme	Non-attainment, severe-15	50 (serious NAA[2]) 25 (severe NAA) 10 (extreme NAA)
Ozone (8-hour, 2015)[1]	Non-attainment, extreme	Non-attainment, serious	
$PM_{2.5}$ (2006)[3, 4]	Non-attainment, serious	Non-attainment, moderate	100 (moderate NAA) 70 (serious NAA)
$PM_{2.5}$ (2012)[3, 4]	Non-attainment, serious	Attainment	
PM_{10} (1987)[5]	Maintenance	Maintenance	100
Sulfur dioxide (SO_2) (2010)	Attainment	Attainment	n/a
Lead (2008)	Attainment	Attainment	n/a
Carbon monoxide (CO) (1971)	Maintenance (Stockton urban area only)	Maintenance (Sacramento urban area only)	100
Nitrogen dioxide	Attainment	Attainment	n/a

[1]Ozone emissions include volatile organic compounds (VOCs) and nitrogen oxides (NO_x)
[2]NAA = Non-attainment area
[3]$PM_{2.5}$ = Particulate matter with diameter less than or equal to 2.5 micrometers
[4]$PM_{2.5}$ includes direct emissions, SO_2, NO_x, VOCs, and ammonia
[5]PM_{10} = Particulate matter with diameter less than or equal to 10 micrometers

3.9.2 NEPA Environmental Effects Analysis

No Action Alternative

Under the No Action Alternative, no mitigation construction would occur other than at the Fourteenmile Slough setback area, as described in the 2018 LSJR IIFR/EIS/EIR. This alternative would also include purchasing habitat mitigation credits from approved mitigation conservation banks, which would have no effect on air quality as no physical action would occur and no additional air quality emissions would be generated. In addition, existing levels of operational air quality emissions from maintenance activities would not change. There would be no direct increase in air quality emissions associated with the No Action Alternative.

However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of a levee breach and subsequent flooding, increase in air quality emissions may result due to emergency actions associated with repairing damages. However, developing accurate scenarios needed to estimate emissions and impacts to air quality from the No Action Alternative would be hypothetical at best and therefore considered too speculative for meaningful consideration.

Proposed Action

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.29 was used to estimate emissions from linear construction projects. The model estimates emissions for vehicle exhaust, fugitive dust, and greenhouse gasses (Table 14). The results are estimated by the amount of acreage being constructed and the type of work completed. Results are shown in lb/day and tons/year. Emissions were estimated using multiple phases, including:

1. Grubbing/land clearing
2. Grading and excavation

Table 14. Mitigated estimations of air quality pollutants by proposed parcel locations (tpy).

Parcel	Acreage	ROG	CO	NO_x	SO2	PM_{10}	$PM_{2.5}$
Fourteenmile Slough Pumpstation	104	0.0050	0.2300	0.0200	0.0050	0.0050	0.0050
In-River Parcel	20	0.0013	0.0613	0.0053	0.0013	0.0013	0.0013
Van Buskirk Park	50	0.0033	0.1533	0.0133	0.0033	0.0033	0.0033
Manteca Parcel	170	0.0113	0.5213	0.0453	0.0113	0.0113	0.0113
Calaveras River Parcels	40	0.0027	0.0327	0.0107	0.0027	0.0027	0.0027
On-River Parcels	100	0.0067	0.3067	0.0267	0.0067	0.0067	0.0067
Total	514	0.0343	1.4863	0.1371	0.0343	0.0343	0.0343
% mitigation		21%		82%			

TOG=Total Organic Gasses

Table 15. Estimated LSJR Project emissions for 2026 (tpy).

Site/Parcel	ROG	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
TS-30L	0.73	13.07	1.7	0.03	7.28	1.57
Fourteenmile Slough Pumpstation	0.005	0.23	0.20	0.005	0.005	0.005
Total	0.735	13.30	1.90	0.035	7.33	1.63

Sites may be built concurrently but construction emissions are likely to be below the threshold of 10 tpy of VOC and NO_x in the SJAQMD (25 tpy in the SMAQMD). The overall impact to air quality would be less than significant.

The sites located on islands (In-River and On-River Parcels) may require access by barge. Emission estimates assume 16 hours of barge work utilizing one tug per site. Additional emissions due to barge utilization at the On-River and In-River Parcels are shown in Table 16.

Table 16. Estimated LSJR Project emissions (tpy) for proposed mitigation sites using barges for construction.

Parcel	Acreage	ROG	CO	NO_x	SO2	PM_{10}	$PM_{2.5}$
In-River Parcel	20	.008	.086	.052	.000	.434	.091
On-River Parcel	100	.016	.255	.083	.000	2.164	.453

To estimate GHG emissions, the Road Construction Emissions Model was used. The model estimates emissions for vehicle exhaust, fugitive dust, and greenhouse gasses. The results are estimated by the amount of acreage being constructed and the type of work completed (Table 17). It is unlikely that any single project by itself may have a significant impact on the environment with respect to GHGs. Construction activity for the CMP mitigation sites, considered on a project-only basis, would cause a temporary and less than significant local increase in GHG emissions.

Table 17. Estimated LSJR GHG Project emissions for 2026 (tpy).

Parcel	Acreage	CO_2	CH_4	N_2O	CO_2e
Fourteenmile Slough Pumpstation	104	34.80	0.01	0.00	31.90
In-River Parcel	20	6.69	0.00	0.00	6.13
Van Buskirk Park	50	16.73	0.00	0.00	15.34
Manteca Parcel	170	56.88	0.01	0.00	52.14
Calaveras River Parcels	40	2.57	0.00	0.00	12.27
On-River Parcels	100	33.46	0.00	0.00	30.67
Total	484	151.14	0.02	0.00	148.46

CO_2 = carbon dioxide; CH_4= methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent

The overall cumulative GHG emissions from these projects are considered to be less than significant.

3.9.3 CEQA Environmental Effects Analysis

Under CEQA, “Air Quality” is an environmental resource not requiring detailed analysis. See Section 3.3.2 “Resources Not Discussed in Detail under CEQA” in this document.

3.9.4 Avoidance and Minimization Measures

The mitigation measures outlined in Section 5.8.10 in the 2018 LSJR IIFR/EIS/EIR would be adopted to reduce impacts to air quality from the Proposed Action.

Under CEQA, Mitigation Measure 3.2.2-1 from the 2023 TS30L Final SEIR shall apply.

3.10 Vegetation and Wildlife

3.10.1 Existing Conditions

The environmental and regulatory framework described in Sections 5.9.1 and 5.10.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.7.1 of the 2023 TS30L Final SEA, and Sections 3.6.1 and 3.6.2 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels and is not repeated here. Additionally, the CMP in Section 4 'Ecological Resources' further describes the existing vegetation, wildlife, and habitat within the Proposed Action area in the San Joaquin Basin. The Fourteenmile Slough Pumpstation site was previously analyzed in the 2023 TS30L SEA, and therefore it has not been included in this analysis. Based on vegetation and land cover data from the State of California and Department of Forestry and Fire Protection, the potential mitigation parcel sites under consideration consist of freshwater emergent wetland, annual grassland, valley foothill riparian, riverine, lacustrine, urban, and agricultural land, including irrigated croplands. Common wildlife found within the area of the Proposed Action include but are not limited to deer, foxes, coyotes, raccoons, possums, skunks, squirrels, rabbits, mice, lizards, snakes, turtles, frogs, salamanders, and birds, such as waterbirds, songbirds, and raptors. Additionally, common fish species found within the San Joaquin River and its tributaries include but are not limited to minnows, catfish, carp, bass, sunfish, and trout. Sloughs in North Stockton and the Lower San Joaquin River provide habitat for fish spawning, rearing and/or migratory habitat for a diverse number of native, nonnative and special status species, and serve as a migratory corridor for various birds and fish species. Special status plants, wildlife, and fish species that are federally and state listed are discussed in more detail in Section 3.11 of this SEA.

The In-River Parcel is located in the San Joaquin River and is a low-lying island with no access by land, consisting of riparian and wetland habitats with native shrub and woodland vegetation. The Van Buskirk Park parcel is located in the City of Stockton and was formerly a public golf course. This parcel is currently classified as urban land with 977 trees, including 35 different species, along with some of the old golf course features such as unmaintained park ponds. The Manteca Parcel is located to the southwest of the City of Manteca. It was formerly designated as agricultural land that was used for irrigated row crops but was rezoned for Park Space/Open Space. The Manteca Parcel is situated on the waterside of a newly improved levee and is adjacent to riparian habitat. The CMP noted numerous songbirds and raptors observed during a site visit, as

well as several large, mature elderberry shrubs. The Calaveras River Parcels are located north of the City of Stockton on the Calaveras River, which is a major tributary of the San Joaquin River. These parcels consist of degraded grassland and riparian habitats. The On-River Parcels are located in San Joaquin County and consists of two separate adjacent parcels intersected by the San Joaquin River. The larger parcel has been used as a private hunting club in the past and has an existing boat dock. Both parcels include grassland, riparian, wetland, coastal scrub, and woodland habitats. Detailed habitat maps are included in the CMP, which is included in this document in Appendix A.

Important attributes of aquatic habitat within the San Joaquin River are aquatic vegetation and SRA habitat (2018 LSJR IIFR/EIS/EIR). Aquatic vegetation is represented by floating, submerged and emergent vegetation, and serves as hiding cover and an invertebrate food production base for nearly all aquatic species. USFWS defines SRA cover as “the zone of interface of water with the land margin, projected over the water to the maximum extent of overhead vegetation” (USFWS, 2014). SRA habitat is used as cover, forage, spawning and rearing habitat for fishes, both anadromous species and resident native and nonnative fishes (USFWS, 2014).

Detailed existing conditions of water ways within the San Joaquin Basin have been covered in multiple documents, including the 2018 LSJR IIFR/EIS/EIR, 2023 TS30L SEA, and CMP. The percent of aquatic vegetation cover and SRA habitat varies at each of the potential parcels and surrounding area. SRA habitat exists at four of the six parcels, which include the In-River Parcel, Van Buskirk Park, Calaveras River Parcels, and On-River Parcels. The Fourteenmile Slough Pumpstation parcel is adjacent to White Slough to the north and east and is surrounded by levees. There is no existing SRA habitat at this site. In addition, since properties in the areas surrounding the parcel require flood protection, allowing for hydraulic connection would not be feasible, and therefore would not allow for habitat creation for delta smelt or NMFS listed fish species. The Manteca Parcel is mostly agricultural land, but some quality riparian habitat exists in the slough adjacent to the parcel. However, since the waterway is cut off from the San Joaquin River, the area is not able to serve as SRA habitat mitigation.

Desktop geospatial analysis was conducted at each of the potential mitigation parcel sites and identifies the existing area of each habitat type or biological community that occurs in U.S. survey acres (Table 18).

Table 18. Biological communities occurring at each proposed parcel site location.

Natural Community	Fourteenmile Slough Pumpstation	In-River Parcel	Van Buskirk Park	Manteca Parcel	Calaveras River Parcels	On-River Parcels
Freshwater emergent wetland	63.86	13.11	0	0	0	38.81
Annual grassland	5.01	0	0	1.14	14.27	23.45
Valley foothill riparian	13.93	28.68	1.60	2.00	0	28.07
Coastal scrub	3.10	0	0	0	0	0
Riverine	0	1.05	1.69	0	8.23	1.75
Lacustrine	0	0	7.34	0	0	0.89
Urban	0	0	70.18	1.29	7.86	0
Agriculture	0.09	0	0	167.28	0	0
Total	85.99	42.84	80.81	171.71	30.36	92.97

**Note: Unit in U.S. survey acres. Area calculated for entire parcel based on kmz file. The acreage listed in the 2023 CMP is lower possibly due to mitigation area not entire parcel area.*

3.10.2 NEPA Environmental Effects Analysis

No Action Alternative

The No Action Alternative includes the creation of 14 acres of mitigation at Fourteenmile Slough, which would involve ground disturbance from construction activities causing temporary impacts to wildlife and potential removal of existing vegetation. However, the impacts due to disturbance would be short-term and limited during active construction. Additionally, the creation of habitat, including riparian areas, would involve planting new native vegetation and therefore would have an overall net beneficial impact on vegetation and wildlife. The purchase of mitigation credits under the No Action Alternative would have no effect on vegetation and wildlife, as no physical action would occur.

However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the City of Stockton would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of a levee breach and subsequent flooding of the area, direct impacts to vegetation and wildlife would be likely to occur as habitats may be degraded and reduced due to flooding, erosion, and the movement and transport of materials in the floodwater, and wildlife may be displaced or potentially killed from flooding. Therefore, the No Action Alternative may pose significant impacts to vegetation and wildlife.

Proposed Action

Vegetation cover is a general indicator of terrestrial habitat, and the potential impacts to vegetation described provide a measure of impact to wildlife. The Fish and Wildlife Coordination Act, as amended, (16 U.S.C. 661-666(c)) allows the USFWS to assess impacts of proposed projects and make recommendations to reduce those impacts. The 2016 Final Fish and Wildlife Coordination Act Report (CAR) was included in the 2018 LSJR IIFR/EIS/EIR in Addendum B of the Environmental Addendum D.

The In-River Parcel consists of existing riparian and wetland habitats, and the Proposed Action would construct changes in topography to further support riparian habitat, cut new channels to restore hydrology and provide SRA habitat, and plant native vegetation. The Proposed Action for Van Buskirk Park would convert formerly urban land that was a public golf course into riparian and wetland habitat and restore river hydrology through setback of the existing levee. The Manteca Parcel is currently agricultural land, and the Proposed Action would potentially use this site for elderberry transplants. The Calaveras River Parcels are situated on the Calaveras River and the existing habitat is severely degraded. The Proposed Action would consist of planting native vegetation and regrading the topography of the site to ensure sufficient hydraulic capacity in the channel to improve habitat connectivity. The Proposed Action for the On-River Parcels would include cutting additional channels to improve juvenile fish rearing habitat, planting vegetation, and modifying the topography of the site to restore river hydrology.

The current acres of existing habitat type at each of the proposed parcels are presented in Table 16. The construction of mitigation under the Proposed Action would involve removing and disturbing the existing habitat in order to construct new, additional acres of habitat. At this time, the actual number of acres that would be impacted are not known. However, once completed plans are available for each of the parcels, regarding specific mitigation design, habitat acreage, and planting placements, updates to the NEPA documentation will be provided.

The Proposed Action for construction of mitigation at these sites would have short-term effects to vegetation, birds, and other wildlife within and adjacent to the parcel footprints during active construction due to noise, vibration, dust, and overall disturbance. The effects of noise and ground vibration from construction equipment may have significant impacts on wildlife and sensitive species within the proposed action area. Additionally, increased dust and disturbance to the existing habitat could also have a significant impact on the biological communities within each parcel site. However, these effects would only be temporary and would be limited during active construction and ground disturbance work. The actions proposed would create additional habitat, including riparian areas and wetlands, improve habitat connectivity, and restore natural river hydrology, which would provide significant benefits to fish, wildlife, and vegetation in the long-term. Therefore, with the implementation of the avoidance and minimization measures outlined in Section 3.11.4 and due to the nature of the Proposed Action for compensatory mitigation purposes, the short-term effects due to construction activities would be less than significant, and the long-term effects of new habitat creation and restoration would be beneficial to vegetation and wildlife.

The construction of the proposed mitigation parcels would not impact or impede any migratory wildlife species, migratory habitat corridors, and breeding or nursery sites within the proposed action area in the long-term. However, potential short-term impacts may occur from construction activities due to ground disturbance for grubbing and clearing the existing vegetation, as well as noise, vibration, and dust impacts. The Proposed Action for mitigation would result in a net gain of riparian and SRA habitat and would create increased habitat connectivity and migratory corridors for wildlife, specifically for migratory birds and fish. Additionally, the In-River Parcel and On-River Parcels would include hydrologic restoration to improve breeding habitat and promote juvenile rearing for fish species. Therefore, overall impacts would be less than significant.

Implementation of the Proposed Action for constructing mitigation at the parcel sites aligns with local and county ordinances and policies pertaining to biological resources. The San Joaquin County General Plan outlines policies including the protection of riparian habitat along rivers and natural waterways to the extent possible. The San Joaquin County Multispecies Conservation and Open Space Plan covers an expansive list of species and habitats of interest at federal, state, and local levels. The Proposed Action would temporarily impact the existing riparian areas within the parcels but would result in a net gain and improvement of riparian and SRA habitat once completed. Therefore, impacts to any local or county policies would be less than significant, and the implementation of the Proposed Action would be in compliance with both of the plans described.

3.10.3 CEQA Environmental Effects Analysis

Impact VW-1: Would implementation of the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Development of the mitigation sites at the In-River parcel, Calaveras River parcels, and On-River parcels under the CMP would be designed to improve ecological conditions for species within the proposed ecological restoration areas in a manner that would restore native natural communities, including riparian habitat. The In-River parcel, Calaveras River parcels, and On-River parcels would be cleared and grubbed to remove existing unwanted vegetation. Some impacts on sensitive natural communities including riparian habitat could occur during construction from soil disturbance, dust, and grubbing activities. The effects of dust deposition on vegetation within riparian habitat as a result of ground disturbing construction activities would be temporary. Removal of riparian vegetation as a result of soil disturbance and grubbing as part of site preparation for CMP implementation is expected to be limited in spatial extent. Net loss of existing riparian vegetation and other sensitive natural communities, if left permanent, would be potentially significant. Implementation of avoidance and minimization measures would be conducted to avoid and preserve designated high-value trees or habitat such as mature elderberries and wetland areas. With the implementation of these mitigation measured identified below, there would be a net beneficial effect for sensitive habitat by increasing overall habitat value. Therefore, impacts would be less than significant with mitigation.

Impact VW-2: Would implementation of 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 native wildlife nursery sites?

Restoring riparian habitat within the CMP mitigation sites at the In-River parcel, Calaveras River parcels, and On-River parcels would create continuity along migration corridors and potential nesting and nursery grounds for terrestrial wildlife species that utilize the San Joaquin River system as a migration corridor and breeding grounds. There would be short-term effects on birds and other wildlife in areas adjacent to the construction footprint from increased noise, vibration, and dust, and removal of invasive vegetation. Net loss of existing riparian vegetation, if left permanent, could present a disruption in migratory and movement conditions for terrestrial wildlife species, particularly riparian-dependent bird species. As such, the impact of the CMP on movement and migratory conditions for wildlife species would be potentially significant.

Implementing the mitigation measures listed below would avoid, minimize and/or compensate for potential impacts on wildlife movement and migration conditions associated with construction of the CMP sites. With the implementation of these

mitigation measured identified below, there would be a net beneficial effect for wildlife movement and migration conditions since it would increase the spatial extent and connectivity of riparian and wetland communities. Therefore, impacts would be less than significant with mitigation.

Impact VW-3: Would implementation of the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Restoring riparian habitat within the biological mitigation sites is consistent with the goals and objectives in the San Joaquin County General Plan. There would be short-term effects on birds and other wildlife in areas adjacent to the construction footprint from increased noise, vibration, and dust and removal of invasive vegetation. Implementing the mitigation measures listed for Impact VW-1 would avoid, minimize, rectify and/or compensate for potential conflicts with local polices protecting biological resources. As a result, with implementation of these mitigation measures, the potential impacts for the Modified Project would be less than significant with mitigation.

Impact VW-4: Would implementation of the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

As described in 2018 LSJR IIFR/EIS/EIR, the CMP area is covered by San Joaquin County Multispecies Conservation and Open Space Plan approved in 2000. This plan covers an expansive list of species and habitats of interest at federal, state, and local levels. In the 2018 LSJR IIFR/EIS/EIR, it was determined there would be conflicts with the San Joaquin County Multispecies Conservation and Open Space Plan because of direct and indirect effects resulting in the permanent loss of shaded riverine aquatic habitat.

The CMP implementation at the In-River parcel, Calaveras River parcels, and On-River parcels would not include any net loss of shaded riverine aquatic habitat. Given the implementation of the mitigation measures listed above for biological resources, there would be no inconsistency between the implementation of the CMP and the San Joaquin County Multispecies Conservation and Open Space Plan. The potential impacts of the CMP on an adopted conservation plan would be less than significant.

3.10.4 Avoidance and Minimization Measures

The mitigation measures outlined in Section 5.9.10 for Vegetation and 5.10.10 for Wildlife in the 2018 LSJR IIFR/EIS/EIR would be adopted to reduce impacts from the Proposed Action. Those measures, in addition to the standard BMPs would ensure that the Proposed Action would have no significant effects to vegetation, wildlife and sensitive/critical habitat.

Under CEQA, Mitigation Measures 3.6-16, 3.6-17, and 3.6-18 from the 2023 TS30L Final SEIR shall apply.

3.11 Special Status Species

3.11.1 Existing Conditions

The existing environmental and regulatory conditions related to Special Status Species, Fisheries, and Biological Resources described in Section 5.11.1 and 5.12.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.8.1 of the 2023 TS30L Final SEA, and Sections 3.6.1 and 3.6.2 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels. Those sections, in addition to Section 4 “Ecological Resources” in the CMP, further describes the existing conditions for special status species, critical habitat, and aquatic resources within the San Joaquin River Basin and connected waterways, as well as the life history and habitat requirements of wildlife and fish species within the project area. As discussed in these previous environmental documents, there are several federal and state special status species with potential to occur in the Proposed Action area. Species lists obtained from the USFWS Information for Planning and Consulting (IPaC) tool and the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) are included as Appendix D of this document. These species are summarized in Table 19.

Table 19. Federal and state special-status plant, wildlife, and fish species with the potential to occur in the Proposed Action area.

Wildlife Species	Federal Status	State Status
Valley elderberry longhorn beetle (VELB), *Desmocerus californicus dimorphus*	T	NL
Monarch butterfly, *Danaus plexippus*[*]	PT	NL
Giant garter snake (GGS), *Thamnophis gigas*	T	T
Western pond turtle, *Actinemys marmorata*	PT	SSC
Riparian brush rabbit, *Sylvilagus bachmani riparius*	E	E
Western mastiff bat, *Eumops perotis californicus*	-	SSC
Red bat, *Lasiurus blossevillii*	-	SSC
Tricolored blackbird, *Agelaius tricolor*	-	SSC
Burrowing owl, *Athene cunicularia*	-	SSC
Swainson’s hawk, *Buteo swainsoni*	-	T
White-tailed kite, *Elanus leucurus*	-	FP

Song sparrow ("Modesto" population), *Melospiza melodia*	-	SSC
Least Bell's vireo, *Vireo bellii pusillus*	E	E
Yellow-headed blackbird, *Xanthocephalus xanthocephalus*	-	SSC
Plant Species	**Federal Status**	**State Status**
Alkali milkvetch, *Astragalus tener*	-	CNPS 1B.2
Slough thistle, *Cirsium crassicaule*	-	CNPS 2
Big tarplant, *Blepharizonia plumose*	-	CNPS 1B.1
Rose mallow, *Hibiscus lasiocarpus*	-	CNPS 2
Delta tule pea, *Lathyrus jepsonii var. jepsonii*	-	CNPS 1B
Mason's lilaeopsis, *Lilaeopsis masonii*	-	R, CNPS 1B
Fish Species	**Federal Status**	**State Status**
Central Valley (CV) Spring-run Chinook salmon, *Oncorhynchus tshawytscha*	T	T
Steelhead trout, *Oncorhynchus mykiss*	T	NL
Delta smelt, *Hypomesus transpacificus*	T	E
Longfin smelt (San Francisco Bay-Delta DPS), *Spirinchus thaleichthys*	E	T
Sacramento splittail, *Pogonichthys macrolepidotus*	NL	NL
White sturgeon, *Acipenser transmontanus*	NL	PT
Green sturgeon (sDPS), *Acipenser medirostris*	T	NL

E = Endangered; T = Threatened; PT = Proposed Threatened; SSC = Species of Special Concern: USFWS; CNPS = California Native Plant Society; R= Red listed; SC=Species of Concern: NMFS: FP= Federally Proposed; NL= Not Listed; DPS = Distinct Population Segment; sDPS = southern Distinct Population Segment.

In the past, USACE consulted with the USFWS and NMFS under Section 7 of the ESA for the LSJR feasibility study and for Reach TS30L. BOs received for the LSJR Project and the species they cover are listed in Table 20. For information on the species' distribution, habitat, and occurrence in the LSJR feasibility study area, see the 2018 LSJR IIFR/EIS/EIR.

Table 20. Biological opinions issued for the LSJR Project.

Agency	BO Received	Date Issued	Species/Critical Habitat Covered	Determination
NMFS	LSJR Feasibility Study, File No. WCR-2015-3809	June 7, 2016	CV spring-run Chinook salmon CV steelhead and critical habitat Green sturgeon sDPS and critical habitat	Likely to Adversely Affect (LAA) each species and critical habitat, not likely to jeopardize the species or destroy or adversely modify critical habitat
USFWS	LSJR Feasibility Study, File No. 08ESMF00-2015-F-0206	June 13, 2016	VELB GGS Delta smelt and critical habitat	LAA each species and critical habitat, not likely to jeopardize the species or destroy or adversely modify critical habitat
USFWS	Reach TS30L, File No. 2022-0043398	October 12, 2023	VELB GGS	LAA each species, not likely to jeopardize the species

Potential Species Affected during Construction

The species that are listed under this section are the species that have a higher probability of being affected by construction activities. These specific species are important due to their ecological significance, conservation status, and role as indicators of ecological health. The species listed in this section are highlighted for the need for conservation efforts though the mitigation efforts.

<u>CV Spring-run Chinook Salmon (T)</u>

Habitat Requirements

Chinook Salmon (*Oncorhynchus tshawytscha*) require cold, clean, and well-oxygenated water for spawning. Gravel beds in riverine habitats are essential for their reproduction. During migration, they need unobstructed access to the ocean and back to freshwater streams for spawning.

CV Steelhead (T)

Habitat Requirements:

Steelhead (*Oncorhynchus mykiss*) require similar habitat to Chinook salmon, relying on cold freshwater for spawning and juvenile development. They need riparian zones with adequate vegetation to regulate water temperatures and provide shelter.

Green Sturgeon (T)

Habitat Requirements:

Green Sturgeon (*Acipenser medirostris*) requires large, deep river systems with suitable substrate for spawning. They also use estuarine and coastal marine habitats during different life stages.

Delta Smelt (T)

Habitat Requirements:

Delta smelt *(Hypomesus transpacificus*) require fresh or slightly brackish water, inhabiting shallow sloughs and edgewaters of estuaries within freshwater-saltwater mixing zones. They utilize these tidally influenced waters and loose substrates for spawning and foraging for food.

Giant Garter Snake (E)

Habitat Requirements:

The Giant garter snake (*Thamnophis gigas*) requires freshwater marshes, wetlands and irrigation canals for suitable development and life cycle of the species. These snakes depend on aquatic habitats for foraging and feeding on amphibians and fish, while also requiring adjacent upland areas for shelter during the dry season.

Valley Elderberry Longhorn Beetle (T)

Habitat Requirements:

The Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) is highly dependent on the elderberry shrub (*Sambucus* spp.), which serves as a host plant that provides food source during its larval state. This beetle typically thrives in riparian habitat along rivers and streams, and floodplains where elderberry shrubs grow.

The projected effects to special status species associated with the LSJR Project (per the 2018 LSJR IIFR/EIS/EIR) are listed in Table 21. Project impacts to Delta smelt shallow water and open water habitats will be compensated for through the purchase of habitat credits, so mitigation constructed under the CMP implementation is not required to compensate for these habitat types. Similarly, GGS credits are available and have

been purchased for the project to mitigate for impacts and will be continued to be purchased as needed. Elderberry shrubs that would be impacted by the construction of the LSJR Project will be relocated prior to construction activities. Finally, impacts to SRA habitat would be fully compensated for through the implementation of the CMP and construction of the proposed mitigation parcels.

Table 21. Projected LSJR Project effects to special status species and their habitats.

Habitat	Quantity	Type of Impact
GGS Aquatic	0.5 acres permanent, 6 acres temporary	Removal of vegetation, bank hardening, slope reshaping, altered hydrology
GGS Upland	12.5 acres permanent, 111.5 acres temporary	Direct removal
Elderberry shrubs	44 shrubs, 96 stems[1]	Direct removal
SRA[2]	19,360 linear feet	Altered water velocities, vegetation removal, bank hardening
Delta smelt shallow water	238 acres	Altered hydrology
Delta smelt open water	1.52 acres	Altered hydrology

[1]Guidelines for impact assessment to VELB were updated in 2017 and no longer use stem/shrub counts. However, stems/shrubs are presented here, since that is how impacts were evaluated in the LSJR Study's BO.
[2]SRA habitat is utilized by CV spring-run Chinook salmon, sDPS green sturgeon, and CV steelhead.

Critical Habitat

Critical habitat is a specific term and legal designation of land use defined with the U.S. Endangered Species Act (ESA). This term describes specific habitat areas containing physical or biological features that are essential to the conservation of a listed species, and which may require special management or protection considerations (ESA Section 3.5A). Critical habitat may be designated even if the area is not occupied by the species at the time it is designated.

Critical habitat for delta smelt was identified at four of the six parcels, which include the In-River Parcel, Van Buskirk Park, Calaveras River Parcels, and On-River Parcels, based on data from the IPaC Tool from the USFWS and the CNDDB. Additionally, based on the NOAA Fisheries West Coast Region Critical Habitat Map, designated critical habitat for both steelhead and green sturgeon occur near or adjacent to three of the proposed parcels, including the In-River Parcel, Van Buskirk Park, and On-River Parcels, with the Calaveras River Parcels only located within critical habitat for steelhead.

In the 2016 LSJR Feasibility Study BOs from USFWS and NMFS, as well as the 2023 TS30L USFWS BO, it was determined that the Project was LAA designated critical habitat, but not likely to destroy or adversely modify (see Table 20).

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act requires that all Federal agencies consult with NMFS regarding actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat (EFH). EFH is defined as “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The Delta Estuary and the SJR and its tributaries are designated EFH for Pacific salmon. All of the potential parcels are located within EFH for Pacific Salmon based on GIS data from the NOAA Fisheries West Coast Region Critical Habitat Map. The 2016 formal consultation with NMFS included an EFH assessment, and NMFS determined that the LSJR Project would have an adverse affect on EFH.

3.11.2 NEPA Environmental Effects Analysis

No Action Alternative

The purchase of mitigation credits under the No Action Alternative would have a beneficial impact on special status species as it would compensate for habitat impacts to species affected during the construction of the LSJR Project phases. The construction of the setback levee at the Fourteenmile Slough would involve constructing 14 acres of habitat for mitigation. Ground disturbance from construction activities would cause temporary, localized impacts to wildlife, plants, and fish species listed in Table 19. Impacts due to disturbance would be short-term and limited to active construction. The creation of native habitat, including riparian and wetland areas and new aquatic habitat, would result in a beneficial long-term effect to special status species.

However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the area would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. If flood events were to occur due to levee breach or overtopping, efforts for levee repairs could cause direct impacts to special status species within the region. Construction activities and heavy equipment would be needed for emergency levee repairs, which has the potential to directly impact aquatic and terrestrial special status species, designated critical habitats, and EFH, including possible loss of individual listed species and future impacts to species populations. Indirect impacts from construction activities such as the potential release or spill of contaminants, such as oil and fuel, into the environment and adjacent waterways, may lead to possible injury or death to wildlife and fish species, as well as habitat degradation over time. Therefore, the No Action Alternative may pose significant effects to special status species.

Proposed Action

The Proposed Action would create and restore suitable habitat at the proposed parcels for all of the federally listed species present in the area. Riparian habitat constructed at any of the parcels could serve as suitable habitat for VELB, and GGS may also use any of the constructed sites. The In-River Parcel, Van Buskirk Park, and On-River Parcels would create potentially suitable habitat for delta smelt, longfin smelt, and NMFS listed fish species. The Calaveras River Parcels have habitat potential for only NMFS listed fish species, as the sites would not be suitable for delta smelt or longfin smelt since the channel is not tidally influenced. The habitat created would be adaptively managed to ensure its success, then protected in perpetuity, providing approximately 47 acres of wetland habitat, 372 acres of riparian habitat, and over 50,000 linear feet of SRA habitat that may otherwise not exist. This represents a significant benefit effect to special status species.

The Proposed Action at each of these mitigation sites would have direct, short-term impacts to special status species inhabiting the areas surrounding the sites during active construction due to noise, vibration, dust, and overall disturbance. Any in-water work needed to construct the mitigation may cause harm to fish species through impacts to water quality, including increased turbidity and release of pollutants, or by direct take via injury or death. Likewise, construction on land could cause direct take of GGS that may be present. Any elderberry shrubs would be transplanted to suitable habitat offsite, so VELB are unlikely to be directly impacted during construction. Additionally, impacts to the existing habitat at the parcels, including current riparian and SRA areas, and aquatic vegetation, may be disturbed during construction activities. Species utilizing these habitats would be temporarily negatively affected by any disturbance to this habitat. However, the guidance and recommendations within the USFWS BO and NMFS BO would be implemented to avoid and minimize any potential impacts on special status species during active construction to ensure that the temporary effects are less than significant.

Since all of the parcel sites are located within EFH for Pacific Salmon, potential impacts to EFH from the development of the mitigation under the Proposed Action may occur. Additionally, critical habitat for delta smelt, steelhead, and/or green sturgeon is present at four of the six parcels, which include the In-River Parcel, Van Buskirk Park, Calaveras River Parcels, and On-River Parcels. Construction activities may have temporary negative effects to EFH and critical habitat through ground disturbance, increased noise, vibration, dust, and turbidity. The In-River Parcel and On-River Parcels are islands within the San Joaquín River and have no access to land. The use of barges to transport equipment and materials and in-water work would be necessary during the construction of mitigation at those sites. This may impact EFH and critical habitat through the disturbance of shoreline areas, potential for increased turbidity levels, and risks of contamination and release of pollutants into adjacent waterways. With the implementation of the avoidance and minimization measures described in Section

3.12.4, and the short-term nature of the impacts only during active construction, temporary effects to EFH and critical habitat from the Proposed Action would be less than significant.

The Proposed Action would create additional aquatic habitat, including SRA and riparian areas to support NMFS listed species and delta smelt, improve habitat connectivity, and restore natural river hydrology, which would provide significant benefits to wildlife, fish, and other aquatic species in the long-term. Therefore, the long-term effects of new habitat creation and restoration would be beneficial to the availability and quality of EFH and critical habitat in the area.

3.11.3 CEQA Environmental Effects Analysis

Impact SS-1: Would implementation of the project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special-status plants

Botanical surveys have not been conducted for the CMP sites at the In-River parcel, Calaveras River parcels, and On-River parcels. Based on their location and known habitats, the potential exists for special-status plants to be present within these sites. Construction of the CMP restoration sites would involve clearing and grubbing to remove existing unwanted vegetation, which could result in direct removal of special-status plants. Additionally, habitat could result from the clearing of vegetation within machinery access routes and in equipment staging areas; accumulation of fugitive dust on leaves, which impedes a plant's ability to photosynthesize; and general grading and recontouring so the CMP site can support wetland and riparian habitat establishment.

Construction of the CMP may result in temporary habitat disturbance, and permanent plant and/or habitat loss/conversion. Therefore, this impact on special-status plants would be potentially significant. Implementation of avoidance and minimization measures would be conducted to avoid and preserve special-status plant populations. These measures include conducting pre-construction botanical surveys within the biological mitigation sites during the appropriate blooming season. With the implementation of these mitigation measured identified below, the effect of implementation of the CMP on special-status plants would be less than significant with mitigation.

Special-status Wildlife

SWHA

The In-River parcel, Calaveras River parcels, and On-River parcels contain riparian habitat could support nesting Swainson's hawk. Suitable foraging habitat existing in the annual grassland habitat present within the Calaveras Parcel and On-River Parcel. Vegetation removal that results in removal of Swainson's hawk nest trees and conversion of Swainson's hawk foraging habitat to a landcover type not amenable to foraging by this species (e.g., inundating existing grasslands) would be potentially significant. By implementing the mitigation measures listed below specially for the protection of Swainson's hawk, including establishing a buffer between construction activities and any discovered active nests, the magnitude of this potential impacts would be reduced to less to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

Burrowing Owl

The Calaveras River parcels and On-River parcels provide potential habitat for burrowing owl given the presence of annual grassland habitat, especially if ground squirrels are active within those sites. Since surveys for the species were not conducted on either of those two areas, it is assumed for the purposes of this analysis that burrowing owls could utilize the site.

If burrowing owls are present on the CMP sites during construction, the potential impact would be potentially significant. However, implementing the mitigation measures listed below specifically for the protection of burrowing owls—including establishing a buffer between construction activities and nesting burrowing owls—would reduce the extent of these impacts to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

Other Nesting Birds

Most birds are protected under the MBTA (16 U.S.C. 703–711) and all raptors, including common species not considered special-status, are protected under the California Fish and Game Code (Section 3503.5). Noise and disturbance from construction activities (e.g., grubbing and grading) that are planned to occur on the CMP parcels that occur during the breeding season (generally from February 15 to August 31) could disturb nesting activities if an active nest is located near these activities. Any disturbance that causes nest abandonment and subsequent loss of eggs or developing young at active nests would violate California Fish and Game Code Sections 2800, 3503, and 3503.5 and the MBTA. This impact would be potentially significant. However, implementing the mitigation measures listed below specifically for avoiding nesting birds and establishing appropriate buffers would reduce impacts to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

Western pond turtle/Giant garter snake

The construction of any of the CMP sites also has the potential to affect aquatic and upland habitat for western pond turtle and giant garter snake that occurs within agricultural irrigation ditches, fresh emergent wetlands and lacustrine habitat. Although the restoration of the CMP sites would be designed to avoid wetland features when feasible, modification of irrigation ditches may be required to create wetland and riparian habitat. Any wetlands proposed for creation would provide additional habitat upon completion of construction.

Implementation of the CMP, including the construction of the biological mitigation sites, would result in a temporal loss of suitable aquatic habitat for western pond turtle and giant garter snake during construction. Additionally, the replacement habitat would not initially have emergent vegetation preferred by giant garter snake. The filling or modification of the existing habitat to allow for restoration of riparian and wetland habitat could result in harm to western pond turtle and giant garter snake individuals, if they are present during the period of construction. The potential impact on western pond turtle and giant garter snake under the CMP would be potentially significant. However, implementing the mitigation measures listed below, including pre-construction surveys, worker awareness trainings, and compensatory mitigation specifically for the protection of western pond turtle and giant garter snake, would reduce the extent of these impacts to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

Valley elderberry longhorn beetle

As been addressed previously, elderberry shrubs have been observed within or adjacent to the CMP sites. Indirect impacts to valley elderberry longhorn beetle associated with dust from construction or direct impacts from valley elderberry longhorn beetles being hit by vehicles or equipment or removal of elderberry shrubs containing VELB individuals would be potentially significant. The potential impact on VELB under the CMP would be potentially significant. However, implementing the mitigation measures listed below consistent with the 2017 VELB Framework – including transplanting of elderberry shrubs to a nearby suitable site, maintenance of speed limits, and construction outside of the valley elderberry longhorn beetle flight season – would reduce the extent of these impacts to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

Special-Status Bats

Potentially suitable roosting habitat for special-status bats is present within the riparian trees within the CMP sites at the In-River parcel, Calaveras River parcels, and On-River parcels. Construction activities have the potential to result in direct impacts on roosting bats, including western red bat and pallid bat. Any construction activities pursuant to the CMP that would result in tree removal could result in direct disturbance or mortality to

special-status bat maternity roosts. Indirect impacts on special-status bat maternity roosts could also occur from noise and vibration caused by construction activity nearby. The impact on special-status bats from construction of the CMP would be potentially significant. However, implementing the mitigation measures listed below, including pre-construction surveys, specifically for the protection of special-status bats would reduce the extent of these impacts to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

Special-Status Fish

Under the CMP, development of the In-River parcel and the On-River parcels as mitigation sites may affect aquatic habitat used by Central Valley steelhead, Central Valley fall-/late-fall-run Chinook salmon, green sturgeon, and delta smelt. Additionally, implementation of CMP actions on the Calaveras River Parcels may affect Central Valley fall-/late-fall-run Chinook salmon and steelhead, which may opportunistically use the Calaveras River when sufficient flows are present. Operation of barges to deliver equipment and materials to the In-River parcel and On-River parcels could be necessary since there is no access by land to these island properties. Operation of barges can have the potential to disturb shoreline habitat and benthic substrates from propeller wash. The San Joaquin Rover channel is a key shipping lane for movement of large shipping vessels, so the In-River parcel and the On-River parcels are already subject to large wave action generated by these vessels. The increase in barge traffic and barge off-haul actions could increase the likelihood of accidental spills of materials, which could have a deleterious effect on aquatic habitat for special-status fish (e.g., spills of petroleum-based fuels or accidental spillage of construction materials into the water during the off-haul process). The potential impacts on special-status fish from increased barge usage to support construction of the CMP sites would be potentially significant. However, implementing the mitigation measures listed below specifically for the protection of special-status fish would reduce the extent of these impacts to less than significant with mitigation, consistent with the determination made in the 2018 LSJR IIFR/EIS/EIR.

3.11.4 Avoidance and Minimization Measures

The conservation and mitigation measures outlined in Section 5.12.10 for Special Status Species in the 2018 LSJR IIFR/EIS/EIR would be adopted to reduced impacts from the Proposed Action. Those actions, which include avoidance and minimization measures, and compensation measures for both construction, and operation and maintenance phases for special status wildlife, plant, and fish species would ensure that the Proposed Action has no significant effects to special status species overall. Additionally, the mitigation measures outlined in Section 5.11.10 for Fisheries in the 2018 LSJR IIFR/EIS/EIR would also be adopted to reduce impacts from the Proposed Action. Any need for additional compensatory mitigation as a result of construction activities would be accounted for in site-specific designs. With these measures, in

addition to the standard BMPs, the Proposed Action would have no significant effects to aquatic resources, including federally listed fish species, native fish species, EFH, and sensitive or critical aquatic habitat and vegetation.

Under CEQA, Mitigation Measures 3.6-1 through 3.6-18 from the 2023 TS30L Final SEIR shall apply.

3.12 Socioeconomics

3.12.1 Existing Conditions

The regulatory framework and existing conditions related to socioeconomics described in Section 5.13.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.9.1 of the 2023 TS30L Final SEA remain largely applicable to the proposed CMP-covered mitigation parcels and are incorporated by reference. Additional information is provided here. Much of the data on population demographics and environmental burdens surrounding the proposed mitigation parcels is taken from the state of California's CalEnviroScreen tool (CalEPA 2021). For this analysis, a tract is considered "environmentally burdened" by a particular indicator if the tract is in the 90th percentile or greater for the indicator. A summary of the tracts containing or adjacent to proposed mitigation parcels, including population, racial composition, and environmental burdens, is shown in Table 22.

According to the U.S. Department of Housing and Urban Development's biannual point-in-time counts, in 2024, San Joaquin County had a population of over 4700 unhoused persons, with about 73% of that population being unsheltered and the remaining 27% living in transitional housing or shelters (HUD 2024). This represents a population increase of 104% from the previous count in 2022. Encampments may be present at or adjacent to any of proposed parcels excluding the islands, particularly the Calaveras River parcels and Van Buskirk Park, since they are located in more urbanized areas.

Table 22. Demographics and environmental burdens of census tracts containing the proposed mitigation parcels.

Tract Number and Location	Population (2019)	Racial Composition (%)							Environmental Burdens										
		Hispanic	White	Black	Native American	Asian American	Pacific Islander	Other	Diesel particulate matter	Exposure to pesticides	Drinking water contaminants	Proximity to cleanup sites	Groundwater threats	Impaired water bodies	Asthma	Low birth weight	Poverty	Unemployment	Housing burden
6077003900 *Fourteenmile Slough Pumpstation and On-River parcels*	1,518	69.8	29.0	0	0.5	0.7	0	0		x	x		x	x		x			
6067009800 *In-River parcel*	1,514	19.2	73.0	0.6	1.3	2.1	0.5	3.4						x					
6077002503 *Van Buskirk Park and surrounding*	2,258	41.8	9.3	22.4	0	18.2	0	8.3						x	x		x		
6077000801 *Adjacent to north edge of Van Buskirk Park*	7,624	70.0	3.8	4.4	0	16.3	0.1	5.5	x			x	x	x	x				
6077002504 *Adjacent to Van Buskirk Park*	3,884	42.6	11.0	15.1	0	29.9	0	1.4						x	x				
6077001400 *Calaveras River left bank, across from parcels*	4,677	45.4	31.0	2.0	0.02	15.7	0	5.9								x			
6077003308 *Calaveras River right bank adjacent to parcels*	1,873	43.8	19.9	5.5	0	16.8	4.1	9.9										x	
6077003312 *Calaveras River right bank adjacent to parcels*	3,083	44.8	8.9	24.3	0.4	16.3	1.6	3.8								x	x	x	
6077003313 *Calaveras River right bank adjacent to parcels*	2,895	39.1	5.2	26.9	0	23.6	0.5	4.7									x		x
6077005106 *Manteca parcel and surrounding*	8,926	30.4	38.6	4.9	0.4	17.5	1.3	6.9		x	x		x	x					

3.12.2 NEPA Environmental Effects Analysis

No Action Alternative

The construction of the Fourteenmile Slough setback area would have little to no effect on socioeconomics, as there are no residences or businesses on Wrightwood-Elm Tract, where the setback would be located. Likewise, the purchase of mitigation credits would have no effect, as no physical action would occur. However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, many communities within Stockton, disadvantaged and otherwise, would remain vulnerable to flood risk. In the event of levee failure and subsequent flooding, potential direct impacts on existing residential, commercial, and industrial infrastructure as well as on agricultural lands and future land use of the region would occur. This may result in temporary or permanent displacement and relocation of residents and businesses. Therefore, the No Action Alternative may pose significant impacts to socioeconomics and communities within Stockton and the surrounding areas.

Proposed Action

Section 5.13.4 of the 2018 LSJR IIFR/EIS/EIR found that the decreased flood risk from the proposed levee improvements would benefit all north and central Stockton and would have a positive impact to socioeconomics in this region. Data from CalEnviroScreen shows that residential areas surrounding the parcels where mitigation construction is proposed all experience at least one environmental or socioeconomic burden. Some burdens experienced by the surrounding populations, including exposure to pesticides, drinking water contaminants, proximity to cleanup sites, groundwater threats, low birth weight, poverty, unemployment, and housing, are unlikely to be affected by the proposed construction or maintenance of the mitigation parcels. Others, such as diesel PM, impaired water bodies, and asthma, could be affected by construction of the mitigation parcels.

The parcels including and surrounding Van Buskirk Park experience heightened exposure to diesel PM and have a higher prevalence of asthma than surrounding parcels, both of which issues could be affected by mitigation construction at Van Buskirk Park. Construction machinery would generate diesel PM and other pollutants, which could affect local air quality conditions and trigger asthma attacks in affected residents. These effects would be temporally limited to the mitigation construction, and avoidance and minimization measures would be implemented to reduce the effects (see Section 3.12.4). The parcels containing and surrounding the Fourteenmile Slough pumpstation, On-River parcels, In-River parcels, Van Buskirk Park, and Manteca parcel are affected by impaired water bodies, i.e., water bodies contaminated with pollutants. During

construction of mitigation on these parcels, it's possible that accidental spills of fuels, oils, lubricants, or other wastes could occur and runoff into adjacent waterways, further contaminating in these waterways. Applicable best management practices (see Section 3.12.4) would be implemented to minimize the likelihood of spills and reduce the significance of the potential impact. Overall, effects related to the socioeconomic and environmental burdens would be less than significant.

During construction of the mitigation at the proposed parcels, unhoused members of the community residing in the vicinity that may be displaced. Prior to and during construction, USACE would coordinate with San Joaquin County to ensure that impacts to the unhoused population are less than significant.

In the long-term, implementation of the Proposed Action would have a beneficial impact to socioeconomics, as the construction of habitat mitigation would provide more opportunities for outdoor recreation, enhance public access to greenspace, and create urban shade, particularly at Van Buskirk Park and the Calaveras River Parcels.

3.12.3 CEQA Environmental Effects Analysis

Socioeconomics is a resource area not analyzed or discussed under CEQA.

3.12.4 Avoidance and Minimization Measures

Measures discussed in the 2018 LSJR IIFR/EIS/EIR Sections 5.5.10 "Water Quality," 5.8.10 "Air Quality," 5.15.10 "Transportation," and 5.19.10 "Noise" would be implemented, as applicable, to avoid and minimize impacts to communities adjacent to the proposed mitigation parcels. Dust control measures would be implemented to minimize air quality impacts due to fugitive dust. Additionally, to minimize impacts to residences, haul trucks must follow designated haul routes and would not be permitted to drive through residential communities as feasible. Unhoused members of the community would be contacted prior to construction to allow adequate time to relocate.

Under CEQA, no mitigation is required.

3.13 Land Use

3.13.1 Existing Conditions

The existing environmental and regulatory conditions related to Land Use described in Section 5.14.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.11.1 of the 2023 TS30L Final SEA, and Sections 3.9.1 and 3.9.2 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels and are incorporated by reference. The In-River Parcel is located in the southern portion of unincorporated Sacramento County. Local plans and regulations for Sacramento County were not evaluated in previous documents, so additional supplementary information is provided below. Additionally, the

cities of Stockton and Manteca and San Joaquin County have each updated their General Plans since the publication of the 2018 IIFR/EIS/EIR. Updates pertaining to land use in the proposed action area are described in this section.

Sacramento County General Plan (2011)

The Sacramento County Board of Supervisors adopted the 2030 General Plan on November 9, 2011. The plan addresses important community issues such as new growth, housing needs, and environmental protection. The plan includes eight mandatory elements and eight additional elements, including: Land Use, Circulation, Housing, Conservation, Open Space, Noise, Safety, Environmental Justice, Air Quality, Public Facilities, Hazardous Materials, Agriculture, Scenic Highways, Economic Development, Delta Protection, and Energy. Elements with goals and policies relevant to the CMP include Land Use and Conservation.

The Land Use Element (most recently amended in 2022) is composed of three sections: the Land Use Diagram, Land Use Strategies and Policies, and General Plan Administration and Implementation. The overall goal of Land Use Strategies and Policies included in the 2030 General Plan is to provide an orderly pattern of land use that concentrates urban development, enhances community character, is functionally linked with transit, promotes public health, and protects the County's natural, environmental, and agricultural resources. There are no specific policies directly related to use of open space lands for habit or mitigation, but Under Rural Growth Management and Design, the County states that it is their intent to direct urban growth to metropolitan areas to protect prime agricultural lands and maintain natural resources.

The goal of the Conservation Element (most recently amended in 2017) is to provide for the management and protection of natural resources for the use and enjoyment of present and future generations while maintaining the long-term ecological health and balance of the environment. Topics include Water Resources, Mineral Resources, Materials Recycling, Soil Resources, Vegetation and Wildlife, and Cultural Resources.

The following policies from the Conservation Element are relevant to analysis of the CMP’s potential effects to land use resources:

> CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
>
> CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function:
>
> - vernal pools
> - wetlands
> - riparian
> - native vegetative habitat
> - special status species habitat

CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element).

CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.

CO-62. Permanently protect land required as mitigation.

CO-64. Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.

CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.

CO-68. Preserves shall be planned and managed to the extent feasible so as to avoid conflicts with adjacent agricultural activities (Please also refer to the Agricultural Element).

CO-73. Secure easement or fee title to open space lands within stream corridors as a condition of development approval.

CO-74. Evaluate feasible on-site alternatives early on in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.

CO-79. Manage vegetation on public lands with special status species to encourage locally native species and discourage nonnative invasive species.

CO-80. Control human access to sensitive habitat areas on public lands to minimize impact upon and disturbance of special status species.

CO-89. Protect, enhance and maintain riparian habitat in Sacramento County.

CO-90. Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.

CO-91. Discourage introductions of invasive non-native aquatic plants and animals.

CO-92. Enhance and protect shaded riverine aquatic habitat along rivers and streams.

CO-130. Protect, enhance and restore riparian, in-channel and shaded riverine aquatic habitat for:

- spawning and rearing of fish species, including native and recreational nonnative, non-invasive species, where they currently spawn;
- potential areas where natural spawning could be sustainable; and
- supporting other aquatic species.

The City of Stockton, City of Manteca, and San Joaquin County have each updated their General Plans since the publication of the 2018 LSJR IIFR/EIS/EIR, in 2018, 2024, and 2016, respectively. Additional land use information specific to the proposed mitigation parcels is provided here.

The Fourteenmile Slough Pumpstation, Van Buskirk Park, and Calaveras River Parcels are within the Stockton city limits. The Fourteenmile Slough Pumpstation is designated as Institutional use, which allows for public and quasi-public uses such as schools, libraries, colleges, water treatment facilities, airports, some governmental offices, federal installations, and other similar and compatible uses. Van Buskirk Park is designated Parks and Recreation, so uses such as City and County parks, golf courses, marinas, community centers, public and quasi-public uses, and other similar and compatible uses are allowed at this parcel. The Calaveras River Parcels lie along the river, which is undesignated, but adjacent uses include Low- and High-density Residential and a small amount of Institutional (City of Stockton 2018).

The Manteca Parcel lies within the Manteca city limits. The parcel is designated as Open Space land use, which provides for habitat and natural areas, including wetlands and riparian areas. These areas are set aside as permanent open space preserves to protect environmentally sensitive areas (City of Manteca 2024).

The On-River Parcels and the Fourteenmile Slough setback area are in an unincorporated area of San Joaquin County. The On-River Parcels are designated as Open Space/Resource Conservation (OS/RC). OS/RC lands are essentially unimproved and planned to remain open in character and protected from development-related impacts. The setback area is designated as general agriculture, which provides for large-scale agricultural production and associated processing and sales. Allowed uses in general agricultural spaces include crop production, grazing, agricultural processing facilities, compatible public uses, and natural open space areas (San Joaquin County 2016).

The In-River Parcel is in unincorporated area of Sacramento County and is designated for Recreation use. Recreation lands provide active public recreational uses, including community and County parks (Sacramento County 2011).

Agriculture

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Under the FPPA, farmland may be designated as prime farmland, unique farmland, or farmland of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

Of the six proposed mitigation parcels, two contain farmland subject to FPPA. The Fourteenmile Slough Pumpstation is farmland of local importance, and the Manteca Parcel is predominantly prime farmland, with a small amount of farmland of statewide importance (roughly 14 acres) towards the southern end of the parcel. The Fourteenmile Slough setback area would be located on land that is currently prime farmland (CA Department of Conservation 2024).

3.13.2 NEPA Environmental Effects Analysis

No Action Alternative

The purchase of mitigation credits under the No Action Alternative would have no effect on land use, as no physical action or land use conversion would occur. The construction of the setback mitigation area at Fourteenmile Slough would convert 14 acres of prime farmland (designated agricultural use) to a natural, open-space area, which constitutes an irreversible and irretrievable commitment of resources. The conversion is compatible with the San Joaquin County general plan land use designation. Therefore, there would be no effect to land use, and USACE would coordinate with the Natural Resources Conservation Service (NRCS) as needed per the FPPA to ensure that effects to agriculture due to prime farmland conversion are less than significant.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the area would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of levee failure and subsequent flooding, both direct and indirect impacts to land use may occur. Flooding would directly destroy agricultural lands and result in loss of crop production, as well as lead to the potential long-term loss of topsoil and negatively impact the agricultural economy. Urban land use within the City of Stockton, including residential, commercial, industrial, and recreational lands would also be directly impacted by flood events that could result in damage to homes, buildings, and natural areas. Therefore, the No Action Alternative may pose significant impacts to land use within Stockton and the surrounding areas.

Proposed Action

Under the Proposed Action, each of the proposed parcels would be converted to natural spaces. These conversions would constitute an irreversible and irretrievable commitment of resources, due to the requirement to maintain the lands as mitigation in perpetuity. Conversion to habitat mitigation would be consistent with each parcel's current land use designation, and would not conflict with any land use plans, policies, or regulations. This conversion would affect up to approximately 166 acres of prime farmland, 14 acres of farmland of statewide importance, and 89 acres of farmland of local importance. Under the Proposed Action, there would be no effects to land use, and USACE is in the process of coordinating with the NRCS as needed per the FPPA to ensure that effects to agriculture due to farmland conversion are less than significant. Documentation of this coordination will be included in Appendix G of the Final SEA/SEIR/

3.13.3 CEQA Environmental Effects Analysis

Impact LU-1: Would implementation of the project physically divide an established community?

As discussed in Section 3.9.3 of the 2023 TS30L Final SEIR, this issue area was not analyzed in the 2018 LSJR IIFR/EIS/EIR. The 2023 TS30L Final SEIR provided analysis of potential effects related to the implementation of TS30L, finding that there would be no impact related to physically dividing an established community. The TS30L project features would utilize existing land uses, use existing local and regional roadways, and/or would be located outside the vicinity of an established community.

The In-River parcel is located in the southern portion of unincorporated Sacramento County; it is an island located within the San Joaquin River with no land access. As stated in Chapter 2, *Project Description*, native vegetation surrounds the shoreline, with some native shrub vegetation near the island's center. Due to its inaccessibility, this parcel is not frequented by the public or used for recreation activities. Sacramento County has zoned the island in the Delta Waterways special zoning district with a Natural Streams combining zoning district, and has given it a land use designation of Recreation (Sacramento County 2022). Additionally, there are several existing residences on nearby Sherman Island at Eddo's Harbor and RV Park, located directly north of the In-River Parcel, however, there are no residences located on the parcel.

The Calaveras River parcels are located in the City of Stockton and include areas where levee improvements are planned under Alternative 7a. These parcels include the levee and waterside levee right-of-way along the Calaveras River, vegetated by grasses, as well as a narrow, 0.15-mile-long strip of land vegetated by trees with a trail that connects the levee to Bianchi Road. These parcels have been zoned as public facilities, low-density residential, and high-density residential in the City of Stockton zoning code, and have been given a land use designation of parks and recreation, low

density residential, and high density residential by the City of Stockton General Plan (City of Stockton 2018). The Calaveras River parcels are directly adjacent to established residential communities and mixed use areas on the landside of both the left and right bank levees; however, the parcels are located on the levee and within the waterside levee right-of-way.

The On-River parcels are located in unincorporated San Joaquin County. The larger of the two parcels has been used as a private hunting club in the past and has an existing boat dock. The habitat conditions of the two On-River Parcels are currently unknown, but they likely possess mature vegetation. There are no levees around the site, and they are not accessible by land. Due to their inaccessibility, these parcels are not frequented by the public or used for recreation activities. The larger parcel is home to an on-site caretaker who manages the property. These parcels are zoned as Agriculture General 80-acres (AG-80) and have been designated as Open Space by San Joaquin County (San Joaquin County 2016).

The In-River parcel is located in rural Sacramento County, where the nearest established community is Eddo's Harbor and RV Park directly north, but surrounding land uses are mainly agricultural. The Calaveras River parcels are located along the river, adjacent to residential communities in the City of Stockton. The On-River parcels are located in rural San Joaquin County, with some scattered nearby residences but no proximate communities, as the surrounding land uses are agricultural. The proposed CMP-covered mitigation parcels have historically been used for open space/recreational uses, and the development of the sites entails soil movement and planting native vegetation to transition the areas to wetland, upland, and riparian habitat.

Development of the proposed CMP-covered mitigation sites would occur on the border of or outside the vicinity of established communities and would not significantly transition the land use such that the sites would physically divide established communities. Implementation of the CMP would therefore be consistent with and would not result in new or more severe potentially significant impacts than identified in the 2023 TS30L Final SEIR. **No impact** would occur.

Impact LU-2: Would implementation of the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The analysis in the 2018 LSJR IIFR/EIS/EIR determined in Section 5.14.3 that changes in land use from implementation of Alternative 7a would not conflict with land use or master plans, policies, or regulations because, overall, affecting the 156 acres of land is small compared to the size and capacity of San Joaquin County. Because the project would comply with any associated land acquisition and relocation regulations of local jurisdictions (including the San Joaquin County and the cities of Stockton, Lathrop, and

Manteca), effects for the majority of the 156 acres were found to be less than significant.

The 2023 TS30L Final SEIR evaluated updated local general plans and land use/zoning regulations for San Joaquin County and the cities of Stockton and Manteca and found that there would be no substantial change from the analysis presented for Alternative 7a; TS30L would not substantially change the footprint analyzed in the 2018 LSJR IIFR/EIS/EIR and the updated general plans did not present significant changes to plans or policies related to land use designations in or around TS30L project features. The 2023 TS30L Final SEIR pointed out that the San Joaquin County general plan states that public, quasi-public, and special uses (which would include the activities and uses under TS30L implementation) are compatible with land use designations within the TS30L project site. The locations of TS30L biological mitigation sites were located in unincorporated San Joaquin County, and therefore the City of Stockton zoning map and definitions of allowable uses included in Chapter 16.20 of the City's development code did not apply.

The CMP-covered mitigation sites evaluated in this SEIR include the In-River parcel, Calaveras River parcels, and On-River parcels. The On-River parcels are located in unincorporated San Joaquin County, just as with TS30L. However, the Calaveras River parcels are located within the City of Stockton's general plan planning area, and the In-River parcel is located in unincorporated Sacramento County. This SEIR therefore includes an updated review of the City of Stockton's zoning and development code and the Sacramento County general plan, since these planning documents and regulations did not apply to TS30L biological mitigation sites.

As stated previously, the Calaveras River parcels have been zoned as public facilities (PF), low-density residential (RL), and high-density residential (RH) in the City of Stockton zoning code, and have been given land use designations of parks and recreation, low density residential, and high density residential by the City of Stockton General Plan (City of Stockton 2018). Conservation areas are a permitted land use in PF, LR, and HR zoning districts according to Chapter 16.20 of the City's development code.

Sacramento County has zoned the In-River parcel in the Delta Waterways (DW) special zoning district with a Natural Streams (NS) combining zoning district, and has given it a land use designation of Recreation (Sacramento County 2022). According to the Sacramento County zoning code, the purpose of the DW zoning district is to preserve and enhance waterways in the Delta area and their immediate environment, and to ensure the compatibility of land uses and development along the Sacramento River and waterways. Permitted uses include some of the activities proposed by the CMP, such as removal of grass, brush, or dead or downed trees, and removal of noxious weeds, and open space or parks/recreation, but use of the land for conservation or mitigation purposes is not specifically mentioned as a permitted or prohibited use. The NS zoning

overlay is meant to regulate property along designated streams in the unincorporated area of the County, to preserve natural character, water quality, and recreation potential, and to protect against flood damage and losses. This combining zoning district requires a conditional use permit be acquired for all permitted or conditional uses in the underlying zoning district, subject to satisfactorily meeting the development guidelines, which include general standards, standards for placement of structures or landfill in floodplain areas, and standards for floodway areas.

Based this review of updated and/or additional local planning documents, development of the CMP-covered mitigation sites would not substantially change the analysis presented for Alternative 7a in the 2018 LSJR IIFR/EIS/EIR or for TS30L in the 2023 TS30 Final SEIR. There are no significant changes to local plans, policies, or regulations related to land use designations, allowable uses, and/or zoning requirements for the CMP-covered mitigation parcels as compared to the previously analyzed projects. The CMP would not conflict with new or updated applicable land use plans, policies or regulations, and the CMP would not result in new or more severe potentially significant impacts than in the 2018 LSJR IIFR/EIS/EIR or the 2023 TS30L Final SEIR. These previous documents adequately address potential conflicts with land use plans, policies, and regulations intended to avoid or mitigate and environmental effect.

3.13.4 Avoidance and Minimization Measures

The measures listed in Section 3.11.3 of the 2023 TS30L SEA would be implemented at the proposed mitigation parcels. In addition, USACE would coordinate with the NRCS as required by the FPPA whenever the conversion of farmland would occur.

Under CEQA, no mitigation is required.

3.14 Utilities and Public Services

3.14.1 Existing Conditions

The environmental and regulatory framework described in Section 5.16.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.10.1 of the 2023 TS30L Final SEA, and Section 3.2.8 of the 2023 TS30L Final SEIR is applicable to the analysis in this SEA and is incorporated by reference. The areas pertaining to utilities and public services that were covered include water services, wastewater, stormwater, solid waste, energy use and conservation, fire protection, and police services. Utilities and public services at the Fourteenmile Slough Pumpstation site were previously analyzed in Section 3.10.1 of the 2023 TS30L SEA, and therefore is not included in the analysis of this document. For this SEA, existing utilities and public services at each of the remaining potential parcels for mitigation sites are analyzed.

Water supply in San Joaquin County is mainly from surface water and groundwater sources provided by numerous water agencies, as well as individual and private wells, for domestic and agricultural uses (2018 LSJR IIFR/EIS/EIR). The In-River Parcel is an undeveloped and uninhabited island within the San Joaquin River and has no existing water utilities. Van Buskirk Park was a former public golf course within the city of Stockton and still contains remnants of golf course water features and is adjacent to the San Joaquin River and French Camp Slough. Previously existing irrigation systems and water utilities that had been used to maintain the golf course are still present on the site. The Manteca Parcel was formerly used as irrigated agricultural land for row crops in the past and is adjacent to Walthall Slough. The Calaveras River Parcels are within the City of Stockton and are adjacent to residential communities. Water supply in Stockton is provided by a combination of treated surface water diverted from the Sacramento San Joaquin Delta, surface water from the Mokelumne River acquired from Woodbridge Irrigation District, treated water purchased from the Stockton East Water District (SEWD), which is imported from the New Melones (Stanislaus River) and New Hogan (Calaveras River) Reservoirs, as well as pumped groundwater from city owned wells (City of Stockton, 2024). The On-River Parcels consist of two adjacent parcels situated on islands separated by the San Joaquin River and are located within San Joaquin County. These sites are mostly undeveloped land with the east parcel used as a private hunting club in the past and has an existing boat dock. These sites would have limited existing water utilities.

Waste water in San Joaquin County is collected and treated at 9 publicly operating treatment plants, each associated with a city or town, including Stockton, Lathrop, and Manteca. Waste water within the city of Stockton is collected and treated by the Regional Wastewater Control Facility (RWCF) and the City of Stockton Wastewater Collection System Facilities before it is released into local waterways (City of Stockton, 2024). The City of Manteca Wastewater Treatment Plant provides wastewater treatment services in Manteca and Lathrop.

The San Joaquin County Public Works Utilities Maintenance office maintains the stormwater system within the county, which transports stormwater directly to local waterways. The City of Stockton is responsible for stormwater management including collection, drainage, and disposal within city limits, which includes maintaining all storm drains. Primary waters that drain the city include the San Joaquin River, Bear Creek, Mosher Slough, Fivemile Slough, Fourteenmile Slough, Calaveras River and Stockton Diverting Canal, Smith Canal and French Camp and Walker Sloughs. In Manteca, stormwater is managed by the city and by the South San Joaquin Irrigation District. The city maintains the Storm Drain System, which consists of approximately 210 miles of pipeline, 70 pump stations, and 66 detention basins.

Solid waste management in San Joaquin County is provided by the San Joaquin County Department of Public Works. Three landfills are located within and serve the county. The City of Stockton waste and recycling services are provided by Republic Services

and Waste Management for residential and commercial collection (City of Stockton, 2024). In Manteca, the Manteca Solid Waste Division provides solid waste collection services within city limits for residential and commercial areas (City of Manteca, 2024).

Based on geospatial data from the California Energy Commission (CEC), three of the five potential parcels contain or are adjacent to PG&E electric power lines for transmission, including the In-River Parcel, Manteca Parcel, and Calaveras River Parcels. The In-River Parcel contains overhead 500kV electric power lines at the northernmost area of the parcel. The Manteca Parcel is adjacent to an overhead 60kV electric power line along the northwest side of the parcel. The Calaveras River Parcels are also adjacent to an overhead 60kV electric power line along the entire length of the north side of the parcel. The other two parcels, Van Buskirk Park and On-River Parcels are not in the vicinity of any electric power lines.

Existing public services for each of the sites were analyzed using desktop geospatial analyses. The In-River Parcel is privately owned land located within Sacramento County and is a remote, rural island within the San Joaquin River with no structures or urban features. It is adjacent to an RV park with a boat dock to the north. Fire protection services are under the jurisdiction of the California Department of Forestry and Fire Protection and police services are provided by the Sacramento County Sheriff's Office. The other four parcels are all located within San Joaquin County. Van Buskirk Park and Calaveras River Parcels are within Stockton city limits and services are provided by the Stockton Fire Department and Stockton Police Department. The Manteca Parcel is located within Manteca city limits and within the jurisdiction of the Manteca Fire Department and Manteca Police Department. The On-River Parcels are outside of city limits with services provided by rural fire districts or the adjacent city fire departments in Stockton.

3.14.2 NEPA Environmental Effects Analysis

No Action Alternative

The purchase of mitigation credits under the No Action Alternative would have no effect on utilities and public services, as no physical action would occur. The construction of the setback mitigation area at Fourteenmile Slough is adjacent to residential communities. However, the action to create habitat on the existing farmland would not have significant impacts to utilities or public services in the surrounding area.

Under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the area would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of levee failure and subsequent flooding, both direct and indirect impacts to utilities and public services may occur. Flooding would result in direct impacts to utilities

such as stormwater and city drainage systems that would potentially overflow from floodwaters, electric and power services may be lost, and water supplies could possibly be contaminated. Additionally, increased demand for emergency responders, including fire, police, and medical services would be impacted by flooding, limiting access to areas and leading to longer response times. Therefore, the No Action Alternative may pose significant impacts to utilities and public services within Stockton and the surrounding areas.

Proposed Action

Since the parcels consist of undeveloped and uninhabited lands, there would be no significant impacts to utilities or public services within the Proposed Action locations or surrounding areas. The presence of any utilities infrastructure will be confirmed prior to construction at each proposed parcel. Impacts such as temporary disruption to services or utility easements required are unlikely and would be minimal and short-term limited during active construction. In addition, local residents and communities that may be affected by any temporary disruptions of utility resources or public services would be notified in advance and in accordance with local, state, and federal policies and guidelines. The relocation or installation of utility infrastructure are not anticipated as a result of the Proposed Action.as a result of the Proposed Action.

3.14.3 CEQA Environmental Effects Analysis

Under CEQA, “Utilities, Service Systems, and Public Services” are environmental issues not requiring detailed analysis. See Section 3.3.2 “Resources Not Discussed in Detail under CEQA.”

3.14.4 Avoidance and Minimization Measures

The mitigation measures outlined in Section 5.16.10 for Utilities and Public Services in the 2018 LSJR IIFR/EIS/EIR would be adopted to reduce impacts from the Proposed Action. Those measures, in addition to the standard BMPs would ensure that the Proposed Action would have no significant impacts to existing utilities and public services. Additionally, appropriate coordination with utility providers, public service agencies and departments would be consulted prior to construction to ensure minimal impacts and disruption to existing services.

Under CEQA, Mitigation Measures 3.2.8-1 and 3.11-1 from the 2023 TS30L Final SEIR shall apply.

3.15 Aesthetic Resources

3.15.1 Existing Conditions

The environmental and regulatory framework described in Section 5.18.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.6.1 of the 2023 TS30L Final SEA, and Section 3.2.1 of the 2023 TS30L Final SEIR is generally applicable to the analysis in this SEA and is incorporated by reference. Additional site-specific details for each proposed mitigation parcel are included below.

The Fourteenmile Slough Pumpstation was historically used as a wastewater treatment area but was demolished in 2008. Currently there is uneven grading on the site due to the presence of the ponds, some native plants species are present as well as songbirds and raptors. Members of the public occasionally use the surrounding levee road for walking, jogging, or biking, and may find value in wildlife viewing and natural scenery.

The In-River Parcel is an island located within the San Joaquin River with no land access. It is vegetated along its shorelines with native vegetation and some native shrub vegetation near the islands center. Due to its accessibility this parcel is not frequented by the public or used for recreation activities.

Van Buskirk Park was a public golf course; however, due to insufficient funding, the golf course was shuttered. The park has 977 trees planted that incorporate 35 different species that hold some wildlife value and include the old golf course ponds. Since the golf courses closure it has been fenced off to the public, however, as it is within the City of Stockton and was a well-known park it does still play host to local unhoused communities.

The Manteca Parcel is currently on the waterside of a newly improved levee and is outside the planned development area for the City of Manteca. It was used in the past as row crop agriculture but has since been rezoned as a park/open space. There is quality habitat adjacent to the parcel, numerous songbirds, and raptors have been observed on site in addition to several large, mature elderberry shrubs.

The Calaveras River Parcels partially overlays some of the area where levee improvements are planned. This parcel is void of large woody vegetation, but the river is still hydraulically connected, and fish are believed to travel up the Calaveras River to the Stockton Diverting Canal. Currently this parcel is vegetated predominantly by grasses. As this parcel is within an established residential community and hosts recreational activities along the levee such as walking, running, and bike riding, as well as fishing and kayaking within the river when it is inundated with water. This parcel is also known to host unhoused communities.

The larger On-River Parcel has been used as a private hunting club in the past and has an existing boat dock. The habitat conditions of the two On-River Parcels are currently

unknown, but likely possesses some mature vegetation. There are no levees around the sites, and they are not accessible by land. Due to its accessibility these parcels are not frequented by the public or used for recreation activities. The larger parcel is home to an on-site caretaker who manages the property.

3.15.2 NEPA Environmental Effects Analysis

No Action Alternative

The purchase of mitigation credits under the No Action Alternative would have no effect on aesthetics, as no physical action would occur. The construction of a mitigation area at Fourteenmile Slough would convert agricultural land, which is designated as prime farmland, to natural habitat and open space. This would benefit the aesthetics at the site, as it would include planting new native vegetation and potentially increasing wildlife activity in the area, creating scenic views and positive visual effects.

However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the area would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of levee failure and subsequent flooding, both direct and indirect impacts to aesthetics would occur. Flooding would result in direct impacts to the visual character of the area due to views of flooded areas and damaged buildings and properties. Additionally, construction needed for required repairs of the flood damage would increase the presence and view of equipment and materials, as well as introduce sources of light and glare during active work. However, potential flooding would not degrade current scenic views and spaces, such as natural habitats and open spaces. Although some damages may occur to these areas due to flooding, they would remain undeveloped and natural spaces that contribute to scenic views of the overall area and would have no impact on light or glare. Therefore, the No Action Alternative may pose some impacts to aesthetics but would be less than significant.

Proposed Action

The In-River Parcel consists of existing riparian and wetland habitats, and the Proposed Action would further restore the current natural habitat, improving aesthetics and scenic views at the site. It is anticipated there would be minimal temporary negative impact during construction activities. The Van Buskirk Park would have positive effects to aesthetics from the Proposed Action by converting urban land that is currently an abandoned public golf course into new riparian and wetland habitat with recreational uses. The construction of the setback levee would change visual aesthetics to the local community and recreation users by altering the existing conditions of the abandoned golf course. Changes would include newly constructed habitat with wetland and riparian areas with additional recreational spaces. The Proposed Action would overall enhance

the natural visual environment of Van Buskirk Park, with increased improvement of the existing natural features. It is anticipated there would be temporary negative impacts to the community during construction, however; BMPs would be implemented to minimize such impacts. The Manteca Parcel is currently agricultural land, and the Proposed Action would potentially restore this site with natural vegetation, including elderberry transplants, and create recreation opportunities. The Proposed Action at the Calaveras River Parcels would restore the existing degraded habitat by planting native vegetation and improving habitat connectivity, therefore improving the natural visual qualities of the area. It is anticipated there would be temporary negative impacts to the community during construction, however, BMPs would be implemented to minimize such impacts. The two separate On-River Parcels would also result in an improvement to the aesthetic resources at the sites from the Proposed Action by restoring the existing habitat and planting native vegetation.

The Proposed Action for the construction of mitigation at the potential parcels would not have long term adverse effects to aesthetics or the visual qualities of the area. Due to the remote locations of the proposed parcels the construction activities would have minimal impacts. For the proposed parcels that are located closer to communities BMPs would be implemented to minimize the visual impacts of construction. The mitigation being constructed would restore habitat, create opportunities for recreation, and visually enhance the landscape environment. Overall, the project would improve the aesthetic views and visual characteristics at the sites and have a beneficial effect to aesthetic resources.

3.15.3 CEQA Environmental Effects Analysis

Under CEQA, “Aesthetics” is an environmental resource not requiring detailed analysis. See Section 3.3.2 “Resources Not Discussed in Detail under CEQA.”

3.15.4 Avoidance and Minimization Measures

Section 5.18.10 of the 2018 LSJR IIFR/EIS/EIR stated aesthetics impacts due to compliance with the Vegetation ETL would be significant and unavoidable. However, based on the selected mitigation option in the CMP, the created mitigation at the proposed sites would have a net benefit upon completion. Standard BMPs would be implemented to ensure that effects from the Proposed Action on aesthetics would be avoided or minimized, including but not limited to stormwater pollution prevention measures and exclusionary fencing.

Under CEQA, Mitigation Measures 3.6-16 through 3.6-19 from the 2023 TS30L Final SEIR shall apply.

3.16 Public Health and Environmental Hazards

3.16.1 Existing Conditions

This section describes the existing conditions and environmental effects relating to hazardous, toxic, and radiological materials and waste for the Proposed Action. For the purpose of this section, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. A hazardous material is defined as “a substance or material that is capable of posing an unreasonable risk to health, safety and property when transported in commerce” (49 CFR Section 171.8), California Health and Safety Code Section 25501.

The environmental and regulatory framework described in Section 5.20.1 of the 2018 LSJR IIFR/EIS/EIR and Section 3.2.4 of the 2023 TS30L Final SEIR is generally applicable to the analysis in this SEA and is incorporated by reference. In the 2018 LSJR IIFR/EIS/EIR, Section 5.20 includes a Hazardous, Toxic and Radioactive Waste (HTRW) Summary Report (USACE, 2014) completed by Kleinfelder in 2014. Prior investigation concluded in the 2018 LSJR IIFR/EIS/EIR documentation located a Leaking Underground Storage Tank (LUST) cleanup site just downstream on the San Joaquin River. This is listed in the GeoTracker to be the only area that is downstream on the San Joaquin River of the potential parcel locations, that is of concern.

To date, contaminant investigations have been performed at one of the proposed mitigation parcels. Fourteenmile Slough Pumpstation was formerly used as sewage disposal ponds in the 1960s but is now covered in grass and shrub vegetation. Due to the former use, there is potential for contamination at the site. A Phase 1 Environmental Site Assessment (EnvSA) was conducted in October 2022. The report recommended additional soil sampling to investigate the presence and/or extent of hazardous substances. A Phase 2 EnvSA was completed in December 2024. During the Phase 2 EnvSA, multiple contaminants of concern were reported at levels exceeding their respective environmental quality screen criteria, though none were reported at levels that qualify them as hazardous wastes, and most were within local background levels.

3.16.2 NEPA Environmental Effects Analysis

No Action Alternative

The construction of the Fourteenmile Slough setback area would likely have little to no effect on public health or environmental hazards, as the public generally does not access Wrightwood-Elm Tract, where the setback would be located. A previous hazardous waste site is located at a marina across the channel, however the cleanup has been complete and the case is closed. The purchase of mitigation credits would have no effect, as no physical action would occur.

However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the area would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of levee failure and subsequent flooding, both direct and indirect impacts to public health and environmental hazards would occur. Floodwaters could release contaminants and hazardous materials from damaged properties and infrastructure, including but not limited to chemicals, oils, fuels, heavy metals, solid wastes, and biohazardous materials into flooded locations and water supplies within the area. Additional direct impacts that pose increased environmental hazards from flooding include, possible fires and natural gas leaks from damage to infrastructure and electrical systems, as well as increased public health risks from the high potential of mold production and waterborne diseases after a flood event. Therefore, the No Action Alternative, may pose significant adverse impacts to public health and environmental hazards.

Proposed Action

The presence or extent of contaminants present at each proposed mitigation parcel is currently unknown; however, EnvSAs would be performed at each parcel prior to acquisition to determine the presence of contamination. If it is found that any parcel does exhibit contamination, mitigation would not be constructed at that site. For sites that may have small quantities of contaminants present, measures would be implemented to minimize risk of exposure. In addition, the requirement to prepare and implement a SWPPP and a SPCCP would further reduce the likelihood of spreading contamination. These measures, in addition to the standard BMPs, would ensure that the Proposed Action would have no significant impacts to public health or environmental hazards within the surrounding communities. Since the risk of incidental release of hazardous materials during construction activities is low and because the active construction would be short-term and small-scale, any potential impacts associated with the Proposed Action would be less than significant.

3.16.3 CEQA Environmental Effects Analysis

Under CEQA, “Hazards, Hazardous Materials, and Public Safety” are environmental issues not requiring detailed analysis. See Section 3.3.2 “Resources Not Discussed in Detail under CEQA.”.

3.16.4 Avoidance and Minimization Measures

The mitigation measures outlined in Section 5.20.10 for Public Health and Environmental Hazards in the 2018 LSJR IIFR/EIS/EIR would be adopted to reduce impacts from the Proposed Action.

Under CEQA, Mitigation Measure 3.2.4-1 from the 2023 TS30L Final SEIR shall apply.

Additionally, the following measures would apply:

- Construction personnel should be fitted with modified Level D personal protective equipment while soil disturbance activities are taking place, modified to include N-95 dusk masks.
- Dust mitigation measures, such as wetting, would be utilized during soil disturbance activities.
- All soil stockpile would be covered with plastic sheeting when not in use.
- The site(s) would be kept secure from the public during construction activities.

3.17 Cultural Resources

3.17.1 Existing Conditions

The existing environmental and regulatory conditions related to cultural resources described in Section 5.21.1 of the 2018 LSJR IIFR/EIS/EIR, Section 3.15.1 of the 2023 TS30L Final SEA, and Sections 3.7.1, 3.7.2, 3.12.1 and 3.12.2 of the 2023 TS30L Final SEIR remain applicable to the proposed CMP-covered mitigation parcels.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), requires a Federal agency to consider the effects of Federal undertakings on historic properties. Historic properties are defined in 36 CFR 800.16 as any prehistoric or historic district, site, building, structure, object included in or eligible for inclusion in the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. The *Programmatic Agreement (PA) between the U.S. Army Corps of Engineers and the California State Historic Preservation Officer (SHPO) Regarding the Lower San Joaquin River Feasibility Study Project, San Joaquin County, California* was executed on May 11, 2016, and amended on May 11, 2021. Fulfillment of the stipulations of the PA would assure compliance with NEPA and Section 106 of the NHPA. The stipulations of the PA include identification and evaluation of historic properties within the Area of Potential Effects (APE) for the undertaking, determination of effects to historic properties, resolution of adverse effects to historic properties, as necessary, and consultation with the SHPO, Native American tribes, and interested parties.

Cultural Resources Records Search Results

A review of cultural resource records at the Central California Information Center and North Central Information Center of the California Historical Resources Information System for the In-River parcel, the Calaveras River parcels, and the On-River parcel,

identified one cultural resource. The Calaveras River Levees/Stockton Diverting Canal intersect the Calaveras River Parcel. This resource has been determined not eligible for listing in the National Register (Ugan, 2023; Polanco, 2024). No pre-contact Native American cultural resources were identified within 0.5-mile of the three areas that are being analyzed at the Project level.

Native American Consultation

A list of 27 Native American representatives from 12 Native American Tribes potentially interested in the APE of the In-River parcel, the Calaveras River parcels, and the On-River parcels was received from the Native American Heritage Commission (NAHC) on November 12, 2024. The NAHC also performed a search of the Sacred Lands Files for these three areas and the search was positive for sacred lands.

3.17.2 NEPA Environmental Effects Analysis

No Action Alternative

Potential effects to cultural resources from the No Action Alternative including the construction of the mitigation area at Fourteenmile Slough are included in the effects analysis for Alternative 7a in the 2018 LSJR IIFR/EIS/EIR (see Section 5.21.4). The purchase of mitigation credits under the No Action Alternative would result in no historic properties affected, as no physical action would occur.

However, under the No Action Alternative, the overall LSJR Project schedule may undergo delays of unknown length while waiting for sufficient habitat credit quantities of the appropriate types to become available. During this delay, the area would remain vulnerable to flood risk and the potential for major flood events due to levee failure would remain high. In the event of levee failure and subsequent flooding, historic properties and cultural resources behind existing levees may be damaged or lost. Therefore, the No Action Alternative, may result in adverse effects to historic properties within the area.

Proposed Action

USACE consulted with the SHPO and interested Native American tribes to revise the TS30L APE to include the Fourteenmile Slough Pumpstation in a letter dated June 7, 2022. During the identification efforts, the Wright-Elmwood Tract, a previously unrecorded cultural resource was identified within the APE. USACE determined that the Fourteenmile Slough Pumpstation and Wright-Elmwood Tract were not eligible for listing on the National Register of Historic Places and proposed a continued finding of no historic properties affected for TS30L. In a letter dated July 8, 2022, the SHPO had no comments on the APE revision and concurred with USACE determination of eligibility

for the Fourteenmile Slough Pumpstation and Wright-Elmwood Tract. The SHPO also did not object to the finding of no historic properties affected for TS30L.

The APEs for the remaining proposed mitigation parcels have not yet been systematically surveyed for cultural resources. Implementation of the steps outlined in the PA will take place, as appropriate, beginning with a complete inventory and evaluation of the cultural resources that may be impacted.. Resolution of any adverse effects to historic properties would be accomplished through implementation of the process defined in the PA.

3.17.3 CEQA Environmental Effects Analysis

Impact CULT-1: Would implementation of the project cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines Section 15064.5?

The following discussion focuses on architectural and structural resources or the historic built environment. Archaeological resources, including archaeological resources that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed under Impact CULT-2.

The analysis in the 2018 LSJR IIFR/EIS/EIR determined that Alternative 7a would result in significant and unavoidable impacts to cultural resources, including architectural resources. The 2023 TS30L Final SEIR determined that the TS30L Project is consistent with the 2018 LSJR IIFR/EIS/EIR and would still result in significant and unavoidable impacts because the specific location, design, construction, and operations at the mitigation sites is still largely unknown, as are the presence/absence and associated characteristics of any architectural historical resources that may be present in the mitigation sites.

Implementation of the CMP would not modify or reduce the level of impact to architectural resources in comparison to the findings of the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. A records search of the In-River parcel, the Calaveras River parcels, and the On-River parcel identified one resource, the Calaveras River Levees/Stockton Diverting Canal. This resource was determined not eligible for the National Register (Ugan, 2023). The In-River parcel, the Calaveras River parcels, and the On-River parcel have not been surveyed for cultural resources and therefore the presence/absence and associated characteristics of any historical resources is unknown.

Implementation of the CMP would involve ground disturbance, vibration, and introduction of new visual elements, all of which could result in potential impact on architectural resources. The specific location, design, construction, and operations at the mitigation sites is still largely unknown, as are the presence/absence and associated characteristics of any historical resources that may be present in the mitigation sites.

If implementation of the CMP were to result in either a direct impact (e.g. physical modification, damage, or destruction) or an indirect impact (e.g., alteration to setting, including visual) on any architectural resources that qualify as historical resources, as defined in CEA Guidelines Section 15064.5, the impact would be potentially significant. While impacts to historical resources would be reduced with implementation of the PA, as required by the 2018 LSJR IIFR/EIS/EIR , the level of impact to historical resources would still be **significant and unavoidable** (as stated in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR).

Impact CULT-2: Would implementation of the project cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5?

This section discusses archaeological resources, including pre-contact and historic-era archaeological sites, which qualify as historical resources according to CEQA Guidelines Section 15064.5 as well as unique archaeological resources as defined in PRC Section 21083.2(g).

The analysis in the 2018 LSJR IIFR/EIS/EIR determined that Alternative 7a would result in significant and unavoidable impacts to cultural resources, including archaeological resources. The 2023 TS30L Final SEIR determined that the TS30L Project is consistent with the 2018 LSJR IIFR/EIS/EIR and would still result in significant and unavoidable impacts because the specific location, design, construction, and operations at the mitigation sites is still largely unknown, as are the presence/absence and associated characteristics of any archaeological historical resources that may be present in the mitigation sites.

Implementation of the CMP would not modify or reduce the level of impact to archaeological resources in comparison to the findings of the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR. A records search of the In-River parcel, the Calaveras River parcels, and the On-River parcel, did not identify any archaeological resources within those parcels. However, the In-River parcel, the Calaveras River parcels, and the On-River parcel have not been surveyed for cultural resources and therefore the presence/absence and associated characteristics of any archaeological resources is unknown.

The CMP would involve ground-disturbing activities that have the potential to unearth, expose, or disturb archaeological resources that have not been previously recorded, all of which could result in potential impact on archaeological resources. The specific location, design, construction, and operations at the mitigation sites is still largely unknown, as are the presence/absence and associated characteristics of any archaeological resources that may be present in the mitigation sites.

If implementation of the CMP were to result in either a direct impact (e.g. physical modification, damage, or destruction) or an indirect impact (e.g., alteration to setting,

including visual) on any archaeological resources that qualify as historical resources and/or unique archaeological resources, as defined in CEQA Guidelines Section 15064.5 and PRC Section 21083.2(g), respectively, the impact would be potentially significant.

Impacts to archaeological resources would be reduced with implementation of the PA, as required by the 2018 LSJR IIFR/EIS/EIR and implementation of Mitigation Measure 3.7-1: Cultural Resources Awareness Training and Mitigation Measure 3.7-2: Inadvertent Discovery of Cultural Materials as per the 2023 TS30L Final SEIR. However, the level of impact to archaeological resources would still be **significant and unavoidable** (as stated in the 2018 LSJR IIFR/EIS/EIR and the 2023 TS30L Final SEIR) as cultural resources survey and investigations of the project-level and program-level mitigation sites has not been conducted.

Impact CULT-3: Would implementation of the project disturb human remains, including those interred outside of dedicated cemeteries?

The CMP has the potential to affect human remains because it would include construction activities involving ground disturbance, which is the type of activity that has the potential to disturb human remains, including any associated with archaeological resources. If any such construction activities were to disturb or damage any human remains, the impact would be potentially significant.

While no cultural resources with human remains were identified in CHRIS records search of the In-River parcel, the Calaveras River parcels, and the On-River parcels, a pedestrian survey has not been completed for these areas. The CMP would involve ground-disturbing activities that have the potential to unearth, expose, or disturb unknown human remains. If ground-disturbing construction activities were to disturb or damage any human remains, the impact would be potentially significant.

Implementation of Mitigation Measure 3.7-3: Inadvertent Discovery of Human Remains as per the 2023 TS30L Final SEIR, that complies with PRC Sections 21083.2(i), 5097.98, and 5097.99, CGC Sections 27460 et seq. and 27491, and HSC Section 7050.5, would reduce any such potential significant impacts on human remains from the CMP to a less-than-significant level by requiring appropriate protocol for treatment of any human remains that could be identified during CMP implementation. Therefore, any impacts from the components of the CMP Project site evaluated at a project level would be **less than significant with mitigation**.

Impact TCR-1: Would implementation of the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

a) **listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or**

b) **a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.**

The USACE and SJAFCA have been consulting with a number of Tribes, including in accordance with the PA and PRC Section 21080.3.1(b), on the Project since the development of the 2018 LSJR IIFR/EIS/EIR ; this consultation has included all mitigation sites. Based on the background research and consultation with Tribes, no tribal cultural resources, as defined in PRC Section 21074, have been identified that could be impacted by the CMP. Therefore, it does not appear that the CMP would impact tribal cultural resources.

However, if archaeological resources or human remains are uncovered during construction activities for the levee improvements and three project-level environmental mitigation sites (In-River parcel, the Calaveras River parcels, and the On-River parcel) and are considered to be tribal cultural resources, impacts to tribal cultural resources could be potentially significant. Implementing Mitigation Measure 3.7-1 and Mitigation Measure 3.7-2 would reduce the potential for a significant impact resulting from inadvertent damage to or destruction of previously undocumented cultural materials to a less-than-significant level. These measures would require cultural resources awareness training for all personnel involved with ground disturbance as well as actions to follow if cultural or tribal cultural materials are discovered during Project-related construction activities, including appropriate treatment and protection measures. In addition, Mitigation Measure 3.7-3 would ensure that any human remains identified during Project activities are treated according to the provisions of the PRC and the HSC. Therefore, the substantial adverse change in the significance of a tribal cultural resource impact would be **potentially significant and unavoidable** for the project-level and program-level biological mitigation sites.

3.17.4 Avoidance and Minimization Measures

If adverse effects to any historic properties occur as a result of the undertaking , those effects would beresolved through the process agreed upon in the PA. Resolution of adverse effects under this process may include those listed in Section 5.21.10 of the 2018 LSJR IIFR/EIS/EIR , as appropriate, but may also include additional measures agreed upon by the signatories and consulting parties of the PA Fulfillment of the requirements of the PA would ensure compliance with the requirements of NEPA.

Under CEQA, Mitigation Measures 3.7-1, 3.7-2, and 3.7-3 from the 2023 TS30L Final SEIR shall apply.

Chapter 4 REASONABLY FORESEEABLE EFFECTS UNDER NEPA

Per NEPA (42 U.S.C. 102(2)(C)), this SEA considers the reasonably foreseeable environmental impacts of the Proposed Action. In this section, anticipated effects of the Proposed Action are considered in conjunction with effects of other past, present, and reasonably foreseeable actions or projects. Past, present, and reasonably foreseeable future projects or actions within the region of influence for the Proposed Action not previously discussed in the 2018 LSJR IIFR/EIS/EIR are presented, as well as an analysis of the impacts for each of the resource areas described previously.

4.1 Past, Present, and Reasonably Foreseeable Future Actions

This section describes the past, present, and reasonably foreseeable future projects or actions within the Proposed Action area, which encompasses the Sacramento and San Joaquin River Basins and includes Sacramento County, San Joaquin County, City of Stockton, and City of Manteca. Actions in the region of influence not previously discussed in the 2018 LSJR IIFR/EIS/EIR or the TS30L SEA that could occur during the same time period and have effects, which could combine with effects of the Proposed Action, are shown in Table 23.

Table 23. Other projects within the geographic scope of the Proposed Action.

Project Name	Project Type	Date Approved/ Anticipated	Location	Environmental Impact Area(s)
LeBaron Ranch Project	Residential development	Draft EIR received: 16-August-2024	City of Stockton	Air Quality, GHG Emissions, Land Use
Union Ranch North	Residential development	Draft EIR received: 01-March-2024	City of Manteca	Air Quality, GHG Emissions, Land Use
City of Manteca Zoning Code Update	Zoning code update	Supplemental EIR received: 14-August-2024	City of Manteca	Land Use

Project Name	Project Type	Date Approved/ Anticipated	Location	Environmental Impact Area(s)
Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta, Suisun Marsh, and Suisun Bay	Long-term operations of State Water Project (SWP) facilities	Draft EIR received: 29-May-2024	Statewide, includes Sacramento and San Joaquin County	Hydrology and Hydraulics, Air Quality, GHG Emissions
California Wildlife Damage Management Project	Wildlife damage management	Draft EIR/EIS received: 12-January-2024	Statewide, includes Sacramento and San Joaquin County	Air Quality, GHG Emissions, Vegetation and Wildlife

4.2 Effects by Resource Area

The following sections describe the Proposed Action's potential contribution to effects on each resource area discussed in detail presented in Chapter 3.

4.2.1 Soils and Mineral Resources

The setting for soil and mineral resources is site-specific at each of the proposed mitigation parcels, and other projects within the Proposed Action area would occur in similar soil conditions. Construction activities associated with the Proposed Action would include some earth disturbance and movement of soil that could potentially increase rates of erosion and sedimentation over the existing conditions and into adjacent waterways in the general area. However, these impacts would be short-term, limited during active construction work, and are site-specific. Standard BMPs for erosion control and SWPPP would be implemented, resulting in less than significant impacts to soils and therefore would not meaningfully contribute to or combine with impacts of other projects in the area. The Proposed Action would not have any short- or long-term effects on the acquisition, mining, or processing of any mineral resources within the project area and no existing sand and gravel mining or processing operations, are located at the proposed mitigation parcels. The nature of implementing the CMP to construct mitigation, including planting native vegetation, would be beneficial to soils and mineral resources in the long-term. Therefore, the Proposed Action would not contribute to significant impacts to soils or mineral resources when considered with other projects in the area.

4.2.2 Hydrology and Hydraulics

The geographic scope for impacts to hydrology and hydraulics for the Proposed Action includes the rivers and tributaries within the Sacramento and San Joaquin River Basins. Temporary, short-term impacts to the hydrology and hydraulics during construction of the proposed mitigation sites, specifically the In-River Parcel, Van Buskirk Park, and On-River Parcels, have the potential to occur through the possible use of berms or in-water blocks to allow for grading. This may affect the hydrology and flow of adjacent waterways within the project area, but only during active construction work. In addition, standard BMPs would be implemented to reduce any temporary impacts to less than significant and therefore would not combine with any impacts from other projects in the area. In the long-term, the construction of mitigation would benefit the hydrology at the parcel sites by restoring natural river hydrologic features and improving connectivity of waterways. The implementation of the Proposed Action would not contribute to significant, adverse effects to hydrology and hydraulics when considered with other projects in the area.

4.2.3 Water Quality

The context for water quality includes the Sacramento and San Joaquin River Basins, including the Sacramento River Hydrologic Region and San Joaquin River Hydrologic Region. Construction activities associated with the Proposed Action have the potential to temporarily degrade water quality through the movement of soil and other materials that could possibly contaminate adjacent waterways through runoff. However, all projects in the area, including the Proposed Action, would be required to comply with the CWA and would implement appropriate BMPs and SWPPP to ensure any significant impacts to water quality would be avoided or minimized. Therefore, the Proposed Action would not contribute to significantly impacts to water quality when considered with other projects in the area.

4.2.4 Groundwater

The setting for groundwater impacts includes the regional groundwater basin that the proposed parcels are located within, which is the San Joaquin Valley basin for impacts related to groundwater supplies and groundwater quality. The Proposed Action for constructing mitigation at each parcel site would not prevent the percolation or movement of the underlying groundwater basin. Groundwater may be used as a source of irrigation water for the mitigation plantings at all of the proposed parcels. However, the amount of groundwater that could potentially be used at all six sites would be minimal compared to the sub-basin's total reserve. Additionally, groundwater in the basin is adequately recharged by the San Joaquin River, so small volumes diverted for irrigation would be replenished over time. Therefore, impacts to groundwater would be less than significant and there would be no impact to groundwater resources. Due to the nature of the Proposed Action for habitat restoration, there would not be any combined

effects with other projects in the area and would not contribute to a significant impact on groundwater.

4.2.5 Wetlands and Other Waters of the U.S.

The impacts to wetlands and waters of the U.S. include the project study area, located within Sacramento County and the San Joaquin River Basin. This includes the San Joaquin River and its tributaries, with connectivity to the wetlands and other waterways. Implementation of the Proposed Action would mitigate for the significant and unavoidable impacts to wetlands and other waters of the U.S. by the LSJR Project and would provide an overall benefit to the environment by restoring and creating habitat, including wetlands and riparian areas. The Proposed Action would create new wetlands, enhance existing wetlands, and improve the natural river hydrology and habitat connectivity for fish and wildlife and therefore, would not contribute to significant adverse impacts to wetlands and other waters of the U.S., even when considered in combination with other projects in the area.

4.2.6 Air Quality

The geographic scope for impacts to air quality for the Proposed Action is within regional air districts, including the SJVAPCD and the SMAQMD. For the Proposed Action, coordination with SJVAPCD and SMAQMD would be initiated prior to construction to ensure compliance with emissions standards and to minimize air quality impacts. The emissions associated with the creation of habitat and recreational areas for mitigation at the proposed parcels would be short-term and limited during active construction time and would not introduce any long-term or re-occurring emission sources. In addition, implementation of mitigation measures to reduce construction criteria pollutants to below the regulatory thresholds, as described in Section 5.8 of the 2018 LSJR IIFR/EIS/EIR, would reduce the LSJR Project's contribution to less than considerable because they would reduce project emissions below the Clean Air Act (CAA) and the California Clean Air Act (CCAA) thresholds.

Since air quality impacts would extend beyond the project boundaries, all other projects within the air district jurisdictions would contribute to emissions of criteria pollutants in the region, particularly if they are constructed concurrently, which could have a significant effect on air quality when combined. It is anticipated that each of the projects would implement their own mitigation plan to reduce the emissions to below the significance levels, but there is the potential for significant effects to remain.

The cumulative context for GHG emissions must be considered on a global scale. However, it is unlikely that a single action would contribute significantly to global GHG emissions, but rather is an inherently cumulative and incremental impact issue. Construction activity from the Proposed Action would cause a temporary increase in GHG emissions, but evaluated on its own would have less than significant impacts to

GHG emissions globally. However, when considering GHG emissions from all concurrent projects worldwide, there is the potential for combined significant effects to GHG emissions. With the implementation of mitigation measures required by each individual project, including the Proposed Action, to minimize GHG emissions, there would be the potential to reduce impacts to less than significant levels. In addition, the nature of the Proposed Action to create and restore areas as habitat for mitigation, including planting new native vegetation, would help reduce GHG emissions in the long-term. Therefore, the overall effects of the Proposed Action on GHG emissions would be less than significant when considered with other projects in the region.

4.2.7 Vegetation and Wildlife

The effects to vegetation and wildlife would be analyzed on a regional scale encompassing the Sacramento and San Joaquin River Basins. The parcels under consideration currently consist of freshwater emergent wetland, annual grassland, valley foothill riparian, riverine, lacustrine, urban, and agricultural land, including irrigated croplands. The Proposed Action would involve disturbance to the existing habitat and vegetation at each of the parcels, including but not limited to clearing, grubbing, and grading of the land, as well as removal of vegetation. Although, there would be some loss of the existing habitat and vegetation currently at the parcels, the Proposed Action would result in a permanent net gain of habitat by planting new vegetation, restoring the current land, and creating new habitat, including an estimated 49 acres of wetlands and 413 acres of riparian areas, providing benefits to fish, wildlife, and vegetation as outlined in the CMP. Potential temporary impacts and disturbance to vegetation and wildlife from construction activities would be short-term and limited during active construction. Mitigation measures and standard BMPs would be implemented to ensure no significant temporary impacts. Due to the nature of the Proposed Action for compensatory mitigation, the actions would not contribute to significant adverse impacts when considered with other projects in the area and would not increase the magnitude of effects beyond what is described in the 2018 LSJR IIFR/EIS/EIR.

4.2.8 Special Status Species

The context for impacts to federally listed special status species would be evaluated on a regional scale within the Sacramento and San Joaquin River Basins and by county boundaries in which the proposed parcels are located, which includes San Joaquin County and Sacramento County. There is the potential for short-term, temporary impacts to special status species due to disturbance from construction activities. The combination of effects from other projects in the area to each of the listed special status species has the potential to occur. However, each project, including the Proposed Action, would implement avoidance and minimization measures to reduce potential effects to less than significant. Additionally, the nature of the Proposed Action for

constructing mitigation sites to compensate for significant, unavoidable environmental impacts from the LSJR Project would provide an overall benefit to the federally listed special status species stated in Section 3.13. The Proposed Action would significantly improve riparian, wetland, and SRA habitat availability, quality, and connectivity for aquatic and terrestrial species. Additionally, natural hydrology would be restored at several of the proposed mitigation sites, which would benefit aquatic special status species. Overall, the Proposed Action would not contribute to significant adverse impacts in combination with other projects, since it would benefit special status species over the long-term.

4.2.9 Socioeconomics

The geographic setting for effects to socioeconomics would be the communities in the vicinity of the project sites within San Joaquin County, Sacramento County, City of Stockton, and City of Manteca. Socioeconomic burdens consist of exposure to diesel particulate matter, pesticides, and drinking water contaminants, proximity to cleanup sites, groundwater threats, impaired water bodies, asthma, low birth weight, poverty, unemployment, and housing burden. Temporary impacts during construction may occur, but the Proposed Action would not exacerbate socioeconomic burdens in the long-term. The Proposed Action would improve natural areas and restore habitat, and may increase green space and provide opportunities for passive recreation for the surrounding communities. The actions from the LSJR Project would also not contribute to incrementally significant effects in combination with the Proposed Action but would provide further beneficial effects to socioeconomics by reducing flood risks to the disadvantaged communities and surrounding areas. Overall, the Proposed Action would not contribute to adverse effects to socioeconomics when considered with other projects in the area.

4.2.10 Land Use

The setting for impacts to land use would be San Joaquin County, Sacramento County, City of Stockton, and City of Manteca. The Proposed Action at the potential parcels would result in permanent conversion of agricultural lands, including prime farmland, parks and recreation lands, open space and resource conservation lands, and undesignated lands into habitat, including wetlands and riparian areas, and recreational spaces for mitigation purposes. The conversion to natural space is consistent with the current land use at each parcel. Two of the six proposed mitigation parcels contain farmland designated under the FPPA. The Proposed Action at the Manteca Parcel would permanently convert a small area of prime agricultural land and farmland of statewide importance into habitat and open space conservation land. The Fourteenmile Slough Pumpstation parcel is designated as farmland of local importance. However, the loss of this small amount of farmland would not have a significant effect on the overall agricultural land use in the area. Therefore, the construction of the Proposed Action

would not contribute to significant impacts to land use when considered with other projects in the area.

4.2.11 Utilities and Public Services

The spatial context for effects on utilities and public services include San Joaquin County, Sacramento County, City of Stockton, and City of Manteca. Implementation of the Proposed Action would not require the use or expansion of local utilities, such as water services, wastewater, stormwater, solid waste, energy use and conservation, fire protection, or police services. All existing utilities and utility easements within the Proposed Action area footprint would be maintained and protected. Since the parcels consist of undeveloped and uninhabited lands and the actions would create habitat for mitigation, there would be no significant impacts or increased demand on local utilities or public services within the parcel sites or surrounding areas. Any impacts would be minimal and short-term limited during active construction and appropriate coordination with utility providers and public service agencies and departments would be initiated prior to construction to ensure minimal impacts and disruption to existing services. Therefore, the Proposed Action would not contribute to significant impacts to utilities or public services when considered with other projects in the area.

4.2.12 Aesthetic Resources

The setting for aesthetic resources would be site specific at the individual parcel locations, as well as within the surrounding areas. Impacts to aesthetics would be temporary during active construction, as the Proposed Action would improve the aesthetics at the parcels once completed and overall in the long-term by planting native vegetation and restoring habitat, creating natural scenic views. The Proposed Action would convert currently degraded habitat, urban land, and an agricultural field to natural habitat and recreation areas. There would be no permanent loss of large trees or other vegetation at any of the parcels. These sites would be used to create new habitat and improve visual quality in the areas. The Proposed Action to implement the CMP would mitigate for the significant and unavoidable impacts to aesthetics associated with the LSJR Project due to loss of visual quality during and after construction. These parcels would be constructed as mitigation sites to offset the significant impacts of the LSJR Project. When considered with other past, present, or future projects within the study area, the Proposed Action may have short-term, impacts to visual qualities during active work and use the construction equipment that may combine with the effects of other projects in the immediate vicinity. However, all projects in the area, including the Proposed Action, would implement appropriate BMPs to ensure any impacts to aesthetics would be avoided or minimized, and reduced to less than significant. Additionally, the implementation and completion of the CMP, would improve the visual qualities at the parcels in the long-term and foreseeable future. Therefore, the Proposed

Action would not contribute to significantly impacts to aesthetics or visual resources when considered with other projects in the area.

4.2.13 Public Health and Environmental Hazards

The geographic setting for effects to public health and environmental hazards for the Proposed Action is in the cities of Stockton and Manteca, as well as county jurisdictions including San Joaquin County and Sacramento County. There is the potential for unintended release and exposure of hazardous materials during construction activities. However, due to the short duration of construction and small scale of the parcel sites, the extent of contamination is not likely to extend beyond the parcel boundaries but may have potential effects if materials enter adjacent waterways. Standard BMPs as listed previously in this document would be taken and all applicable Federal, State, and local laws and regulations would be followed to ensure no significant impacts to public health and environmental hazards would result from the Proposed Action. When considering other projects in the area, potential effects from the construction of the mitigation sites would be less than significant with the avoidance and minimization measures implemented. Therefore, the Proposed Action would not contribute to significant impacts to public health and environmental hazards from exposure, contamination, or release of hazardous or toxic materials during construction-related activities in combination with other projects in the area.

4.2.14 Cultural Resources

The impacts to cultural resources would be significant and unavoidable as described in Section 5.23.5 of the 2018 LSJR IIFR/EIS/EIR, due to the amount of earth-disturbing activity associated with construction of the mitigation site improvements, which, in conjunction with other heavy construction projects, would not contribute to the progressive loss of cultural resources. The Proposed Action would not affect known historic or cultural resources; therefore, no contribution to impacts on cultural resources would occur from the implementation of the Proposed Action in combination with other projects in the area.

Chapter 5 OTHER EFFECTS UNDER CEQA

5.1 Direct and Indirect Growth Effects, Including Population

The analysis in the 2018 LSJR IIFR/EIS/EIR determined that construction activities associated with implementation of Alternative 7a would generate short-term employment. It is anticipated that sufficient workforce exists in the Stockton Metropolitan Area to support construction and, because the existing labor force would be used, there would be no need for additional housing to be constructed and no new demand for public services, facilities, or infrastructure. O&M of Alternative 7a would not result in an increase in employees beyond current levels. If additional employees were needed, those jobs would be anticipated to be filled by the existing labor force. Therefore, it was determined that implementation of Alternative 7 would not directly induce growth as a result of an increase in population, or indirectly induce growth due to construction of new housing and associated support infrastructure. As described in the 2018 LSJR IIFR/EIS/EIR, Alternative 7a does not include protection of currently undeveloped land in RD 17.

As described in Section 1.6, Project Purpose and Need, the LSJR Project purpose is to provide flood risk protection for the cities of Stockton, Lathrop, and Manteca, and the need for the CMP is to mitigate for the unavoidable loss of approximately 19,928.77 acres of multiple habitat types, including riparian, wetland, and shaded riverine aquatic or essential fish habitat that will result from the actions of the LSJR Project. The purpose and need for the CMP is therefore to mitigate for biological impacts, allowing for implementation of the LSJR Project to occur and fulfillment of its flood protection objectives. Therefore, the same lack of potential for direct and indirect impacts related to growth inducement described in the 2018 LSJR IIFR/EIS/EIR are applicable to the CMP.

5.2 Cumulative and Significant and Unavoidable Impacts

The CMP would not result in additional cumulatively considerable or significant and unavoidable impacts, and the 2018 LSJR IIFR/EIS/EIR adequately addresses potential cumulative and significant and unavoidable impacts.

The CMP includes similar (or lower intensity) construction and operation activities as described for Alternative 7a and TS30L and would not cause any significant irreversible environmental changes beyond those identified for Alternative 7a in the 2018 LSJR IIFR/EIS/EIR or for TS30L in the 2023 TS30L Final SEIR. Impacts of the CMP would be

limited, mitigable, or very localized, or would not cause or contribute to additional cumulative impacts beyond those described for Alternative 7a in the 2018 LSJR IIFR/EIS/EIR or for TS30L in the 2023 TS30L Final SEIR.

Chapter 6 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

6.1 Federal Environmental Laws and Regulations

Certain Federal laws and regulations require issuance of permits before project implementation; other laws and regulations require agency consultation but may not require issuance of any authorization or entitlements before project implementation. For each of the laws and regulations addressed in this section, the description indicates either full or partial compliance; if partial compliance is indicated, full compliance will be achieved prior to issuance of a NEPA decision document.

6.1.1 Clean Air Act, as amended, 42 U.S.C. 7401, et seq.

Air quality regulations were first communicated with the Clean Air Act (CAA). The CAA is intended to protect the Nation's air quality by regulating emissions of air pollutants. The CAA established the NAAQS and delegated enforcement of air pollution control to the states. California Air Resource Board (CARB) has been designated as the state agency responsible for regulating air pollution sources at the state level. CARB, in turn, has delegated the responsibility of regulating stationary emission sources to local air pollution control or management districts which, for the proposed project is SJVAPCD and SMAQMD.

The CAA states that all applicable federal and state ambient air quality standards must be maintained during the operation of any emission source. The CAA also delegates to each state the authority to establish air quality rules and regulations. State adopted rules and regulations must be at least as stringent as the mandated federal requirements. In states where the NAAQS are exceeded, the CAA requires preparation of a State Implementation Plan (SIP) that identifies how the state will meet standards within timeframes mandated by the CAA. The U.S. EPA, in conjunction with the U.S. Department of Transportation, established the General Conformity Rule on 30 November 1993. The rule implements the CAA conformity provision, which requires federal agencies to identify, analyze, and quantify emission impacts of an action and mandates that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to an approved CAA implementation plan.

The Proposed Action area meets NAAQS for criteria pollutants and therefore, no conformity analysis was required. This SEA evaluates air emissions resulting from the Proposed Action and concludes that with mitigation there would be less than a significant impact on air quality. Prior to construction of each proposed mitigation site,

USACE and the NFS would coordinate with the SJVAPCD and SMAQMD as appropriate to ensure compliance with all District rules that may apply to construction.

6.1.2 Clean Water Act, as amended, 33 U.S.C. 1251, et seq.

The Clean Water Act of 1972 is the primary Federal law that governs and authorizes water quality control activities by the EPA, the lead federal agency responsible for water quality management, and the State. Sections 401 and 404 of the Federal CWA applies to jurisdictional Waters of the U.S. and regulate the movement or placement of fill materials and construction activities within these waters.

The Proposed Action includes establishing mitigation sites in areas which may be considered WOTUS and would be subject to permits under Sections 401 and 404 of the CWA. USACE would apply for a Section 401 Water Quality Certification and prepare a Section 404(b)(1) evaluation for any site which falls under federal CWA jurisdiction prior to construction of the site. Also prior to construction, the contractor would be required to obtain a Construction General Permit and prepare a Stormwater Pollution Prevention Plan (SWPPP) for potential effects related to stormwater discharge. With implementation of these permits, the Proposed Action would be in compliance with the Clean Water Act.

6.1.3 Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. 9601, et seq.

The Comprehensive Environmental Response, Compensation and Liability Act (known as Superfund) was passed to facilitate the cleanup of toxic waste sites. In 1986, the Act was amended by the Superfund Amendment and Reauthorization Act Title III (community right-to-know laws). Title III states that past and present owners of land contaminated with hazardous substances can be held liable for the entire cost of the cleanup, even if the material was dumped illegally when the property was under different ownership. Hazardous material may be present in the project vicinity; if discovered, the potential mitigation site would be required to be cleaned up before project implementation.

6.1.4 Endangered Species Act, as amended, 16 U.S.C. 1531, et seq.

Under Section 7(a)(2) of the Endangered Species Act (ESA), federal agencies must consult with USFWS and NMFS to ensure that agency actions do not jeopardize the continued existence of any threatened or endangered species or their habitats. BOs were received for the Lower San Joaquin River Project from USFWS and NMFS in June 2016 (File Nos. WCR-2015-3809 and 08ESMF00-2015-F-0206), the 2023 Smith Canal

BOs (File Nos. WCRO-2023-00269 and 2022-0043398), and the 2023 TS-30L BO (File No. 2022-0043398). The consultation addressed a number of Federally listed species and species of concern.

USACE determined that implementation of the Proposed Action is not likely to adversely affect federally listed species or their critical habitat. The construction of habitat mitigation would result in beneficial effects to listed species. Prior to construction of the proposed mitigation sites, USACE would initiate informal consultation with the USFWS and NMFS to gain the agencies' concurrence.

6.1.5 Executive Order 11990, Protection of Wetlands

Executive Order 11990, signed May 24, 1977, directs all Federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that Federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. The Proposed Action would offset the loss of 10.75 acres of wetland habitat in the San Joaquin River basin resulting from the LSJR Project, ensuring that wetlands are not lost as a result of the levee improvements. The construction of mitigation at the proposed parcels would restore, enhance, and protect wetlands, and therefore would be compliance with EO 11990.

6.1.6 Executive Order 13112, Invasive Species

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. It established the National Invasive Species Council, composed of Federal agencies and departments, and the supporting Invasive Species Advisory Committee, composed of State, local and private entities. The Council's National Invasive Species Management Plan recommends objectives and measures to implement EO 13112, and to prevent he introduction and spread of invasive species (National Invasive Species Council 2008). EO 13112 requires consideration of invasive species in NEPA analysis, including their identification and distribution, their potential effects and measures to prevent or eradicate them. A management plan would be developed and implemented for the construction associated with the Proposed Action and included in the O&M Manual, after which it would be in compliance.

6.1.7 Farmland Protection Policy Act, 7 U.S.C. 4201, et seq.

The purpose of the Farmland Protection Policy Act of 1981 (FPPA) is to minimize the extent to which federal programs contribute to unnecessary conversion of farmland to nonagricultural uses. While the FPPA does not require the federal agency to modify a project solely to avoid farmland impacts, it does require the agency to examine the effects and consider alternatives to lessen those effects. If an action is to affect

agricultural lands, coordination with the U.S. Department of Agriculture, NRCS would occur.

The Fourteenmile Slough setback area, Fourteenmile Slough Pumpstation, and the Manteca Parcel contain farmland subject to FPPA. USACE would coordinate with the NRCS as needed to ensure that effects to agriculture due to farmland conversion are less than significant by the Proposed Action and is in compliance with the FPPA.

6.1.8 Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661, et seq.

The Fish and Wildlife Coordination Act directs the USFWS to provide recommendations to minimize impacts to fish and wildlife resources because of a proposed federal action's effect on a body of water. The USFWS CAR was prepared in 2016 and included in the Environmental Addendum of the 2018 LSJP IIFR/FEIS/FEIR. A supplemental CAR was prepared in 2022 to provide habitat analysis and recommendations specific to TS30L. The Proposed Action would follow the recommendations provided in the CARs form 2016 and 2022. Because the Proposed Action consists of compensatory mitigation, a CAR for this action would not be required.

6.1.9 Magnuson-Stevens Fishery Conservation and Management Act, as amended, 16 U.S.C. 1801, et seq.

This Act established a management system for national marine and estuarine fishery resources. Essential Fish Habitat (EFH) is defined as "waters and substrate necessary to fish spawning, breeding, feeding or growth to maturity." It states that migratory routes to and from anadromous fish spawning grounds should also be considered EFH. This Act requires Federal agencies to consult with NMFS regarding all action or proposed actions permitted, funded, or undertaken that may adversely affect EFH.

All six of the proposed mitigation parcels are located within EFH for Pacific Salmon. Four of the six parcels, which include the In-River Parcel, Van Buskirk Park, Calaveras River Parcels, and On-River Parcels, have shaded riverine aquatic (SRA) habitat. To comply with this Act, USACE would coordinate and initiate consultation with NMFS regarding the Proposed Action to ensure that any impacts to EFH or SRA habitat are less than significant.

6.1.10 Migratory Bird Treaty Act, as amended, 16 U.S.C. 703, et seq.

The Migratory Bird Treaty Act (MBTA), as amended, implements treaties and conventions between the United States, Canada, Japan, Mexico, and Russia providing protection for migratory birds as defined in 16 U.S.C 715j. It established hunting seasons and capture limits for game species and protects migratory birds, their

occupied nests, and their eggs (16 U.S.C. 703, 50CFR 21, 50 CFR 10). Permits from USFWS are required for both incidental and direct take.

Migratory birds and their nests are likely to occur within, and adjacent to, the footprint of the Proposed Action area. To ensure that the construction actions do not affect migratory birds, vegetation removal would occur during the non-nesting season and preconstruction surveys would be conducted by a qualified biologist in areas within and adjacent to the proposed mitigation sites. If breeding birds are found in the area, a protective buffer would be delineated, and no active nests would be destroyed or removed. USFWS and CDFW would be consulted for further actions.

6.1.11 Bald and Golden Eagle Protection Act, 16 U.S.C. 668

The Bald and Golden Eagle Protection Act (BGEPA), enacted in 1940, prohibits anyone from “taking” bald or golden eagles, including their parts (including feathers), nests, or eggs. The BGEPA defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” Regulations further define “disturb” as “to agitate or bother a bald or golden eagle to the degree that it causes or is likely to cause… 1) injury to an eagle, 2) a decrease in its productivity…, or 3) nest abandonment….”

A query of CNDDB resulted in no occurrences of bald or golden eagles in the vicinity of the proposed mitigation sites; however, observations on eBird.org indicate the recent presence of bald eagles within half a mile of at least one of the proposed sites, and golden eagles within two miles (eBird 2025).

To ensure that the construction actions do not affect bald or golden eagles or their nests or eggs, vegetation removal would occur during the non-nesting season and preconstruction surveys would be conducted by a qualified biologist in areas within and adjacent to the proposed mitigation sites. If breeding birds are found in the area, a protective buffer would be delineated, and no nests would be destroyed or removed. USFWS and CDFW would be consulted for further actions.

6.1.12 National Environmental Policy Act, as amended, 42 U.S.C. 4321, et seq.

NEPA applies to all Federal agencies and most of the activities they manage, regulate or fund that affect the environment. NEPA requires every Federal agency to disclose the environmental effects of its actions for public review purposes and directs the Federal agency to assess alternatives to, and the consequences of, the proposed action. This document supplements the original LSJR Project NEPA document, providing additional information to consider the environmental consequences of project refinements developed since the 2018 LSJR IIFR/EIS/EIR. This document will be circulated for a 45-day public review. After the public review period, a final document will be prepared that

incorporates public comments, as appropriate. Following this review and the issuance of a FONSI, the Proposed Action will be in full compliance with NEPA.

6.1.13 National Historic Preservation Act, as amended, 54 U.S.C. 300101, et seq.

The National Historic Preservation Act (NHPA) (54 U.S.C. § 300101 et seq.) is the primary Federal legislation governing the preservation of historic properties. Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties. Undertakings are projects, activities, or programs funded in whole or in part under the direct or indirect jurisdiction of a federal agency. USACE uses effects determinations arrived at through compliance with Title 54 U.S.C. § 306108, commonly known as Section 106, to assess effects to cultural resources under NEPA and to mitigate for adverse effects under both laws.

Once concurrence is received, Section 106 shall be complete and remain in compliance with the provisions of this Act.

6.1.14 Noise Control Act, as amended, 42 U.S.C. 4901, et seq.

Federal action is essential to deal with major noise sources in commerce, control of which require national uniformity of treatment. EPA is directed by Congress to coordinate the programs of all Federal agencies relating to noise research and control. The Act also requires that Federal agency activities comply with all Federal, State, and local laws and regulation that regulate noise emissions threshold, which were incorporated into the significance thresholds used in the assessment of potential impacts of the proposed action. The general plans for San Joaquin County, the City of Stockton, and the City of Manteca identify noise emissions thresholds, which were incorporated into the significance threshold used in the assessment of potential project impacts in the 2018 LSJR IIFR/EIS/EIR for the LSJR Project.

Construction related noise is not likely to exceed land use compatibly threshold on agricultural lands but could result in intermittent noise impacts to residential uses within 700 feet of construction activities. Truck routes would be properly maintained. No night-time construction is planned. Development of the proposed mitigation sites would not add additional noise than has already been expected in the 2018 IIFS/EIS/EIR.

6.1.15 Noxious Weed Act, as amended, 7 U.S.C. 2801, et seq.

The Noxious Weed Act (7 U.S.C § 2801 et seq.) was authorized to control and manage the spread of nonnative plant species that may have adverse effects on agriculture, commerce wildlife resources, or public health. It inhibits the transport, trade, or sale of

noxious plant species in the U.S. and gave the Secretary of Agriculture authority to determine noxious plant species, and to establish measures to control them. As amended, the Act requires all Federal agencies to establish a management plan to control the spread of noxious plant species in the jurisdiction. A management plan would be developed and implemented for the construction of the LSJR Project CMP and Proposed Action, and included in the O&M Manual, after which would be in compliance with this Act.

6.1.16 Resources Conservation and Recovery Act, as amended, 42 U.S.C. 6901, et seq.

This Act enables the EPA to administer a regulatory project that extends from the manufacture of hazardous materials to their disposal, thus regulating the generation, transportation, treatment, storage, and disposal of hazardous waste at all facilities and sites in the U.S. The LSJR Project CMP and Proposed Action would comply with this Act when transporting or disposing of hazardous material found in the project area.

6.1.17 Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended, 42 U.S.C. 4601, et seq.

The "Uniform Relocation Assistance and Real Property Acquisition Policy Act," (URA) codified at 42 U.S.C. 4601 et seq., established in 1970 U.S. federal law. The URA establishes minimum standards for fair compensation and assistance to people whose property is acquired for public use. Essentially providing a uniform policy for managing displacement caused by government initiatives. The potential parcels that would be acquired as they become available would be satisfied though the NFS and USACE real estate within the counties of San Joaquin and Sacramento. The San Joaquin Area Flood Agency is USACE's partner and is responsible for the Lands, Easements, Rights-of-Way, Relocations, and Disposal (LERRD) processes including any property acquisitions in order to comply with the Act.

6.2 State Environmental Laws and Regulations

6.2.1 Assembly Bill 52

AB 52 applies to projects for which a NOP of an EIR or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed. The primary intent of AB 52 is to include Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as *tribal cultural resources*. As stated above, PRC Section 21074(a) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native

American Tribe" that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence.

Within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact, or a tribal representative, of Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1[b]). Tribes interested in consultation must respond in writing within 30 days of receipt of the notification and the lead agency must begin consultation within 30 days of receiving the Tribe's request for consultation (PRC Sections 21080.3.1[d] and 21080.3.1[e]).

Potential consultation discussion topics include: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures (PRC Section 21080.3.2[a]). Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2[b]).

If a Tribe has requested consultation, but fails to provide comments to the lead agency, or otherwise fails to engage in the consultation process, or if the lead agency has complied with PRC Section 21080.3.1(d) and the Tribe did not request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3[d]).

Information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a Tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed without the prior consent of the Tribe that provided the information. Any information included in an environmental document shall be published in a confidential appendix to the environmental document unless the Tribe consented to the disclosure of some or all of the information to the public (PRC Section 21082.3[c][1]).

6.2.2 California Endangered Species Act

CESA prohibits the take of plant and animal species that the California Fish and Game Commission has designated as either threatened or endangered in California. In the context of CESA, to "take" means to hunt, pursue, kill, or capture a listed species, and to conduct any other action that may result in an adverse impact when a person is

attempting to take individuals of a listed species. The take prohibitions also apply to candidates for listing under CESA.

6.2.3 California Environmental Quality Act

CEQA (PRC Section 21000 et seq.) is the principal statute governing environmental review of projects occurring in the state. CEQA requires lead agencies to determine whether a proposed project would have a significant effect on the environment, including significant effects on historical resources, unique archaeological resources, and tribal cultural resources. Under CEQA, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment (PRC Section 21084.1). The CEQA Guidelines (codified at California Code of Regulations [CCR] Title 14, Section 15064.5 [14 CCR Section 15064.5]) provide guidance for implementation of CEQA.

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in 14 CCR Section 15064.5(a). *Substantial adverse change* is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired” (14 CCR Section 15064.5[b][1]). According to 14 CCR Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or

B. Account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Grimmer 2017) is considered to have mitigated its impacts on historical resources to a less-than-significant level (14 CCR Section 15064.5[b][3]).

Historical Resources

The CEQA Guidelines (specifically 14 CCR Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State

Historical Resources Commission, for listing in the CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Section 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and 14 CCR Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of PRC Section 21083, pertaining to unique archaeological resources.

Unique Archaeological Resources

As defined in PRC Section 21083.2, a *unique archaeological resource* is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

Has a special and particular quality such as being the oldest of its type or the best available example of its type.

Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in PRC Section 21083.2, then the site is to be treated in accordance with the provisions of PRC Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place (PRC Section 21083.1[a]). If preservation in place is not feasible, mitigation measures shall be required. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (14 CCR Section 15064.5[c][4]).

Tribal Cultural Resources

Impacts on tribal cultural resources are considered under CEQA (PRC Section 21084.2) (see AB 52 discussion). PRC Section 21074(a) defines a *tribal cultural resource* as any of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
    - Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR).
    - Included in a local register of historical resources, as defined in PRC Section 5020.1(k).
- Resources determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of [PRC] Section 5024.1. In applying these criteria, the lead agency would consider the significance of the resource to a California Native American Tribe.

6.2.4 California Executive Order B-10-11

California Executive Order B-10-11 was issued by Governor Edmund G. Brown Jr. on September 19, 2011. The order affirms that all state agencies shall encourage communication and consultation with California Indian Tribes.

6.2.5 California Fish and Game Code

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation under it. Section 3503.5 prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) allow the designation of a species as fully protected. This is a greater level of protection than that afforded by CESA. All take of fully protected species is prohibited except take related to scientific research.

6.2.6 California Government Code

Sections 6254(r) and 6254.10

California Government Code (CGC) Sections 6254 and 6254.10 (part of the implementing regulations of the California Public Records Act of 2016) were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. CGC

Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." CGC Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission (NAHC), another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American Tribe and a state or local agency."

Sections 27460 and 27491

CGC Section 27460 requires that human remains be "interred decently" in the event that no person takes charge of them when an inquest is held by a coroner. CGC Section 27491 requires that, in the case of unattended deaths, the person in charge of the human remains notify the coroner, and that the coroner inquire into the death.

Government Code Sections 51179 and 51182

Under California Government Code sections 51179 and 51182, local agencies are required to designate Very High FHSZs and to require landowners to reduce fire hazards adjacent to occupied buildings within these zones.

6.2.7 California Health and Safety Code Section 7050.5

California Health and Safety Code (HSC) Section 7050.5 states that in the event human remains are discovered, the County Coroner must be contacted to determine the nature of the remains. If the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction. If no descendant is identified, if the descendant fails to make a recommendation for disposition, or if the landowner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, re-inter the remains and burial items on the property in a location that will not be subject to further disturbance. PRC Section 5097.98 (reiterated in 14 CCR Section 15064.59[e]) identifies steps to follow in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery.

6.2.8 California Native American Historic Resources Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to $50,000 per violation, for persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the CRHR.

6.2.9 California Public Resources Code

Sections 5024 and 5024.5

The State Legislature enacted PRC Sections 5024 and 5024.5 as part of a larger effort to establish a state program to preserve historical resources. These code sections require state agencies to take several actions to ensure preservation of state-owned historical resources under their jurisdictions. These actions include evaluating resources for eligibility for listing in the NRHP and designation as California Historical Landmarks; maintaining an inventory of eligible and listed resources; and managing these historical resources so that that they will retain their historic characteristics.

PRC Section 5024(f) states that a state agency shall submit to the SHPO for comment documentation for any project having the potential to affect historical resources listed in or potentially eligible for listing in the NRHP or registered as or eligible for registration as a California Historical Landmark. PRC Section 5024.5 requires state agencies to notify and consult with the SHPO regarding adverse effects to historical resources and measures to eliminate or mitigate the adverse effect.

Section 5097

PRC Section 5097.99, as amended, states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave or cairn. Any person who knowingly or willfully obtains or possesses any Native American artifacts or human remains is guilty of a felony, which is punishable by imprisonment. Any person who removes, without authority of law, any such items with an intent to sell or dissect, or with malice or wantonness, is also guilty of a felony punishable by imprisonment. PRC Section 5097.98 provides procedures in the event human remains of Native American origin are discovered during project implementation on non-federal land. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. The MLD has 48 hours from the time of being granted access to the site by the landowner to inspect the discovery and provide recommendations to the landowner for the treatment of the human remains and any associated grave goods. The provisions of PRC Section 5097.99 are summarized since tribal cultural resource may include human remains and associated artifacts.

6.2.10 California Register of Historical Resources

The CRHR is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility for the CRHR are based upon NRHP criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the NRHP.

To be eligible for the CRHR, a prehistoric or historic-era property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the CRHR must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the NRHP, but it may still be eligible for listing in the CRHR.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed on the NRHP and those formally determined eligible for the NRHP.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the CRHR.

Other resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the NRHP, the CRHR, and/or a local jurisdiction register).
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.
- Tribal cultural resources.

6.2.11 California Fish and Game Code Section 1602

Under Section 1602 of the California Fish and Game Code, any person, government agency, or public utility proposing any activity that would divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed, is required to first notify CDFW of such proposed activity. If CDFW determines that the activity that would affect a river, stream, or lake may substantially adversely affect an existing fish or wildlife resource, it may issue a lake or streambed alteration agreement that includes reasonable measures necessary to protect the fish or wildlife resource.

6.2.12 Porter-Cologne Water Quality Control Act

Most projects involving water bodies or drainages are regulated by the regional water quality control boards, the principal state agencies overseeing water quality of the state at the regional and local levels. Where waters of the state overlap with waters of the United States, pending verification from USACE, those waters would be regulated under CWA Section 401, as described in the *Wetlands and Waters of the United States* section of the federal regulatory setting discussion, above.

In the absence of waters of the United States, waters may be regulated under the Porter-Cologne Water Quality Control Act if project activities, discharges, or proposed activities or discharges could affect California's surface, coastal, or ground waters. The permit submitted by the applicant and issued by the regional water quality control board is either a water quality certification (if waters of the United States are present) or a waste discharge requirement (in the absence of waters of the United States). Whether a water quality certification and/or a waste discharge requirement is necessary, all application information must be submitted in accordance with the State Water Resources Control Board's *Procedures for the Discharge of Dredged or Fill Material to Waters of the State* (Procedures), which became effective on May 28, 2020. The Procedures define what is considered by the state to be a "wetland" and provides a framework for determining whether a feature that meets the state's definition of a

wetland is a jurisdictional water of the state. The Procedures define a wetland as follows:

> An area is wetland is, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

An artificial wetland (i.e., wetland that resulted from human activity) is considered a water of the state unless it does not satisfy any of the following criteria:

1. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration.
2. Specifically identified in a water quality control plan as a wetland or other water of the state.
3. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.
4. Greater than or equal to 1 acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes:
    i. Industrial or municipal wastewater treatment or disposal.
    ii. Settling of sediment.
    iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program.
    iv. Treatment of surface waters.
    v. Agricultural crop irrigation or stock watering.
    vi. Fire suppression.
    vii. Industrial processing or cooling.
    viii. Active surface mining—even if the site is managed for interim wetlands functions and values.
    ix. Log storage.
    x. Treatment, storage, or distribution of recycled water.
    xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits).

xii. Fields flooded for rice growing.

6.3 Local Environmental Laws and Regulations

6.3.1 City of Stockton General Plan (2018)

The City of Stockton General Plan was adopted on December 4, 2018 (City of Stockton 2018). The plan includes nine mandatory elements and six optional elements including: Land Use, Circulation, Housing, Conservation, Open Space, Noise, Safety, Environmental Justice Air Quality, Economic Development, Community Design, Natural and Cultural Resources, Public Facilities and Services, Recreation and Waterways, and Youth and Education. The General Plan elements are divided into four chapters including: Land Use, Transportation, Safety, and Community Health, which discuss the elements in detail. Chapters with goals and policies relevant to the CMP include Land Use, Transportation, and Community Health.

The Envision Stockton 2040 General Plan Land Use Element, Chapter 3, outlines the following goals and applicable policies which aim to apply thoughtful land use planning to enhance and build upon neighborhood assets, address current challenges, and improve quality of life for everyone in Stockton:

Policy LU-5.2: Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural areas, parks and other cultural/historic resources from encroachment or destruction by incompatible development.

Action LU-5.2F: If development could affect a tribal cultural resources, require the developer to contact an appropriate tribal representative to train construction workers on appropriate avoidance and minimization measures, requirements for confidentiality and culturally appropriate treatment, other applicable regulations, and consequences of violating State laws and regulations.

Policy LU-5.3: Define discrete and clear city edges that preserve agriculture, open space, and scenic views.

Action LU-5.3A: At the interface between development and rural landscapes, use landscaping and other attractive edging instead of soundwalls and similar utilitarian edges of developments to maintain the visual integrity of open space.

Action LU-5.3B: Coordinate with San Joaquin County and property owners in unincorporated areas to preserve agricultural land and open space areas in the unincorporated county that contribute to maintaining clear boundaries between cities.

Action LU-5.3C: Maintain the City’s agricultural conservation program that requires either dedication of an agricultural conservation easement at a 1:1 ratio or payment of an in-lieu agricultural mitigation fee for the conversion of

prime farmland, farmland of statewide importance, or unique farmland, as defined by the State Farmland Monitoring and Mapping Program.

Policy LU-5.4: Require water and energy conservation and efficiency in both new construction and retrofits.

Action LU-5.4A: Require all new development, including major rehabilitation, renovation, and redevelopment, to adopt best management practices for water use efficiency and demonstrate specific water conservation measures.

Action LU-5.4B: Require all new development, including major rehabilitation, renovation, and redevelopment, to incorporate feasible and appropriate energy conservation and green building practices, such as building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.

Policy LU-6.3: Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.

Action LU-6.3A: Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels.

The General Plan incorporates and implements the City's Bicycle Master Plan, adopted in 2017. Chapter 4 of the general plan outlines the City's goals and policies related to an integrated, safe, and efficient multimodal transportation system; active transportation systems; sustainable transportation infrastructure; and effective transportation assessments. The plan's Transportation chapter contains the following policies that are relevant to the Project:

Policy TR-1.1: Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.

Action TR-1.1A: Direct truck traffic to designated truck routes that facilitate efficient goods movement and minimize risk to areas with concentrations of sensitive receptors, such as schools, for example by disallowing any new truck routes to pass directly on streets where schools are located, and vulnerable road users, like pedestrians and bicyclists.

Policy TR-2.1: Develop safe and interconnected bicycle and pedestrian facilities, including along "complete" streets that target multiple travel modes.

Policy TR-2.3: Utilize natural features and routes with lower traffic volumes and speeds to encourage residents to walk and wheel more frequently.

Action TR-2.3A: Develop and maintain bikeways on separate rights-of way (e.g., Calaveras River, East Bay Municipal Utility District easement, French Camp Slough, and Shima Tract Levee).

The 2040 General Plan Community Health Element, chapter 6, outlines goals and applicable policies which promote personal health and fostering a climate of collaboration and opportunities for positive collective impact.

The General Plan does not specify quantitative noise standards for construction activities. The General Plan places restrictions only on construction hours by stating that "the City shall limit construction activities to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday. No construction shall occur on Sundays or national holidays without a written permit from the City" and that "the City shall seek to limit the potential noise impacts of construction activities on surrounding land uses" (City of Stockton 2018).

6.3.2 San Joaquin County General Plan (2016)

The San Joaquin County General Plan was adopted in 1992 and amended in 2016. The plan includes eight mandatory elements including: Land Use, Circulation, Housing, Conservation, Open Space, Noise, Safety, and Air Quality. The General Plan is divided into four topical chapters including: Community Development, Public Facilities and Services, Public Health and Safety, and Resources, which are further broken down into specific sections (San Joaquin County 2016). Sections with goals and policies relevant to the CMP include County Areas and Communities, Economic Development, Land Use, Infrastructure and Services, Transportation and Mobility, Public Health and Safety, and Natural and Cultural Resources.

The San Joaquin General Plan Community Development Element, Chapter 3.1, outlines the following goals and applicable policies related land use, communities, housing, and economic development which are relevant to analysis of potential impacts from the Project:

> Policy C-4.9 Farmland Preservation: The County shall discourage San Joaquin LAFCo from approving city annexations and city SOI expansions onto Prime Farmland if farmland of lesser quality is available and suitable for expansion elsewhere. The County shall encourage the long-term preservation of productive agricultural lands and operations when San Joaquin LAFCo considers such proposals.
>
> Policy ED-2.4: Green Economy: The County shall encourage the development and expansion of industries and businesses that rely on environmentally-sustainable products and services, such as renewable energy, green building, clean transportation, water conservation, waste management and recycling, and sustainable land management.
>
> Policy LU-1.7 Farmland Preservation: The County shall consider information from the State Farmland Mapping and Monitoring Program when designating future growth areas in order to preserve prime farmland and limit the premature conversion of agricultural lands.
>
> Policy LU-2.15 Agricultural Conversions: When reviewing proposed General Plan amendments to change a land use diagram or zoning reclassification to change

from an agricultural use to non-agricultural use, the County shall consider the following:

- potential for the project to create development pressure on surrounding agricultural lands;
- potential for the premature conversion of prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and confined animal agriculture;
- potential for impacts on surrounding farming operations and practices;
- provision of infrastructure and services to the new use and the potential impact of service demands or on the surrounding area; and
- protecting habitat restoration opportunities.

Policy LU-2.16 Agricultural-Urban Reserve Designation: The County shall require a General Plan amendment to permit urban development on lands the County designates Agriculture-Urban Reserve.

Policy LU-2.3: Adaptive Reuse: The County shall encourage the retention and the adaptive reuse of existing structures to limit the generation of waste.

Policy LU-2.4: Green Building Retrofit: The County shall encourage the retrofitting of existing structures with green building technologies/practices and encourage structures being renovated to be built to a green building standard (e.g., Leadership in Energy and Environmental Design (LEED)).

Policy LU-7.5: Right to Farm: The County shall strive to protect agricultural land against nuisance complaints from nonagricultural land uses though the implementation of the San Joaquin County Right to Farm ordinance and, if necessary, other appropriate regulatory and land use planning mechanisms.

Policy LU-7.7: Agricultural Buffers: The County shall ensure non-agricultural land uses at the edge of agricultural areas incorporate adequate buffers (e.g., fences and setbacks) to limit conflicts with adjoining agricultural operations.

The General Plan Public Facilities and Services Element, Chapter 3.2, outlines the following goals and applicable policies related circulation and mobility, and public facilities and services which are relevant to analysis of potential impacts from the Project:

Policy IS-3.6: Clean Energy and Fuel Sources: The County shall use available clean energy and fuel sources where feasible to operate its buildings, vehicles, and maintenance/construction equipment.

Policy IS-3.9: Contractor Preference: The County shall encourage contractors to use reduced emission equipment for County construction projects and contracts for services, as well as businesses which practice sustainable operations.

Policy TM-1.2: Emergency Service: The County shall coordinate the development and maintenance of all transportation facilities with emergency service providers to ensure continued emergency service operation and service levels.

Policy TM-1.7: Energy Conservation: The County shall develop the transportation system to reduce vehicle miles traveled, conserve energy resources, minimize air pollution, and reduce greenhouse gas emissions.

Policy TM-3.1: Roadway Provision: The County shall maintain Level of Service (LOS) standards consistent with the San Joaquin Council of Governments (SJCOG) Congestion Management Program (CMP) for State highways and designated County roadways and intersections of regional significance. Per the CMP, all designated CMP roadways and intersections shall operate at an LOS D or better except for roadways with “grandfathered” LOS. LOS for State highways shall be maintained in cooperation with Caltrans. The County LOS standards for intersections is LOS “D” or better on Minor Arterials and roadways of higher classification and LOS “C” or better on all other non-CMP designated County roadways and intersections. The County shall also maintain the following:

- on State highways, LOS D or Caltrans standards whichever is stricter.
- within a city’s sphere of influence, LOS D, or the city planned standards for that level of service.
- on Mountain House Gateways, as defined in the Master Plan, LOS D, on all other Mountain House roads, LOS C.

For State highways that are designated as part of SJCOG’s CMP, both the Caltrans and CMP LOS standards shall apply. Where roadways are designated as part of SJCOG’s CMP, both the County and CMP LOS standards shall apply.

The San Joaquin General Plan Public Health and Safety Element, Chapter 3.3, outlines the following goals and applicable policies related health and safety in the County which are relevant to analysis of potential impacts from the Project:

Policy PHS-1.13 Public Awareness of Climate Change: The County shall support public awareness of water conservation measures, agricultural changes, storm and flood preparedness, wildfire fire protection, air quality effects, extreme weather events, heat and human health, and disease prevention to help prepare for the potential impacts of climate change.

Policy PHS-4.1 Community Wildfire Protection Plan: The County shall maintain and implement the Community Wildfire Protection Plan as a mechanism for community input and identification of areas with high fire hazard risk.

Policy PHS-4.2 Residential Densities in High Hazard Areas: The County shall restrict development to rural residential densities or lower and require on-site fire suppression measures in areas with high or extreme wildfire hazards.

Policy PHS-4.3 Fire Prevention Measures: The County shall implement State recommendations for fire prevention in Fire Hazard Severity Zones and require new and/or existing development to provide clearance around structures, use fire-resistant ground cover, build with fire-resistant roofing materials, participate in fuel load reduction, and take other appropriate measures.

Policy PHS-4.4 Clear Zones: The County shall require clear zones and regular weed abatement around residential structures in high fire hazard areas and assist property owners in identifying how clear zones should be maintained.

Policy PHS-4.5 Vegetation and Fuel Management: The County shall require new development in high fire-hazard areas to have fire-resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and fuel management program consistent with State codes 4290 and 4291 for wildland fire interface and vegetation management.

Policy PHS-4.6 Fire Protection Coordination: The County shall encourage well-organized and efficient coordination among fire agencies, CalFire, and the County.

The General Plan Natural and Cultural Resources Element, Chapter 3.4, outlines the following goals and applicable policies related open space, wildlife, water, minerals, energy, scenic amenities, recreational resources, and cultural and historic heritage which are relevant to analysis of potential impacts from the Project:

Policy NCR-5.1: Nonrenewable Energy and Energy Efficiency: The County shall support the efforts of residents, businesses, and energy providers to reduce the consumption of nonrenewable energy and shall promote energy providers' programs to increase energy efficiency and implement demand response programs.

Policy NCR-5.12: Energy Efficient Industry: The County shall support energy efficiency of industrial processes.

Policy NCR-5.2: Alternative Energy: The County shall encourage residents, businesses, and energy providers to develop and use alternative, renewable energy sources, including but not limited to, biomass, solar, wind, and geothermal.

Policy NCR-6.1 Protect Historical and Cultural Resources: The County shall protect historical and cultural resources and promote expanded cultural opportunities for residents to enhance the region's quality of life and economy.

Policy NCR-6.2 No Destruction of Resources: The County shall ensure that no significant architectural, historical, archeological, or cultural resources are knowingly destroyed through County action.

Policy NCR-6.5 Protect Archeological and Historical Resources: The County shall protect significant archeological and historical resources by requiring an archeological report be prepared by a qualified cultural resource specialist prior

to the issuance of any discretionary permit or approval in areas determined to contain significant historic or prehistoric archeological artifacts that could be disturbed by project construction.

Policy NCR-6.6 Tribal Consultation: The County shall consult with Native American tribes regarding proposed development projects and land use policy changes consistent with the State's Local and Tribal Intergovernmental Consultation requirements.

6.3.3 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan was permitted in 2000 and is administered by the San Joaquin Council of Governments. This 50-year plan addresses 97 special-status plant, fish, and wildlife species (47 of which are on the federal permit) throughout most of San Joaquin County (more than 900,000 acres), including a substantial portion of the eastern Delta. The plan participants include the County of San Joaquin and the Cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop. Activities covered under the plan include urban development, mining, expansion of existing urban boundaries, nonagricultural activities occurring outside of urban boundaries, levee maintenance undertaken by SJAFCA, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing preserves, and similar public agency projects.

6.3.4 Sacramento County General Plan (2011)

The Sacramento County Board of Supervisors adopted the 2030 General Plan on November 9, 2011. The plan addresses important community issues such as new growth, housing needs, and environmental protection. The plan includes eight mandatory elements and eight additional elements, including: Land Use, Circulation, Housing, Conservation, Open Space, Noise, Safety, Environmental Justice, Air Quality, Public Facilities, Hazardous Materials, Agriculture, Scenic Highways, Economic Development, Delta Protection, and Energy. Elements with goals and policies relevant to the CMP include Land Use and Conservation.

The Land Use Element (most recently amended in 2022) is composed of three sections: the Land Use Diagram, Land Use Strategies and Policies, and General Plan Administration and Implementation. The overall goal of Land Use Strategies and Policies included in the 2030 General Plan is to provide an orderly pattern of land use that concentrates urban development, enhances community character, is functionally linked with transit, promotes public health, and protects the County's natural, environmental, and agricultural resources. There are no specific policies directly related to use of open space lands for habit or mitigation, but Under Rural Growth Management

and Design, the County states that it is their intent to direct urban growth to metropolitan areas to protect prime agricultural lands and maintain natural resources.

The goal of the Conservation Element (most recently amended in 2017) is to provide for the management and protection of natural resources for the use and enjoyment of present and future generations while maintaining the long-term ecological health and balance of the environment. Topics include Water Resources, Mineral Resources, Materials Recycling, Soil Resources, Vegetation and Wildlife, and Cultural Resources. The following policies from the Conservation Element are relevant to analysis of the CMP's potential impacts to land use resources:

> Policy CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
>
> Policy CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function:
>
> - vernal pools
> - wetlands
> - riparian
> - native vegetative habitat
> - special status species habitat
>
> Policy CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element).
>
> Policy CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.
>
> Policy CO-62. Permanently protect land required as mitigation.
>
> Policy CO-64. Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.
>
> Policy CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.
>
> Policy CO-68. Preserves shall be planned and managed to the extent feasible so as to avoid conflicts with adjacent agricultural activities (Please also refer to the Agricultural Element).

Policy CO-73. Secure easement or fee title to open space lands within stream corridors as a condition of development approval.

Policy CO-74. Evaluate feasible on-site alternatives early on in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.

Policy CO-79. Manage vegetation on public lands with special status species to encourage locally native species and discourage nonnative invasive species.

Policy CO-80. Control human access to sensitive habitat areas on public lands to minimize impact upon and disturbance of special status species.

Policy CO-89. Protect, enhance and maintain riparian habitat in Sacramento County.

Policy CO-90. Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.

Policy CO-91. Discourage introductions of invasive non-native aquatic plants and animals.

Policy CO-92. Enhance and protect shaded riverine aquatic habitat along rivers and streams.

Policy CO-130. Protect, enhance and restore riparian, in-channel and shaded riverine aquatic habitat for:

- spawning and rearing of fish species, including native and recreational nonnative, non-invasive species, where they currently spawn;
- potential areas where natural spawning could be sustainable; and supporting other aquatic species.

Chapter 7 COORDINATION OF THE SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

This Draft SEA/SEIR and Draft FONSI will be circulated for public review from May 20, 2025 to July 4, 2025, for a total review period of 45 days as required by CEQA. USACE and the NFS will also conduct an in-person public meeting to receive comments on the adequacy of the analysis included in the Draft SEA/SEIR. The meeting will be held on June 2, 2025 at 6:00 pm, at the Stribley Center, 1760 E. Sonora Street, Stockton, CA 95205. Substantive comments received during the public review period and responses from USACE and the NFS will be incorporated into the Final SEA/SEIR as appropriate and will be summarized and included as an appendix to the final report.

USACE and their NFS coordinated with multiple agencies during the development of the CMP and this SEA/SEIR, including USFWS, NMFS, the SHPO, EPA, and CDFW.

The CMP (formerly called the Mitigation Strategy and Implementation Plan, or MSIP) was sent to USFWS, NMFS, EPA, and CDFW for their reviews on April 7, 2023. Comments from all agencies were received by August 31, 2023. Then began the iterative process of incorporating agency feedback into the CMP and returning for their backchecks, until all agencies were satisfied with the document. The CMP was finalized on September 16, 2024.

Up to this point, USACE has consulted with the California SHPO and the following Native American tribes; Buena Vista Rancheria of Me-Wuk Indians, California Valley Miwok Tribe, The Confederated Villages of Lisjan, Guidiville Indian Rancheria, Ione Band of Miwok Indians, Muwekma Ohlone Indian Tribe of the SF Bay Area, North Valley Yokuts Tribe, Tule River Indian Tribe, Wilton Rancheria and Wuksache Indian Tribe/Eshom Valley Band concerning the proposed CMP parcels on the following dates:

On June 7, 2022, USACE consulted with the SHPO and interested Native American tribes to revise the TS30L APE to include the Fourteenmile Slough Pumpstation, among other locations needed for construction of TS30L.

On February 6, 2023 USACE sent out consultation letters revising the APE to include the SJR East and SJR West Parcels (both being considered as potential compensatory mitigation sites for TS30L). USACE received an email on February 9, 2023, from the Northern Valley Yokuts stating that the proposed LSJR Project in Stockton has a high potential for inadvertent discoveries of human remains. They recommended that Native American monitors be on site during any ground disturbance. USACE responded to the Northern Valley Yokuts via email on February 23, 2023, thanking them for their

comments and informing them that USACE will reach out to interested Tribes prior to construction of the mitigation sites.

As mitigation site designs are developed, USACE will continue to coordinate with the SHPO and interested Tribes to ensure that they remained aware of and involved in the construction of the proposed sites.

Chapter 8 NEPA FINDINGS

The anticipated environmental effects of the Proposed Action on sixteen resource areas were evaluated under NEPA within this SEA for the LSJR CMP. The analysis indicates that, with implementation of the avoidance, minimization, and mitigation measures described in the 2018 LSJR IIFR/EIS/EIR and the additional measures described in this SEA, the Proposed Action would not cause any new significant impacts beyond those described in the 2018 LSJR IIFR/EIS/EIR. A FONSI of the Proposed Action will be prepared and circulated with this SEA.

Chapter 9 REFERENCES

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