HELIX Environmental Planning

Camp Gold Star Project

Conditional Use Permit No. PA-2400377

Initial Study/Mitigated Negative Declaration

August 2025 | 09559.00001.001

Prepared for:

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Discovery Bay, CA 94505

Prepared by:

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AG-80	General Agriculture, 80-acre minimum
amsl	above mean sea level
APN	Assessor's Parcel Number
ARD	Aquatic Resources Delineation
BMPs	Best Management Practices
CAAQS	California Ambient Air Quality Standards
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHL	California Historical Landmarks
CHRIS	California Historical Resources Information Systems
CNDDB	California National Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_{2e}	carbon dioxide equivalent
County	San Joaquin County
CRPR	California Native Plant Society Rare Plant Ranking System
CRHR	California Register of Historical Resources
CUP	Conditional Use Permit
CWA	Clean Water Act
dB	decibel
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FMMP	Farmland and Monitoring Program
GHG	greenhouse gases
HDG	hot-dip galvanized

ACRONYMS AND ABBREVIATIONS (cont.)

I	Interstate
IPaC	Information for Planning and Consultation
IPCC	International Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
L_{dn}	Day-Night Average Level
L_{eq}	average or equivalent continuous sound level
L_{max}	maximum sound level
LED	light emitting diode
LOS	Level of Service
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSLU	noise-sensitive land use
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OMR	Office of Mining Reclamation
OS/RC	Resource Conservation Designation
Pb	lead
PFC	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter 2.5 micrometers or less in diameter
PRC	California Public Resources Code
PTDF	pressure-treated Douglas fir
PVC	polyvinyl chloride
ROG	reactive organic gas
RTD	Regional Transit District
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board

ACRONYMS AND ABBREVIATIONS (cont.)

SB	Senate Bill
sf	square feet
SLF	Sacred Lands Files
SF_6	sulfur hexafluoride
SJCEHD	San Joaquin County Environmental Health Department
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJCOES	San Joaquin County Office of Emergency Services
SJCOG	San Joaquin Council of Governments
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SO_X	sulfur oxides
SR	State Route
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VMT	vehicle miles traveled

INITIAL STUDY INFORMATION SHEET

1.	Project title:	Camp Gold Star Project Conditional Use Permit No. PA-2400377
2.	Lead agency name and address:	San Joaquin County Community Development Department 1810 East Hazelton Avenue Stockton, CA 95205
3.	Contact person and phone number:	Alisa Goulart, Associate Planner (209) 468-0222
4.	Project location:	4103 N. Zuckerman Road, McDonald Island, in the Sacramento-San Joaquin River Delta
5.	General plan designation:	OS/RC (Resource Conservation)
6.	Zoning:	AG-80 (General Agriculture, 80-acre minimum)

7. Description of project:

The proposed project would include construction of a private resort with 25 prefabricated mobile lodges and amenities, including a marina with an "L"-shaped dock. The proposed dock would be able to accommodate approximately 33 to 44 private boats, depending on the length of the boat. Proposed resort amenities would include a 6,500-square foot (sf) two-story clubhouse with a 2,500-sf caretaker's unit on the second floor; a pool, spa, and cabanas; grass bocce ball courts, a volleyball court, and a pickle ball area; a 2,000-sf dog run; a 1,000-sf communal restroom with showers; a 1,000-sf building for housekeeping and laundry; a 1,440-sf garage; a 14-foot wide gazebo; and a decorative water tower and covered seating would be located near the dock gangway that connects the resort to the "L"-shaped dock. Two observation towers would also be constructed on-site at the two vehicle entrance gates. The project would also include a "U"-shaped gravel internal access road, five on-site parking spaces, and various utilities including a new well and water storage tank, a septic system, stormwater system, propane tank, and an electrical transformer and underground power lines.

During operation of the proposed private resort and marina, up to 250 overnight guests would be on-site at a time. At maximum capacity, it is anticipated that approximately 150 guests would reside in the proposed lodges and approximately 100 guests would reside in private boats that dock at the proposed marina. Depending on the season, it is estimated that approximately nine to 16 employees would be present on-site at a time.

8. Surrounding land uses and setting:

The project site is located in the northeastern corner of McDonald Island, near the confluence of Stockton Deepwater Channel and Headreach Cut-off in the Sacramento-San Joaquin River Delta. The project site is surrounded by the Delta Yacht Club on Tule Island, the SJC Delta Power Squadron boat club in the White Slough, and the St. Francis Yacht Club on Tinsley Island to the north across from the San Joaquin River; agricultural fields and open space to the east across from the San Joaquin River;

agricultural fields and open space immediately to the south; and agricultural fields, open space, and the southern edge of Tule Island to the west across from the San Joaquin River. The San Joaquin River borders the project site to the north, east, and west.

9. Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

    - State Water Resources Control Board (SWRCB)
    - Central Valley Regional Water Quality Control Board (CVRWQCB)
    - San Joaquin County Environmental Health Department (SJCEHD)
    - San Joaquin Council of Governments (SJCOG)
    - U.S. Army Corps of Engineers (USACE)
    - California State Lands Commission (CSLC)
    - Central Valley Flood Protection Board (CVFPB)

10. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The County carried out tribal consultation for the proposed project pursuant to Assembly Bill (AB) 52. Formal invitations to consult under the California Environmental Quality Act (CEQA) were sent by the County to the following tribes on November 15, 2024:

- Buena Vista Rancheria
- North Valley Yokuts Tribe
- United Auburn Indian Community
- CA Valley Miwok Tribe

Each tribe was provided with a brief description of the project and its location, the contact information for the County's authorized representative, and a notification that the tribe has 30 days to request consultation. As of the time this report was written, the County did not receive responses from any of the tribes listed above, and therefore, consultation was closed.

1.0 INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by HELIX Environmental Planning, Inc. (HELIX) for the proposed Camp Gold Star Project ("proposed project" or "project") to satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before they approve or implement those projects.

The IS/MND is a public document used by the decision-making Lead Agency to determine whether a project may have a significant effect on the environment. The County of San Joaquin (County) will use this IS/MND to determine whether the proposed project has a significant effect on the environment. This IS/MND relies on CEQA Guidelines Sections 15064 and 15064.4 in its determination of the significance of the environmental impacts. Per Section 15064, the finding as to whether a project may have one or more significant impacts shall be based on substantial evidence in the record, and that controversy alone, without substantial evidence of a significant impact, does not trigger the need for an Environmental Impact Report (EIR).

1.1 REQUIRED APPROVALS

A listing and brief description of the approvals and/or regulatory permits required to implement the proposed project are provided below. This environmental document is intended to address the environmental impacts associated with the following discretionary actions and approvals.

County of San Joaquin

- **Conditional Use Permit**
- **Grading Permit**
- **Building Permit**
- **Consideration of the Environmental Document:** The County of San Joaquin will act as the Lead Agency as defined by CEQA and will have authority to determine if the environmental document is adequate under CEQA and the State CEQA Guidelines.
- **Project Approval:** The County of San Joaquin Planning Commission will consider approval of the project.

Other Agencies

- **San Joaquin County Environmental Health Department (SJCEHD):** Well Permit and Small Public Water System Permit for drilling and operation of the proposed well; Annual Operating Permit for the proposed sewage holding tank system.
- **San Joaquin Council of Governments:** San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) Permit.

- **State Water Resources Control Board, Division of Drinking Water:** Approval of Small Public Water System Permit for the proposed well, in concurrence with SJCEHD.

- **Central Valley Regional Water Quality Control Board:** National Pollutant Discharge Eliminated System (NPDES) Construction General Permit, which requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Obtain a Clean Water Act (CWA) Section 401 Water Quality Certification from the Central Valley RWQCB (Region 5).

- **U.S. Army Corps of Engineers (USACE):** Obtain authorization under a CWA Section 404 Permit. Obtain a Section 10 Permit for placement of a structure within a navigable water.

- **California State Lands Commission (CSLC):** Encroachment Permit.

- **Central Valley Flood Protection Board (CVFPB):** Encroachment Permit for work within 100-foot proximity of a non-leveed Regulated Stream listed in California Code of Regulations, Title 23, Water, Division 1, Article 8, Table 8-1.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SETTING

The proposed project is located at 4103 N. Zuckerman Road on McDonald Island in the Sacramento-San Joaquin River Delta ("the Delta"), in unincorporated San Joaquin County, California. The project is located in the northeastern corner of McDonald Island, near the confluence of Stockton Deepwater Channel and Headreach Cut-off. McDonald Island is approximately 53 miles south of Sacramento and is bounded on the north and east by San Joaquin River, on the south by the Empire Cut inlet, and on the west by Middle River and Latham Slough. McDonald Island is mainly comprised of open space, agricultural fields, Pacific Gas and Electric (PG&E) facilities, pump stations, and a few labor camp residences and abandoned structures throughout the island. See Figure 1 for a site and vicinity map. The project is situated in Section 18 of Township 2 North and Range 5 East, Mount Diablo Meridian, and is depicted on the U.S. Geological Survey (USGS) *Terminous, CA* 7.5-minute topographic quadrangle map. The approximate center of the project is at latitude 38.025350° and longitude -121.475448°, NAD 83, and is located at an elevation between six and 12 feet above mean sea level (amsl).

The proposed project is located on a 10-acre parcel identified as Assessor's Parcel Number (APN) 129-080-54, the western portion of which is inundated by the San Joaquin River. The 10-acre parcel consists of open space and vegetation and is currently inhabitable. See Figure 2 for an aerial map of the parcel. Of the 10-acre parcel, the proposed resort would encompass approximately 3.2 acres of land, and the proposed marina and dock would encompass approximately 6,160-sf, or 0.14 acre, of the San Joaquin River. The project site would be developed with the 3.2-acre resort and the 0.14-acre marina and dock. The remaining areas of the overall parcel would remain undeveloped. The project site is surrounded by the Delta Yacht Club on Tule Island, the SJC Delta Power Squadron boat club in the White Slough, and the St. Francis Yacht Club on Tinsley Island to the north across from the San Joaquin River; agricultural fields and open space to the east across from the San Joaquin River; agricultural fields and open space immediately to the south; and agricultural fields, open space, and the southern edge of Tule Island to the west across from the San Joaquin River. The San Joaquin River borders the project site to the north, east, and west.

Access to McDonald Island is via a dirt levee road from McDonald River Bridge off of Roberts Island, in the southeastern corner of McDonald Island. N. Zuckerman Road is a private road that serves as the primary roadway on McDonald Island and traverses the perimeter of the island.

The San Joaquin County 2035 General Plan (General Plan) designates the project site as OS/RC (Resource Conservation). The project site is zoned AG-80 (General Agriculture, 80-acre minimum).

2.2 PROJECT COMPONENTS

The proposed project would include construction of a private resort with 25 prefabricated mobile lodges, resort amenities, and a marina with an "L"-shaped dock. The proposed project components are discussed in greater detail below. See Figure 3 for the resort site plan and Figure 4 for the marina and dock plan.

Private Resort and Amenities

The project would include the construction of 25 prefabricated mobile lodges, each with their own bathroom and kitchenette and ranging in size from six- to eight-person lodges. Each lodge would be approximately 400 square feet (sf) or smaller. Four of the proposed lodges would be Americans with Disabilities Act (ADA) accessible. The lodges would be situated along the northern boundary of the resort and oriented towards San Joaquin River. The prefabricated mobile lodges would be transported to the project site and would be fully portable with a tow hitch, dual axles, and wheels. Once at the site, the lodges would be fixed in long-term placement. The mobile lodges are considered recreational vehicles (RVs) due to their size and mobility and would be required to be registered through the State of California.

A 6,500-sf, two-story clubhouse with a kitchen would be constructed on the eastern portion of the resort. The first floor of the clubhouse would be 4,000 sf, and the second floor would include a 2,500-sf caretaker's unit. A 1,440-sf garage would be constructed south of the clubhouse. The second floor of the clubhouse would extend over a breezeway between the clubhouse and the garage. The center of the resort would include a 2,500-sf pool with a spa; five 144-sf cabanas; a pool deck with lounge chairs; grass bocce ball courts, a volleyball court, and a concrete pickle ball court; a 1,200-sf picnic table shelter; and a 2,000-sf dog run. The resort would also include a 1,000-sf communal restroom with showers and a 1,000-sf building for housekeeping and laundry on the southwestern edge of the resort. A 14-foot wide gazebo would be located on the eastern end of the resort. Two observation towers would also be constructed on-site; one 225-sf observation tower would be located at the eastern vehicle entrance gate and one 225-sf observation tower would be located over covered seating adjacent to the dock gangway on the westernmost portion of the resort. Additionally, the project would include a total of 27 fire pits on-site, including one fire pit per lodge and two additional common fire pits.

Marina

The proposed project would include construction of a marina with an "L"-shaped floating dock, gangway, and concrete landing. The proposed dock would be approximately 6,160 sf and would consist of a 650-foot-long and eight-foot-wide main headfloat, which would accommodate resort guests' private boats, and a 120-foot-long and eight-foot-wide secondary headfloat, which would accommodate water taxis and emergency response boats. The main headfloat would have a capacity of approximately 33 to 44 boats, depending on the length of the boat. The main headfloat of the dock would be installed

approximately 100 feet north of and parallel to the McDonald Island shoreline. Under typical tidal conditions, the proposed dock would float at an elevation of approximately four feet amsl. The proposed dock would be constructed with prefabricated sections, pre-cured concrete encapsulated floats, hot-dip galvanized (HDG) steel thru-rods, and pressure-treated Douglas fir (PTDF) whalers. Utilities on the dock would include 22 electrical pedestals with 30 and 50 amps on each side, a water hose bib, night lights on power pedestals, and firefighting hose cabinets/extinguishers with spacing per code. A 460-sf floating kayak and paddle board rental shed and a waste pump-out pump on an 80-sf platform would also be located on the proposed dock.

The proposed dock gangway would include an ADA accessible ramp constructed with marine-grade aluminum. The gangway would be a prefabricated, 80 feet long and four feet wide ramp to provide access from the dock to the shore. A 12-sf reinforced concrete landing would be installed at an elevation of approximately 10.5 feet amsl to anchor the gangway to the shore. As mentioned above, one 225-sf observation tower would be located over covered seating adjacent to the dock gangway.

Access, Circulation, and Parking

Vehicle Access and Circulation

Two gated vehicle entrances off N. Zuckerman Road would provide access to the project site. A 12-foot-wide “U”-shaped gravel internal access road off the two vehicle entrances would provide circulation throughout the proposed resort.

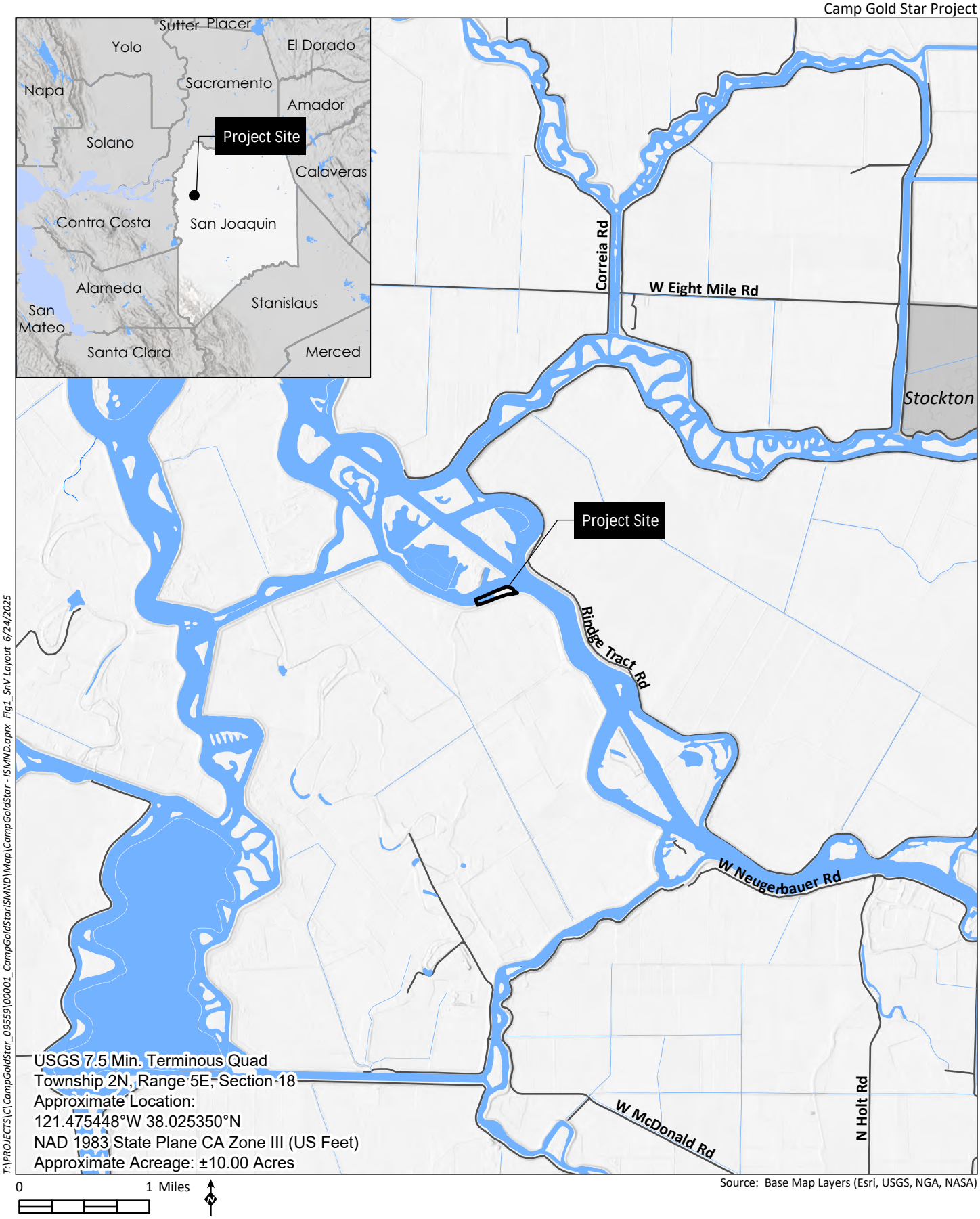
Due to the location of the proposed project and limited vehicular access onto McDonald Island, resort guests and employees would primarily travel to the project site via a water taxi from the King Island Marina parking area. The water taxi would temporarily dock at the proposed marina during guest drop-off and pick-up. Vehicular access to the site would be restricted to emergency vehicles, a few employees, and delivery and service vehicles. Vehicular access to the site would be available from the existing Turner Cut Bridge in the southeastern corner of McDonald Island and N. Zuckerman Road, which is a private road.

Pedestrian Access and Circulation

A pervious pedestrian walkway would be located around the perimeter of the resort to provide access to the mobile lodges, resort amenities, and dock gangway, that further connects to the “L”-shaped dock.

Parking

Through a parking agreement between the project proponent and King Island Marina, King Island Marina would allow for up to 40 guest and employee vehicles to utilize the existing parking lot located at 11530 W. Eight Mile Road in the City of Stockton. The 40 parking spaces would include 25 guest spaces (one space per lodge), 10 employee spaces, and five additional spaces. In addition to the existing parking facilities at King Island Marina, five paved guest parking spaces, including one ADA parking space, would be provided on the project site. Guests that arrive by private boat would utilize the proposed dock and would not require vehicular parking spaces.



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Site and Vicinity Map

Figure 1



T:\PROJECTS\C\CampGoldStar_09559\00001_CampGoldStar\ISMND\Map\CampGoldStar - ISMND.aprx Fig2_Aerial Map6/24/2025

0 400 Feet

Source: World Imagery (Maxar, 9/5/2022)

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Aerial Map

Figure 2

Fencing, Lighting, and Signage

A four-foot-high wood ranch fence would be located along the southern boundary of the resort to prevent unauthorized entry. Additionally, the two vehicle entrances off of N. Zuckerman Road would be gated. A five-foot-high tube steel fence would be installed around the perimeter of the proposed pool/pool deck, spa, and cabanas.

The proposed dock would include 22 electrical pedestals with low lighting to provide dock visibility at night. Additional lighting would be installed along the dock gangway for safety purposes. The proposed paved walkway around the perimeter of the resort would have low voltage nighttime lighting, and each proposed mobile lodge would include a porch light, perimeter light, and flag illumination. Additional site lighting would be located at the proposed pool/pool deck, clubhouse, restrooms/showers, housekeeping/laundry building, and along the perimeter of the resort for security purposes. All lighting would be required to adhere to the provisions of Chapter 9-403 of the County Development Title.

"Camp Gold Star" signage is proposed on the observation tower adjacent to the dock gangway and on the clubhouse. "Private Property" and "No Trespassing" signs would be located throughout the perimeter of the resort to prevent unauthorized entry into the site.

Utilities

Water

Per the New Public Water System Technical Report prepared for the project, included as Appendix A to this IS/MND, and based on data from comparable water systems in the project area, the average daily water demand for the proposed project is estimated to be 6,917.9 gallons per day (gpd). Water on-site would be pumped from a new proposed well and stored in a proposed 5,000-gallon water storage tank located in the southwestern corner of the project site. The new proposed water system would supply potable water to a total of 31 service connections for the 25 lodges, clubhouse, caretaker unit, laundry facilities, and pool, as well as 44 water spigots for the dock and two spigots for the dog run. Additionally, there is one existing well on-site, which would be utilized for landscaping, irrigation, and other non-potable uses.

Wastewater

Wastewater utilities for the resort would include a 5,000-gallon underground wastewater holding tank, a 5,000-sf primary septic system disposal field, and a 5,000-sf replacement septic system disposal field. A waste pump on an 80-sf platform on the dock would pump waste from guests' private boats to a proposed 500-gallon aboveground wastewater pump-out holding tank on the resort grounds.

Stormwater

Stormwater collected on-site would be conveyed to a 4,000-sf underground stormwater chamber retention system that would be located under the proposed dog run, which would temporarily detain stormwater to allow sediment and particulates to settle prior to ground infiltration.

Energy/Electricity

Propane would be delivered on-site and stored in a 1,000-gallon propane tank located on a paved pad adjacent to the garage. Electric power on McDonald Island is currently provided by PG&E. It is anticipated that the project would require the installation of a new pole or ground mounted PG&E transformer and underground power lines to provide electricity to the project site.

Trash/Recyclables

Trash dumpsters and recycle containers would be located adjacent to the proposed garage and would be serviced by San Joaquin County Solid Waste.

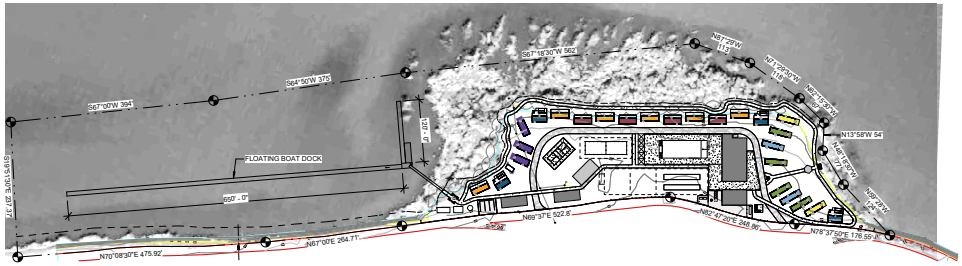
2.3 CONSTRUCTION

It is anticipated that construction would commence at the earliest in January 2026 and would be completed in November 2026. Construction activities would include site preparation, grading, installation of underground utilities, building construction, paving, and applying architectural coating (i.e. painting). Building construction includes construction of all structures and the proposed dock. Installation of the dock would require pile driving. See Section 5.III, Air Quality, for more information on project construction.

2.4 OPERATION

During operation of the proposed private resort and marina, up to 250 overnight guests would be on-site at a time. At maximum capacity, it is anticipated that approximately 150 guests would reside in the proposed lodges and approximately 100 guests would reside in private boats that dock at the proposed marina. Resort guests would be required to schedule dock and/or lodge reservations in advance. Depending on the season, it is estimated that approximately nine to 16 employees would be present on-site at a time.

Operational activities would be typical of an overnight resort and would include guests staying in the proposed lodges, using the proposed marina for boat docking and recreational purposes, and using the various other on-site amenities.



OVERALL SITE PLAN APN: 12908054

LEGEND

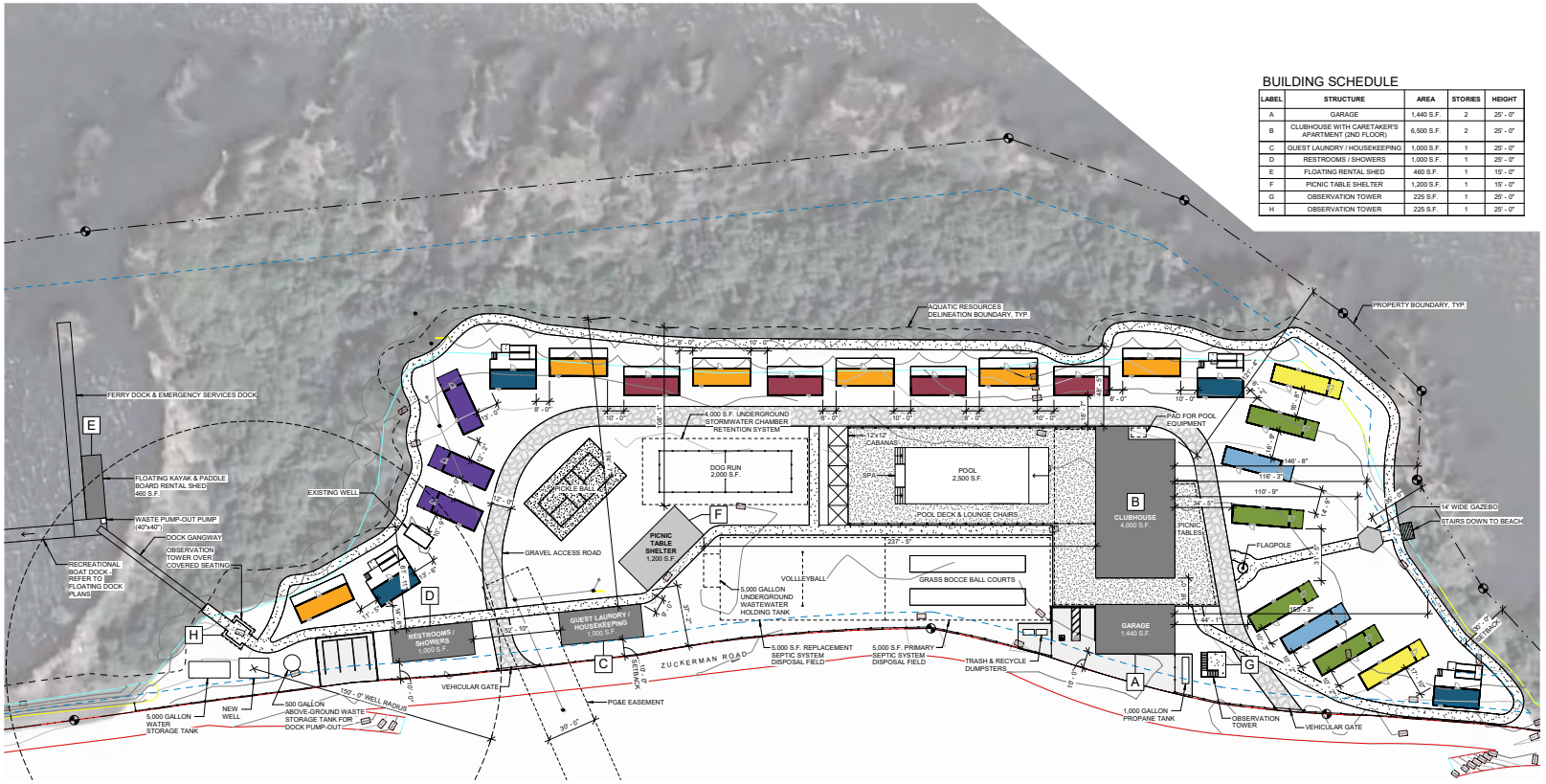
- PERVIOUS PAVER WALK
- CONCRETE PAVING
- ASPHALT PAVING
- GRAVEL ROAD
- PROPOSED BUILDING FOOTPRINT
- PROPOSED COVERED STRUCTURE
- 5' HIGH TUBE STEEL FENCE
- 4' HIGH WOOD RANCH FENCE

LODGES - PREFABRICATED MOBILE LODGES WITH DETACHABLE HITCH

- 120CK11331L: 11'-7" x 33'-8" - SLEEPS 6 PER LODGE - 4 LODGES TOTAL
- 120CK11351R: 11'-0" x 35'-2" - SLEEPS 8 PER LODGE - 6 LODGES TOTAL
- 120CK11351W: 11'-2" x 43'-0" - SLEEPS 6 PER LODGE - 2 LODGES TOTAL
- 120CK11351X: 11'-2" x 43'-0" - SLEEPS 8 PER LODGE - 4 LODGES TOTAL
- 120CK11351Z: 11'-2" x 43'-0" - SLEEPS 6 PER LODGE - 2 LODGES TOTAL
- 120CK12281L: 11'-10" x 28'-0" - SLEEPS 6 PER LODGE - 4 LODGES TOTAL - ACCESSIBLE
- 120CK13291P: 13'-4" x 38'-0" - SLEEPS 7 PER LODGE - 3 LODGES TOTAL

BUILDING SCHEDULE

LABEL	STRUCTURE	AREA	STORIES	HEIGHT
A	GARAGE	1,440 S.F.	2	25' - 0"
B	CLUBHOUSE WITH CARETAKER'S APARTMENT (2ND FLOOR)	6,500 S.F.	2	25' - 0"
C	GUEST LAUNDRY / HOUSEKEEPING	1,000 S.F.	1	25' - 0"
D	RESTROOMS / SHOWERS	1,000 S.F.	1	25' - 0"
E	FLOATING RENTAL SHED	460 S.F.	1	15' - 0"
F	PICNIC TABLE SHELTER	1,200 S.F.	1	15' - 0"
G	OBSERVATION TOWER	225 S.F.	1	25' - 0"
H	OBSERVATION TOWER	225 S.F.	1	25' - 0"



ENLARGED SITE PLAN

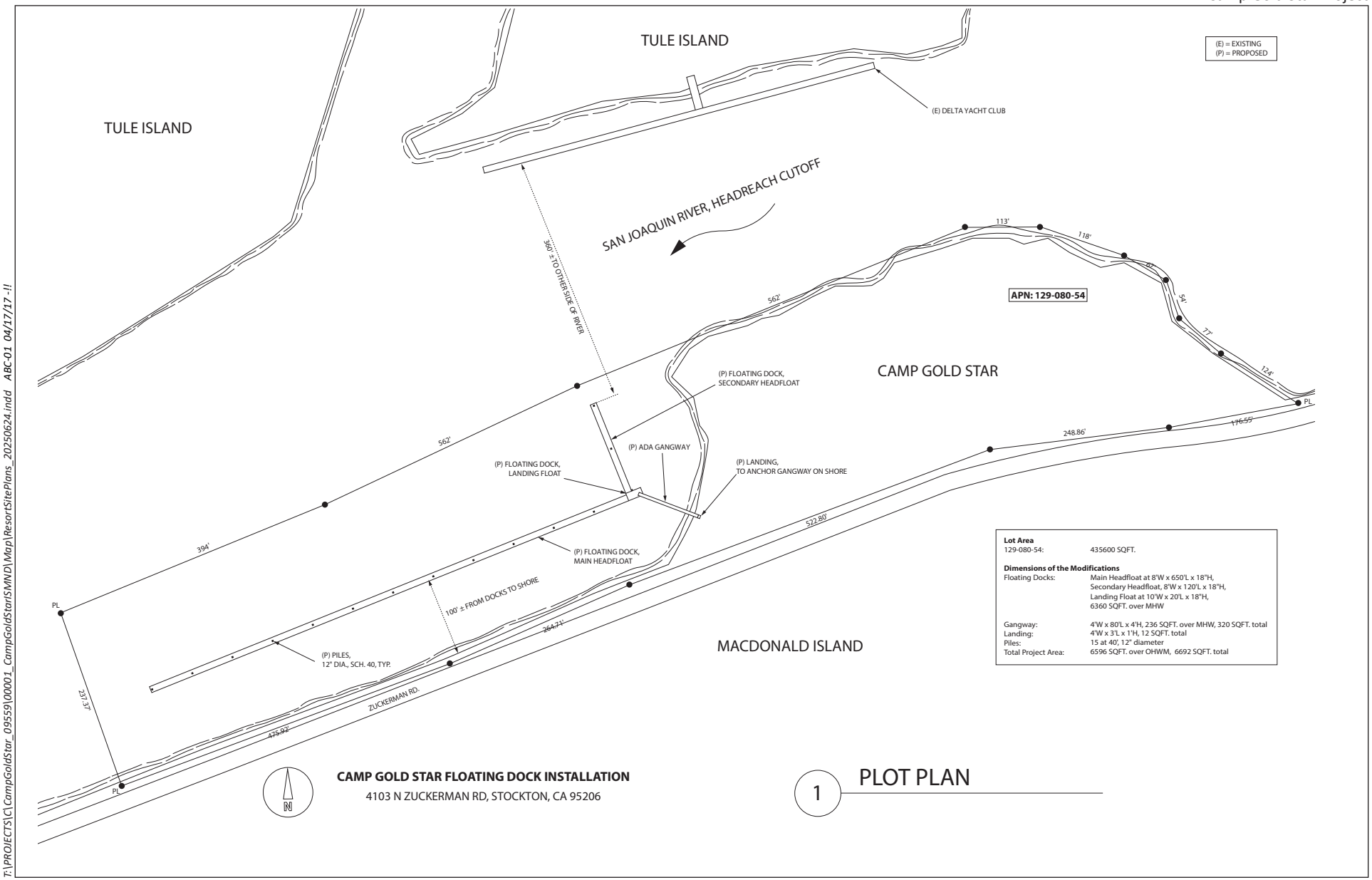
Source: WMB Architects

T:\PROJECTS\C\CampGoldStar_09559\00001_CampGoldStar\SMND\Map\Marina&DockSitePlans_20250624.indd ABC-01 04/17/17 -II

HELIX Environmental Planning

Resort **Site Plan**

Figure 3



CAMP GOLD STAR FLOATING DOCK INSTALLATION
4103 N ZUCKERMAN RD, STOCKTON, CA 95206

1 PLOT PLAN

T:\PROJECTS\C\CampGoldStar_09559\00001_CampGoldStar\SMND\Map\ResortSitePlans_20250624.indd ABC-01 04/17/17 -II

Source: MID-CAL Construction

HELIX Environmental Planning

Marina and Dock Plan

Figure 4

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology and Soils	☐ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials
☒ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☒ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☒ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

4.0 DETERMINATION

On the basis of this initial evaluation:

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect I) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

For

5.0 ENVIRONMENTAL INITIAL STUDY CHECKLIST

San Joaquin County, as the Lead Agency, has defined the column headings in the environmental checklist as follows:

A. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

B. "Less than Significant with Mitigation Incorporated" applies where the inclusion of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." All mitigation measures are described, including a brief explanation of how the measures reduce the effect to a less than significant level. Mitigation measures from earlier analyses may be cross-referenced.

C. "Less than Significant Impact" applies where the project does not create an impact that exceeds a stated significance threshold.

D. "No Impact" applies where a project does not create an impact in that category. "No Impact" answers do not require an explanation if they are adequately supported by the information sources cited by the lead agency which show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project specific screening analysis).

The explanation of each issue identifies the significance criteria or threshold used to evaluate each question; and the mitigation measure identified, if any, to reduce the impact to less than significance. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [CEQA Guidelines Section 15063(c)(3)(D)]. Where appropriate, the discussion identifies the following:

a) Earlier Analyses Used. Identifies where earlier analyses are available for review.

b) Impacts Adequately Addressed. Identifies which effects from the checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and states whether such effects were addressed by mitigation measures based on the earlier analysis.

c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describes the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

I. AESTHETICS

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:					
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c)	Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

The project site is situated in an area of the Delta with developed islands primarily used for agricultural and recreational purposes. McDonald Island is mainly comprised of open space, agricultural fields, PG&E facilities, pump stations, and a few labor camp residences and abandoned structures throughout the island. The project site is surrounded by the Delta Yacht Club on Tule Island, the SJC Delta Power Squadron boat club in the White Slough, and the St. Francis Yacht Club on Tinsley Island to the north across from the San Joaquin River; agricultural fields and open space to the east across from the San Joaquin River; agricultural fields and open space immediately to the south; and agricultural fields, open space, and the southern edge of Tule Island to the west across from the San Joaquin River. The San Joaquin River borders the project site to the north, east, and west.

The County has designated 26 local roadways as local scenic routes. County-designated scenic roadways include I-5, State Route (SR) 4, and SR 99 (County 2016). According to the California Department of Transportation (Caltrans) State Scenic Highway Map, SR 160 and I-580 are officially designated as State scenic highways. The nearest State scenic highway to the project site is SR 160, located approximately 15 miles to the west (Caltrans 2025). Additionally, the project site is not located within the corridor of or immediately adjacent to a designated Wild and Scenic River (NWSRS 2025).

The major scenic vistas in San Joaquin County are provided by the east-west travel corridors that provide views of the Sierra Nevada foothills and the Diablo Range. These visual resources within the County are also visible from I-5 and I-580, the two major highways within the County. More “close-in” scenic vistas are also available including viewing lands under agricultural production, vineyards, and orchards. Views of major river corridors are most clearly visible from parklands that adjoin the rivers, as

the motorist often catches only a quick glimpse of the river corridors while crossing bridges (County 2014).

Impact Analysis

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact. The proposed project would include construction of a private resort with 25 prefabricated mobile lodges and various other resort amenities, including a marina with an "L"-shaped dock. A four-foot-high wood ranch fence would be located along the southern boundary of the resort to prevent unauthorized entry and a five-foot-high tube steel fence would be installed around the perimeter of the proposed pool/pool deck, spa, and cabanas. Proposed site lighting would include 22 electrical pedestals with low lighting along the dock to provide dock visibility at night. Additional lighting would be located along the dock gangway for safety purposes. Low voltage nighttime lighting would be located along the proposed paved walkway, and lighting would be located at the proposed pool/pool deck, clubhouse, restrooms/showers, housekeeping/laundry building, and along the perimeter of the resort for security purposes. Additionally, each proposed mobile lodge would include a porch light, perimeter light, and flag illumination. "Camp Gold Star" signage is proposed on the observation tower adjacent to the dock gangway and on the clubhouse. "Private Property" and "No Trespassing" signs would be located throughout the perimeter of the resort to prevent unauthorized entry into the site.

A scenic vista is defined as a viewpoint that provides an expansive view of a highly valued landscape for the benefit of the general public. The major scenic vistas in the County include views of the Sierra Nevada foothills, Diablo Range, and viewing lands under agricultural production, vineyards, and orchards (County 2014). Terrain in the project site is relatively flat, with an elevation ranging from approximately six to 12 feet amsl, similar to the surrounding areas. Development of the proposed project would alter the existing visual character of the site; however, the project would not be substantial in size such that it would dominate existing views or result in substantial adverse effects on scenic vistas. Further, the proposed project would be located immediately south of the Delta Yacht Club and would be of similar size and massing. Due to the location and nature of the proposed project, it would not have a substantial adverse effect on scenic vistas in the County. Therefore, the impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. The project site is located approximately 15 miles east of SR 160, which is the nearest designated State scenic highway to the project site. Due to distance and intervening structures, implementation of the proposed project would not substantially damage scenic resources within a State scenic highway. No impact would occur.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. Due to the location of the project site, publicly accessible views of the site and its surrounding would primarily be limited to viewers in boats on the San Joaquin River or other surrounding waterways. However, as discussed in question a), the project would not be substantial in

size such that it would substantially degrade the existing visual character or quality of public views of the site and its surroundings. The resort would be largely screened from view from the San Joaquin River and other surrounding waterways by existing vegetation along the northern boundary of the resort. Therefore, the proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. The impact would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less than Significant Impact. Lighting may be needed during construction activities; however, lighting for project construction would be temporary and short-term and would be required to comply with the California Building Standards Code (CCR, Title 24) and California Green Building Standards Code (CCR, Title 24, Part 11 – CALGreen). Project lighting would include the installation of 22 electrical pedestals with low lighting along the dock to provide dock visibility at night. Additional lighting would be located along the dock gangway for safety purposes. Low voltage nighttime lighting would be located along the proposed paved walkway, and lighting would be located at the proposed pool/pool deck, clubhouse, restrooms/showers, housekeeping/laundry building, and along the perimeter of the resort for security purposes. All on-site lighting would be required to adhere to the provisions of Chapter 9-403 of the County Development Title, which regulates outdoor lighting in order to maintain adequate visibility and safety, conserve energy, and protect against direct glare, light trespass, and excessive lighting. Additionally, all lighting would use low energy, shielded light fixtures to direct light downward.

Although development of the proposed project would create a new source of lighting and glare, the proposed lighting would not have a substantial adverse effect on day or nighttime views in the area. As discussed in questions a) and c), the project site is in a rural area of the County, and publicly accessible views of the project site and surrounding areas would be limited to viewers in boats on the San Joaquin River or other surrounding waterways. The proposed project would be required to comply with existing County regulations of outdoor lighting, which would prevent glare and light trespass. Therefore, the impact would be less than significant.

II. AGRICULTURE AND FORESTRY RESOURCES

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non- forest use?	☐	☐	☒	☐

Environmental Setting

The California Department of Conservation (DOC), Division of Land Resource Protection, maintains the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the State's farmland to and from agricultural use. The program maintains an inventory of State agricultural land and updates its Important Farmland Series Maps every two years. According to the FMMP Important Farmland Finder, the project site is mapped as Farmland of Local Importance (DOC 2025a). No agricultural activities or timber management currently occur on the project site, nor is the project site under a Williamson Act contract (County 2025a). Based on historic aerial imagery, the project site has not been used for agricultural purposes.

The General Plan designates the project site as OS/RC (Resource Conservation), which provides for areas with significant natural resources that should remain in open space, used for recreation, or preserved and used for resource production (e.g., mining). The Resource Conservation (OS/RC) designation may be applicable to any area of the County that is essentially unimproved and planned to remain open in character, improved for recreational uses, managed in the production of resources, protected from development-related impacts, or restricted from access for the protection of the community (e.g., floodplains). The project site is zoned AG-80 (General Agriculture, 80-acre minimum), which is established to preserve agricultural lands for the continuation of commercial agricultural enterprises.

Impact Analysis

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less than Significant Impact. According to the FMMP Important Farmland Finder, the project site is mapped as Farmland of Local Importance (DOC 2025a). Additionally, according to SJMSCP, the project site habitat type is mapped as Natural Habitat Land. As outlined in Section 5.IV, Biological Resources, the project applicant has applied for coverage under the SJMSCP and would pay all applicable development fees for Natural Habitat Land. Lastly, the project site does not currently support agricultural uses and has not historically supported agricultural uses, based on historic aerial imagery. Therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, and the impact would be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less than Significant Impact. The project site is zoned AG-80 (General Agriculture, 80-acre minimum), which is established to preserve agricultural lands for the continuation of commercial agricultural enterprises. No agricultural activities currently occur on the project site, nor is the project site under a Williamson Act contract (County 2025a). Based on historic aerial imagery, the project site has not been used for agricultural purposes. In accordance with Chapter 9-203 of the County Development Title, which prescribes land use regulations for agricultural zones, the proposed project would be an allowed use (Recreation Facilities – Resort; Marina) on the current zoning with a conditional use permit (CUP). Therefore, with acquisition of a CUP, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and the impact would be less than significant.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site is not zoned as forest land, timberland, or Timberland Production, nor has the project site supported timber management uses. Implementation of the proposed project would not conflict with the zoning for, result in the loss of, or convert forest land to non-forest uses. Therefore, no impact would occur for question c) and d).

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less than Significant Impact. According to the FMMP Important Farmland Finder, the project site is mapped as Farmland of Local Importance (DOC 2025a). Additionally, according to SJMSCP, the project site habitat type is mapped as Natural Habitat Land. As outlined in Section 5.IV, Biological Resources, the project applicant has applied for coverage under the SJMSCP and would pay all applicable development fees for Natural Habitat Land. No agricultural activities or timber management currently occur on the project site, nor is the project site under a Williamson Act contract (County 2025a). Based on historic aerial imagery, the project site has not been used for agricultural purposes. The project site is zoned AG-

80 (General Agriculture, 80-acre minimum); however, the proposed project would be an allowed use (Recreation Facilities – Resort; Marina) on the current zoning with acquisition of a CUP, pursuant to Chapter 9-203 of the County Development Title. The project site is not zoned as forest land, timberland, or Timberland Production. Implementation of the proposed project would not conflict with the zoning for, result in the loss of, or convert forest land to non-forest uses. Therefore, as discussed in questions a) through d) above, the project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. The impact would be less than significant.

III. AIR QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The proposed project is located in unincorporated San Joaquin County, which lies within the San Joaquin Valley Air Basin (SJVAB). Air quality in the SJVAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the State level, and by the San Joaquin Valley Air Pollution Control District (SJVAPCD) at the regional level.

The SJVAB comprises all or part of eight counties: San Joaquin, Stanislaus, Fresno, Merced, Madera, Kings, Tulare, and Kern. The distinctive climate of the SJVAB is determined by its terrain and geographic location. The SJVAB is in the southern half of California's Central Valley and is 250 miles long and averages 35 miles wide. The SJVAB is bounded by the Sierra Nevada Mountains to the east, the Coast Ranges to the west, the Tehachapi Mountains to the south, and is open to the Sacramento Valley and San Francisco Bay Area to the north.

The SJVAB is in a Mediterranean climate zone which is characterized by typically hot and dry summers and sparse rainfall mainly during the winter. Especially in summer, winds in the SJVAB most frequently blow from the northwesterly direction. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the basin. A secondary but significant summer wind pattern is from the southeasterly direction and can be associated with nighttime drainage winds from the Sierra Nevada Mountains, and prefrontal conditions. Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. The vertical dispersion of air pollutants in the SJVAB can be limited by persistent temperature inversions. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor. The mountains surrounding the basin are mostly above the typical summer height of inversion layers, restricting dispersion of pollutants (SJVAPCD 2015).

Regulatory Setting

Criteria Pollutants

Air quality at the regional level is defined by ambient air concentrations of specific pollutants, identified criteria pollutants, are defined and regulated by State and federal law as a risk to the health and welfare of the public, and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources: carbon monoxide (CO); reactive organic gases (ROGs), also known as volatile organic compounds (VOCs); [1] nitrogen oxides (NO_X); sulfur dioxide (SO_2); coarse particulate matter (PM_{10}); fine particulate matter ($PM_{2.5}$); and lead. Of these primary pollutants, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead are criteria pollutants. ROGs and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. The principal secondary criteria pollutants are ozone and nitrogen dioxide (NO_2). In addition to being primary pollutants, PM_{10} and $PM_{2.5}$ can be secondary pollutants formed by chemical reactions in the atmosphere.

Ambient air quality is described in terms of compliance with State and national standards and the levels of air pollutant concentrations considered safe to protect public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The USEPA has established national ambient air quality standards (NAAQS) for criteria pollutants. As permitted by the Clean Air Act (CAA), California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air pollutant constituents.

The USEPA and CARB are required to designate areas of the state as attainment, nonattainment, or unclassified for the NAAQS and CAAQS. Designations are based on air quality data collected at multiple urban and rural monitoring stations in an area. An “attainment” designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard. An “unclassifiable” or “unclassified” designation indicates that insufficient data was available to determine compliance with pollutant concentrations standards.

The project site is located in unincorporated San Joaquin County that lies within the SJVAB and, as such, is in an area designated as “nonattainment” for certain pollutants that are regulated under the CAA. Table 1, *San Joaquin Valley Air Basin – Attainment Status,* lists the federal and State attainment status of the SJVAB (including San Joaquin County and the project site) for the NAAQS and CAAQS. As shown in Table 1, the SJVAB is designated as attainment for PM_{10}; attainment/unclassified for CO, NO_2, SO_2; extreme nonattainment for 8-hour ozone; and nonattainment for $PM_{2.5}$ with respect to the NAAQS. The SJVAB is designated as attainment for CO, NO_2, SO_2, and lead; severe nonattainment for 1-hour ozone; and as nonattainment for 8-hour ozone, $PM_{2.5}$, and PM_{10} with respect to the CAAQS (SJVAPCD 2024a).

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Table 1
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS

Pollutant	Federal Standards	State Standards
Ozone – One hour	No Federal Standard	Nonattainment/Severe
Ozone – Eight hour	Nonattainment/Extreme	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment/Moderate	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Unclassified	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2024a

Toxic Air Contaminants

Toxic air contaminants (TAC) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term chronic health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye-watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (Section 39655[a]) defines TAC as “an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health.” All substances that are listed as hazardous air pollutants pursuant to subsection(b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) are designated as TACs. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel Particulate Matter

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is 2.5 microns or less in diameter (CARB 2025a). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health

effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of the total known cancer risk related to air toxins in California is attributable to DPM (CARB 2025a).

San Joaquin Valley Air Pollution Control District

The proposed project is located in unincorporated San Joaquin County, which lies within the SJVAB. Air quality in the SJVAB is regulated by the USEPA at the federal level, by the CARB at the state level, and by SJVAPCD at the regional level. As a regional agency, the SJVAPCD works directly with local governments and cooperates actively with all federal and State government agencies. The SJVAPCD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Air Quality Plans

The SJVAPCD has developed plans to attain State and federal standards for ozone and particulate matter. The SJVAPCD's air quality plans include emissions inventories to measure the sources of air pollutants, to evaluate how well different control methods have worked, and to show how air pollution will be reduced. The plans also use computer modeling to estimate future levels of pollution and make sure that the San Joaquin Valley will meet air quality goals.

1-Hour Ozone Plan – Although the USEPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and the SJVAB must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's *2013 Plan for the Revoked 1-hour Ozone Standard* demonstrated attainment of the 1-hour ozone standard by 2017 (SJVAPCD 2015). On July 18, 2016, the USEPA published in the Federal Register the final action to determine that the SJVAB has attained the 1-hour ozone standard (USEPA 2016).On June 15, 2023, the SJVAPCD adopted the *2023 Maintenance Plan and Redesignation Request for the Revoked 1-hour Ozone Standard* that includes provisions for a maintenance plan and requirements for meeting all five criteria of Section 107(d)(3)(E) of the CAA (SJVAPCD 2023).

8-Hour Ozone Plan – The SJVAPCD's *2007 Ozone Plan* demonstrates attainment of the 1997 NAAQS 8-hour ozone standard by 2023. The USEPA approved the 2007 Ozone Plan effective April 30, 2012. (SJVAPCD 2015). In June 2016, the SJVAPCD adopted the *2016 Plan for the 2008 8-Hour Ozone Standard* to map strategies for attainment of the updated NAAQS 8-hour ozone standard (SJVAPCD 2016a). The SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard* in December 2022. This Plan satisfies Clean Air Act requirements and ensures expeditious attainment of the 70 parts per billion

8-hour ozone standard (SJVAPCD 2022). On April 24, 2024, the SJVAPCD adopted the *Ozone Contingency State Implementation Plan Revision for the 2008 and 2015 8-Hour Ozone Standards* to address the contingency provisions for the 2008 and 2015 8-hour ozone standards (SJVAPCD 2024b).

PM_{10} Plan – Based on PM_{10} measurements from 2003-2006, USEPA found that the SJVAB has reached Federal PM_{10} standards. On September 21, 2007, the SJVAPCD adopted the *2007 PM10 Maintenance Plan and Request for Redesignation*. On September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD 2015).

$PM_{2.5}$ Plan – The SJVAPCD's *2008 $PM_{2.5}$ Plan* demonstrated 2014 attainment of USEPA's first $PM_{2.5}$ standard, set in 1997. The USEPA lowered the $PM_{2.5}$ standard in 2006, and the SJVAPCD's *2012 $PM_{2.5}$ Plan* showed attainment of this standard by 2019, with the majority of the SJVAB seeing attainment

much sooner (SJVAPCD 2015). The SJVAPCD adopted the *2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard* on September 15, 2016. This plan addresses the updated NAAQS 2012 annual $PM_{2.5}$ standard and includes an attainment impracticability demonstration and request for reclassification of the SJVAB from moderate nonattainment to serious nonattainment (SJVAPCD 2016b). These plans came together when the SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* on November 15, 2018. This plan addresses the federal standards for each of those years (SJVAPCD 2018).

The SJVAPCD adopted the *2024 Plan for the 2012 Annual $PM_{2.5}$ Standard* on June 20, 2024, to fulfill the remaining CAA requirements, including the final modeling analysis, attainment strategy and emission reduction commitments, reasonable further progress/quantitative milestones, and contingency measures. This Plan demonstrates expeditious attainment of the 2012 $PM_{2.5}$ standard by 2030 (SJVAPCD 2024c).

Regulations and Rules

The following rules promulgated by the SJVAPCD would be applicable to the construction of the proposed project (SJVAPCD 2024d):

Rule 4101 Visible Emissions: prohibit the emissions of visible air contaminants to the atmosphere.

Rule 4102 Nuisance: protect the health and safety of the public.

Rule 8021 Construction, Demolition, Excavation, Extraction, and other Earth Moving Activities: limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities.

Rule 9510 Indirect Source Review: Requires developers to incorporate clean air measures and reduce emissions of NO_X and PM_{10} from new development projects or pay an off-site mitigation fee.

Sensitive Receptors

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution (sensitive receptors): adults over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptor location to the project site is a single-family residential home located approximately 3,500 feet (0.66 miles) southeast of the project site. There are no schools, hospitals, or daycare centers within the project vicinity.

Methodology and Assumptions

Criteria pollutant and precursor emissions, and GHG emissions for the project construction activities and long-term operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to

quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The model calculates emissions of criteria pollutants, Ozone precursors, and GHGs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, C, and D (CAPCOA 2022). The input data and subsequent construction and operation emission estimates for the proposed project are discussed below.

Construction Assumptions

It is anticipated that construction would commence at the earliest in January 2026 and would be completed in November 2026. The construction activity schedule was estimated using data provided by the project architect and is outlined in Table 2, *Project Construction Schedule*, below. Paving and architectural coating was assumed to occur concurrently with building construction. Building construction assumed to include all structures and landscaping, including the dock.

Table 2
PROJECT CONSTRUCTION SCHEDULE

Construction Activity	Construction Start Date	Construction End Date	Number of Working Days
Site Preparation	1/2/2026	1/15/2026	10
Grading	1/16/2026	1/31/2026	11
Underground Utilities	2/1/2026	2/28/2026	20
Building Construction	3/1/2026	11/30/2026	196
Paving	10/10/2026	11/4/2026	18
Architectural Coating (i.e. painting)	11/5/2026	11/30/2026	18

Source: CalEEMod Output (Appendix B)

Construction equipment for each construction activity was estimated using CalEEMod defaults. Table 3, *Project Construction Equipment*, below, presents a summary of the assumed equipment that would be involved in each activity of construction. Off-highway trucks included in the modeling would be water trucks.

Table 3
PROJECT CONSTRUCTION EQUIPMENT

Construction Activity	Equipment	Number
Site Preparation	Rubber Tired Dozers	3
	Tractors/Loaders/Backhoes	4
	Off-Highway Trucks	1
Grading	Excavators	1
	Graders	1
	Rubber Tired Dozers	1
	Tractors/Loaders/Backhoes	3
	Off-Highway Trucks	1
Underground Utilities	Excavators	1

Construction Activity	Equipment	Number
	Tractors/Loaders/Backhoes	1
	Off-Highway Trucks	1
Building Construction	Cranes	1
	Forklifts	3
	Generator Sets	1
	Tractors/Loaders/Backhoes	3
	Welders	1
	Off-Highway Trucks	1
Paving	Cement and Mortar Mixers	2
	Pavers	1
	Paving Equipment	2
	Rollers	2
	Tractors/Loaders/Backhoes	1
Architectural Coating	Air Compressors	1

Source: CalEEMod Output (Appendix B)

Based on aerial imagery of the project site, approximately 400 cubic yards (CY) of vegetation and miscellaneous debris would be exported during site preparation. Per the project architect, 3,500 CY of cut/fill would be balanced on site. Worker, vendor, and hauling trips were modeled using CalEEMod defaults. Based on aerial imagery, the last five miles of worker, vendor, and hauling trips would be on unpaved surfaces. Construction emissions modeling assumes the implementation of dust mitigation (watering exposed areas twice per day), per SJVAPCD Regulation VIII.

Operational Assumptions

Operational emissions, except for emissions from vehicle trips to/from the King Island Marina and boat emissions, were estimated using CalEEMod. Operational sources of emissions include mobile, area, energy, water use, solid waste, stationary equipment (e.g., generators), and refrigerants. Of the maximum 16 employees, it is assumed that up to two employees would commute to the resort by car from N. Zuckerman Road. Based on aerial imagery, the last five miles of the two employee commuter car trips would be on unpaved surfaces on N. Zuckerman Road.

Per the project applicant, the remaining 14 employees would commute by boat (e.g. water taxi). Prior to taking a water taxi to the resort, all guests not arriving by private boat, and the remaining 14 employees would commute to the Kings Island Marina parking area by car. The existing Kings Island Marina parking area includes 40 parking spaces that would be dedicated for Camp Gold Star guests and employees. It was estimated that based on the total parking spaces, the guests and 14 employees commuting to Kings Island Marina parking area by car would generate 80 total daily trips. Emissions from vehicle trips to/from the King Island Marina were calculated using emissions factors from CARBs EMFAC2025 version 2.0.0 and the CalEEMod default home-work trips distance of 13.9 miles for San Joaquin County (CARB 2025b). A printout of the vehicle emissions calculation sheet is included in Appendix B.

The water taxi would include two 200 horsepower (hp) outboard gasoline engines. To accommodate guests and employees, the water taxi was assumed to complete up to four round trips per day between the King Island Marina to the project marina with a round-trip distance of approximately 7 miles. The project marina would accommodate 33 to 44 boats, depending on length. Boat emissions were calculated using data from CARBS OFROAD version 1.1.0 assuming boats traveling to and from the project marina would have outboard or inboard/sterndrive engines ranging from 120 hp to 500 hp. The

project was assumed to result in up to 80 one-way guest boat trips per day with an average distance of 20 miles. A printout of the boat emissions calculation sheet is included in Appendix B.

Per the project architect, the proposed project would include a total of 27 fire pits that would burn for three hours per day for 78 days of the year. It was assumed that 12.5 pounds of wood would be burned per hour per fire pit. Additionally, the project would include a propane-powered emergency generator. The size of the generator was estimated to be 226 hp based on project building floor space and a common estimating formula for commercial buildings of 50 kilowatts (kW) plus 5 kW per sf. Emissions from the project generator were modeled in CalEEMod assuming 15 minutes of operation for testing/maintenance twice per month (6 hours per year). Operational emissions resulting from energy, water use, solid waste generation, and refrigerants were modeled using CalEEMod defaults.

Standards of Significance

According to Appendix G of the state CEQA Guidelines, a project would have a significant air quality environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan; or

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

3. Expose sensitive receptors to substantial pollutant concentrations; or

4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SJVAPCD has established significant thresholds to assess the impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in the SJVAB. Table 4, *SJVAPCD Air Quality Significance Thresholds*, presents the most current significance thresholds, including thresholds for construction and operational emissions and maximum incremental cancer risk and hazard indices for TACs. A project with emission rates and risk values below these thresholds is generally considered to have a less than significant impact on air quality.

Table 4
SJVAPCD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds (tons per year)		
Pollutant	**Construction**	**Operation**
ROG	10	10
NO_X	10	10
CO	100	100
PM_{10}	15	15
$PM_{2.5}$	15	15
SO_X	27	27

Toxic Air Contaminants	
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Chronic & Acute Hazard Index ≥ 1.0 (project increment)

Source: SJVAPCD 2015
ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = coarse particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SO_X = sulfur oxides; TACs = toxic air contaminants; NO_2 = nitrogen dioxide; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

As set forth in the SJVAPCD *Guidance for Assessing and Mitigating Air Quality Impacts*, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. Impacts of local pollutants (CO, TACs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects would exceed air quality standards.

Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. As discussed in Table 4, the SJVAPCD has established thresholds of significance for a project's criteria pollutant and precursor emissions for both temporary construction-related emissions and long-term operational-related emissions. According to the SJVAPCD, these significant thresholds have been established to assist lead agencies in determining whether a project may have a significant air quality impact. A project with emissions lower than the thresholds would not conflict with or obstruct implementation of the district's air quality plans for attainment of the applicable NAAQS and CAAQS (SJVAPCD 2015).

As discussed below in question b), the project would not exceed the construction and operational-related thresholds of significance for criteria pollutants and precursor emissions.

Additionally, control measures in the air quality plans adopted by the SJVAPCD are based in part on growth projections in local planning documents such as the County General Plan. The project would not require a change of General Plan land use designation. The 25 proposed rental lodges would be rented to overnight guests on a temporary basis; however, these rental lodges would not represent permanent housing stock. The maximum 16 employees for the proposed project would mainly reside locally; however, if future employees move to the County for work, it would be within the projected increase in population from planned growth as projected in the County's Housing Element. Therefore, the project would not result in population or employment growth in the County. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plans, and the impact would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. The SJVAB is designated as attainment for PM_{10}; attainment/unclassified for CO, NO_2, SO_2; extreme nonattainment for 8-hour ozone; and in nonattainment for $PM_{2.5}$ with respect to federal air quality standards. The SJVAB is designated as attainment for CO, NO_2, SO_2, and lead; severe nonattainment for 1-hour ozone; and as nonattainment for 8-hour ozone, $PM_{2.5}$, and PM_{10} with respect to State air quality standards. The project's emissions of these criteria pollutants and precursors during construction and operation are evaluated below.

Construction Emissions

CalEEMod was used to quantify project-generated construction emissions, as discussed in *Methodology and Assumptions*, above. The model output sheets are included in Appendix B. It is anticipated that construction would commence at the earliest in January 2026 and would be completed in November 2026. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

The project's construction period emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ were compared to the SJVAPCD construction thresholds in Table 5, *Annual Construction Criteria Pollutant and Precursor Emissions*. Table 4 presents the most current significance thresholds, including thresholds for construction and operational emissions and maximum incremental cancer risk and hazard indices for TACs. As shown in Table 5, the proposed project's construction period emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ would not exceed the SJVAPCD thresholds.

Table 5
ANNUAL CONSTRUCTION CRITERIA POLLUTANT AND PRECURSOR EMISSIONS

Construction Year of Emissions	Pollutant Emissions (tons per year)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2026	**0.2**	**1.5**	**1.9**	**<0.1**	**12.3**	**1.3**
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix B).
ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = coarse particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less;

Operational Emissions

Operational emissions were calculated as discussed in *Methodology and Assumptions*, above. The project's operational emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ were compared to the SJVAPCD construction thresholds in Table 6, *Annual Operational Criteria Pollutant and Precursor Emissions*. Table 4 presents the most current significance thresholds, including thresholds for construction and operational emissions and maximum incremental cancer risk and hazard indices for TACs. As shown in Table 6, the proposed project's total annual operational emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ would not exceed the SJVAPCD thresholds.

Table 6
ANNUAL OPERATIONAL CRITERIA POLLUTANT AND PRECURSOR EMISSIONS

Operational Activities	Pollutant Emissions (tons per year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile – employees traveling by car from N. Zuckerman Road to the resort	<0.1	<0.1	<0.1	<0.1	2.5	0.3
Mobile – employees and guests traveling by car to Kings Island Marina parking area	0.1	<0.1	1.7	<0.1	<0.1	<0.1
Mobile – employees and guests traveling by water taxi from Kings Island Marina to the resort/marina	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile – guests traveling by private boat to the resort/marina	0.1	<0.1	0.6	<0.1	<0.1	<0.1
Area	4.6	0.1	5.1	<0.1	0.7	0.7
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Stationary	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Emissions	**4.8**	**0.2**	**7.5**	**<0.1**	**3.2**	**1.0**
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix B).
ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = coarse particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less

Impact Conclusion

The proposed project's construction and operational emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ would not exceed the SJVAPCD thresholds. Therefore, construction and operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment, and the impact would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals, known as sensitive receptors, as the most likely to be affected by air pollution: adults over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptor locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptor locations to the project site are single-family residential homes located 3.9 miles northeast of the project site. There are no schools within the project vicinity.

Construction Activities

Valley Fever

Valley fever (also called coccidioidomycosis or "cocci") is a disease caused by the Coccidioides fungus that grows in the soil and dirt in some areas of California and the southwestern United States. This fungus can infect the lungs and cause respiratory symptoms, including cough, difficulty breathing, fever, and tiredness or fatigue. You can get Valley fever by breathing in dust from outdoor air that contains spores of the Coccidioides fungus that grow in the soil. When soil or dirt is stirred up by strong winds or while digging, dust containing these fungus spores can get into the air (County 2025).

As noted above, the closest existing sensitive receptor locations to the project site is a single-family residential home located approximately 3,500 feet (0.66 miles) southeast of the project site. Control of fugitive dust would also control potential spread of Valley fever. The project would be required to control fugitive dust per SJVAPCD Rules 4101, 4102, and 8021. As outlined in question b), construction of the project would not result in emissions of PM in excess of SJVAPCD's thresholds.

Fugitive Dust

The generation of dust (fugitive PM_{10} and $PM_{2.5}$) during construction activities could adversely affect sensitive receptors and construction workers. As outlined under *Methodology and Assumptions*, based on aerial imagery, the last five miles of worker, vendor, and hauling trips would be on unpaved surfaces. The project would be required to control fugitive dust per SJVAPCD Rules 4101, 4102, and 8021. As outlined in question b), construction of the project would not result in emissions of PM in excess of SJVAPCD's thresholds.

TAC Emissions

Construction of the project would result in emissions of DPM from the use of construction equipment on the project site. The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has to the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for the evaluation of long-duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015).

Concentrations of mobile source DPM emissions disperse rapidly and are typically reduced by 70 percent at approximately 500 feet (CARB 2005). Considering the dispersive nature of DPM and the fact that construction activities with intensive use of heavy diesel-powered construction equipment would be intermittent and would occur for short durations, it is not anticipated that construction of the project would not expose sensitive receptors to substantial DPM concentrations.

Operational Activities

Fugitive Dust

The generation of dust (fugitive PM_{10} and $PM_{2.5}$) during operational activities could adversely affect sensitive receptors, employees, and guests. As outlined under *Methodology and Assumptions*, based on aerial imagery, the last five miles of employee commuter car trips would be on unpaved surfaces on N. Zuckerman Road. However, as outlined in question b), operation of the project would not result in emissions of PM in excess of SJVAPCD's thresholds.

TAC Emissions

Once operational, the project would not include any substantial sources of TAC emissions.

CO Hotspots

A CO hot spot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. The project would contribute limited vehicles to area roadways, up to 84 average daily trips (ADT). Once leaving the project site or King Island Marina, project-related vehicle trips would be distributed throughout the Stockton/San Joaquin County region and would neither cause new severe congestion nor significantly worsen existing congestion. There would be no potential for a CO hot spot or exposure of sensitive receptors to substantial, project generated, local CO emissions.

Impact Conclusion

Construction and operation of the project would not expose sensitive receptors to substantial pollutant concentrations, and the impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. The project could produce odors during construction activities resulting from heavy diesel equipment exhaust and VOC released during application of asphalt. The odor of these emissions is objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not be at a level that would affect a substantial number of people. Any odors emitted during construction activities would be temporary, short-term, and intermittent in nature, and would cease upon the facility maintenance. As a result, impacts associated with temporary odors during construction are not considered significant.

The SJVAPCD has developed screening distances for common sources of operational odors, including Wastewater Treatment Facility; Sanitary Landfill; Transfer Station; Composting Facility; Petroleum Refinery; Asphalt Batch Plant; Chemical Manufacturing; Fiberglass Manufacturing; Painting/Coating Operations (e.g., auto body shops); Food Processing Facility; Feed Lot/Dairy; and Rendering Plant (SJVAPCD 2015a). As the proposed project would include construction of a resort and marina, operation of the project would not result in odors affecting a substantial number of people. Neither construction nor operation of the project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

IV. BIOLOGICAL RESOURCES

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	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?	☐	☒	☐	☐
b)	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 US Fish and Wildlife Service?	☐	☒	☐	☐
c)	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?	☐	☒	☐	☐
d)	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?	☐	☒	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

A Section 7 Biological Assessment (BA) was prepared by HELIX in September 2024, and an Aquatic Resources Delineation (ARD) was prepared by HELIX in April 2025. These reports are included as Appendix C and Appendix D, respectively, to this IS/MND. Additionally, database queries are included in Appendix E and the Potential for Special-Status Species to Occur in the Project Area table is included in Appendix F.

Regulatory Setting

Federal Regulations

Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by several state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

State Regulations

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies

to consult with the California Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code [FGC] §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

California Department of Fish and Game Codes

California Fish and Game Code Sections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California Fish and Game Code Subsection 3503.5 protects all birds in the orders of Falconiformes and Strigiformes (birds of prey). Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act. The Attorney General of California has released an opinion that the Fish and Game Code prohibits incidental take.

Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants protected under the NPPA. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

California Environmental Quality Act

Under the California Environmental Quality Act of 1970 (Public Resources Code Section 21000 et seq.), lead agencies analyze whether projects would have a substantial adverse effect on a candidate, sensitive, or special-status species (Public Resources Code [PRC] Section 21001[c]). These "special-status" species generally include those listed under FESA and CESA, and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under the criteria included in CEQA Guidelines Section 15380. Therefore, species that are considered rare are addressed under CEQA regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity; plants ranked as 1A, 1B, 2A, 2B, and 3 are generally considered special-status species under CEQA.[2]

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare if it can be shown to meet certain specified criteria. These criteria have

[2] The California Rare Plant Rank system can be found at: http://www.cnps.org/cnps/rareplants/ranking.php.

been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals.

Nesting Birds

California Fish and Game Code Sections 3503 and 3800 prohibit the possession, take, or needless destruction of birds, their nests, and eggs, and the salvage of dead nongame birds. California Fish and Game Code Subsection 3503.5 protects all birds in the orders of Falconiformes and Strigiformes (birds of prey). Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act. The Attorney General of California has released an opinion that the Fish and Game Code prohibits incidental take.

Jurisdictional Waters

Federal Jurisdiction

On May 25, 2023, the U.S. Supreme Court issued a decision in the case of Sackett v. Environmental Protection Agency (Supreme Court of the United States 2023), which will ultimately influence how federal waters are defined. The May 25, 2023, Supreme Court decision in Sackett v. Environmental Protection Agency determined that "the CWA extends to only those 'wetlands with a continuous surface connection to bodies that are "waters of the U.S." in their own right,' so that they are 'indistinguishable' from those waters." The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) after review of the decision issued a final rule to replace the 2023 rule that amends the "Revised Definition of 'Waters of the U.S.'" to conform key aspects of the regulatory text to the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency*.

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The Clean Water Act (33 United States Code [USC] 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE

are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the EPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

State Jurisdiction

Regional Water Quality Control Board

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal CWA. Although the CWA is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that the issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE's permits for fill and dredge discharges within waters of the U.S. and now also implements the State's wetland protection and hydromodification regulation program under the Porter-Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the State;

III. Wetland delineation procedures; and

IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050[e]), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

More specifically, a wetland is defined as: "*An area is wetland if, 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*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code Section 13000 *et seq*.) is California's statutory authority for the protection of water quality in conjunction with the federal CWA. The Porter-Cologne Act requires the SWRCB and RWQCBs under CWA to adopt and periodically update water quality control plans or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires dischargers of pollutants or dredged or fill material to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, National Pollution Discharge Elimination System (NPDES) permits, Section 401 water quality certifications, or other approvals.

California Department of Fish and Wildlife

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California FGC. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "*substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601.*" Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow the protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends submitting an application for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

Local Policies and Regulations

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

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish, and wildlife species covered by the Plan (SJCOG 2021).

The key purpose of the SJMSCP is to:

- Provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy.
- Preserve landowner property rights.
- Provide for the long-term management of plant, fish, and wildlife species, especially those that are currently listed, or may be listed in the future, under FESA or CESA.
- Provide and maintain multiple-use Open Space which contribute to the quality of life of the residents of San Joaquin County.
- Accommodate a growing population while minimizing costs to project proponents and society at large.

The SJMSCP compensates for conversions of open space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, 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.

San Joaquin County General Plan

Natural and Cultural Resources Element

Goal NCR-1: To conserve and enhance the County's open space resources.

> NRC-1.1: Preserve Natural Areas. The County shall protect, preserve, and enhance important natural resource habitat, biological diversity, and the ecological integrity of natural systems in the County.

Goal NCR-2: To preserve and protect wildlife habitat areas for the maintenance and enhancement of biological diversity and ecological integrity.

> NCR-2.1: Protect Significant Biological and Ecological Resources. The County shall protect significant biological and ecological resources including: wetlands; riparian areas; vernal pools; significant oak woodlands and heritage trees; and rare, threatened, and endangered species and their habitats.
>
> NCR-2.3 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. The County shall continue to implement the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan to mitigate biological impacts resulting from open space land conversion.
>
> NCR-2.5 No Net Loss of Wetlands. The County shall not allow development to result in a net loss of riparian or wetland habitat (County 2016).

San Joaquin County Development Title

Tree Protection Ordinance

Section 9-400.80 of the County Development Title is intended to preserve the County's tree resources by requiring replacement of protected trees where removal is allowed. It applies to all development projects requiring discretionary approval that have native oak trees, heritage oak trees, or historical trees on the property, unless otherwise exempt. A zoning compliance review is required for the removal of a heritage oak tree, historical tree or native oak tree, and replacement trees are required (County 2025b).

Riparian Habitat Ordinance

Section 9-707.030 of the County Development Title contains provisions to preserve riparian habitat resources in the County. This section requires preparation of a Riparian Habitat Mitigation Plan as part of conditions of approval for proposed actions that would have the potential to destroy, eliminate, or degrade riparian habitat. Components of this plan would include description of on-site riparian habitat

(as well as protection measures), mitigation sites, contribution to existing off-site habitat site, replacement vegetation, maintenance, and conservation easements (County 2025b).

Environmental Setting

The terrain in the project site is generally flat, with elevations ranging from six to 12 feet amsl. The overall 10-acre parcel appears to be a graded area that was historically created with dredging materials prior to 1937. The project site consists entirely of imported fill soil situated above the San Joaquin River. The project site supports electrical utilities and a small shed and is adjacent to existing facilities that were likely used historically for agricultural production, including a silo or processing plant. The project site is within the SJMSCP area and is designed as Natural Habitat Land in the SJMSCP.

The project site is in the San Joaquin Delta watershed (USGS Hydrologic Unit Code [HUC8] 18040003). The San Joaquin River occurs in the project site, and all drainage is expected to flow into the San Joaquin River. The San Joaquin River is a traditional navigable waters of the U.S.

The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has identified and mapped one soil unit occurring within the project site: Ryde clay loam, partially drained, 0 to 2 percent slopes, MLRA 16. This soil unit is comprised of herbaceous organic material derived from reeds and tules, and fine-loamy alluvium derived from mixed rock sources. It is typical of floodplains and deltas. A general soil profile is clay loam from 0 to 24 inches, mucky clay loam from 24 to 32 inches, and stratified muck to silty clay loam from 32 to 79 inches. It is very poorly drained, has a rare frequency of flooding, and no frequency of ponding. This soil unit is considered hydric (USDA 2025).

Vegetation Communities

Upland vegetation communities that occur within the project site consist entirely of ruderal/disturbed.

Ruderal/Disturbed

Ruderal habitats are characterized by an assemblage of non-native and invasive plant species that readily colonize disturbed landscapes. Roadsides, construction sites, and vacant lots are all sites ruderal plant species typically occur in. Disturbed habitats typically retain a soil substrate, but the vegetation communities are either lacking or are comprised of mostly ruderal plant species.

Approximately 3.61 acres of ruderal/disturbed habitat occurs within the overall 10-acre parcel. Evidence of past disturbance, likely associated with levee road construction and road/utility maintenance, is visible in this habitat type within the project site. Vegetation appears to have been mowed and/or masticated within and along the fringe of this habitat type during field surveys, and aerial imagery indicates vegetation has been altered within this habitat since at least 2002 (Google Earth Pro 2025). Riprap is present along the bank of the San Joaquin River and very little vegetation was observed within this habitat type. Plant species observed include Spanish lotus (*Acmispon americanus* var. *americanus*), field bindweed (*Convolvulus arvensis*), and narrowleaf cattail (*Typha angustifolia*) along the bottom of the bank.

Methodology

Database and Literature Review

Before performing the field surveys for the BA and ARD, background research was conducted to inform and create target lists to focus the survey efforts. Accessible information in public databases pertaining to natural resources in the region of the project site was queried. Additional queries were also performed as part of this report specific to State listed species and all databases were updated with current search results. The database queries are included in Appendix E. The following site-specific published information was reviewed for this report:

- California Department of Fish and Wildlife (CDFW). 2025. *California Natural Diversity Database* (CNDDB). For *Terminous, Isleton, Thornton, Lodi North, Lodi South, Stockton West, Holt,* and *Woodward Island* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed April 9, 2025];

- California Native Plant Society (CNPS). 2025. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.39) For *Terminous, Isleton, Thornton, Lodi North, Lodi South, Stockton West, Holt,* and *Woodward Island* USGS 7.5-minute series quadrangles, Sacramento, CA. [Accessed April 9, 2025];

- U.S. Fish and Wildlife Service (USFWS). 2025a. *Information for Planning and Consultation* (IPaC) for *Camp Gold Star*;

- National Oceanic and Atmospheric Administration (NOAA). 2025. Species Directory, ESA Threatened and Endangered Species. Available online at: https://www.fisheries.noaa.gov/species-directory/threatened-endangered.

- U.S. Department of Agriculture (USDA), National Resource Conservation Service (NRCS). 2025. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov; and,

- USFWS 2025b. National Wetlands Inventory. Available online at: https://www.fws.gov/program/national-wetlands-inventory.

Special-status species are plant and wildlife species that have been afforded special recognition by federal, State, or local resource agencies or organizations. They are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under the California Endangered Species Act (CESA) or the Federal Endangered Species Act (FESA);

- Protected under other regulations (e.g., Migratory Bird Treaty Act);

- Included on the CDFW Special Animals List;

- Identified as Rare Plant Rank 1 to 4 by CNPS; or,

- Receive consideration during environmental review under CEQA.

Biological Surveys

The biological field survey for the BA was conducted on August 13, 2024, by HELIX biologist Christine Gonzalez, and the field survey for the ARD was conducted on March 26, 2025, by HELIX wetland scientist Patrick Martin. The project site was systematically surveyed on foot for each survey to ensure total search coverage, with special attention given to portions of the project site with the potential to support special-status species and sensitive habitats. Binoculars were used to further extend site coverage and identify species observed. All plant and animal species observed were recorded and all biological communities occurring on-site were characterized. All resources of interest were mapped with Global Positioning System (GPS) capable tablets equipped with GPS receivers running ESRI Field Maps for ArcGIS™ with sub-meter accuracy.

Following the field surveys and review of database queries, the potential for sensitive habitats and each species identified in the database query to occur within the project site was determined based on the field survey, soils, habitats present within the project site, and species-specific information. The potential for State listed species to occur in the project site was conducted using site specific information gathered during the field surveys and through desktop evaluation.

Special-Status Species

The likelihood for a species to occur was classified as having either no, low, moderate, or high potential to occur within the project site by evaluating criteria based on the distance of the nearest documented occurrence, the presence and condition of suitable habitat, the age of the most recent documented occurrence, and the presence of mapped critical habitat. These results are displayed in Appendix F.

Sensitive plant and wildlife species identified during database queries were evaluated for their potential to occur within the project site based on the results of the field surveys and the criteria described below.

Listed and Special-Status Plants

According to the database query, 21 listed and/or special-status plants have the potential to occur on-site or in the vicinity of the project site (CDFW 2025; CNPS 2025). Based on field observations, published information, and literature review, seven special-status plants have the potential to occur within the project site: bristly sedge (*Carex comosa*), woolly rose-mallow (*Hibiscus lasiocarpos* var*. occidentalis*), Delta tule pea (*Lathyrus jepsonii* var*. jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella australis*), side-flowering skullcap (*Scutellaria lateriflora*), and Suisun Marsh aster (*Symphyotrichum lentum*). These species are discussed in more detail below. The remaining special-status plants identified in the query occur in vernal pools or other aquatic resources that do not occur in the Study Area, in grasslands, woodlands, alkaline habitats, or at elevations outside of the project site.

Listed and Special-Status Wildlife

According to the database query, 23 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the project site (CDFW 2025; USFWS 2025a; NOAA 2025). Based on field observations, published information, and literature review, 13 special-status wildlife species have the potential to occur within the project site: monarch - California overwintering population (*Danaus plexippus*), steelhead trout - California Central Valley Distinct Population Segment (DPS) (*Oncorhynchus mykiss*), delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), green sturgeon - southern DPS (*Acipenser medirostris*), giant garter snake (*Thamnophis gigas*), northwestern pond turtle

(*Actinemys marmorata*), tricolored blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), California black rail (*Laterallus jamaicensis coturniculus*), song sparrow "Modesto" population (*Melospiza melodia*), and western red bat (*Lasiurus blossevillii*).

However, the following species only have a low potential to pass through the project area during migration or other movements: monarch butterfly and western red bat. The rationale for each species identified in the query is included in Appendix F. Because these species are not expected to occur or may only temporarily pass through the project area, no avoidance and minimization measures are recommended for these species, and they are not discussed further in this report.

The remaining special-status species with potential to occur in the project area are discussed in more detail below. In addition to these special-status wildlife species, other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the project area.

Sensitive Habitats

Aquatic Habitats

Aquatic habitats that occur in the project site include the San Joaquin River which is classified as a perennial drainage.

Perennial Drainage

Perennial drainages are features that may not meet the three-parameter wetland criteria for vegetation, hydrology, and soils but do convey water and exhibit an ordinary high-water mark. Perennial drainages convey water flows throughout the entire year. They typically consist of a channel, bed, and bank and are devoid of wetland vegetation due to the scouring effect of flowing water. Perennial drainages are often bordered by wetland and riparian communities of various compositions and cover depending on flow rates, duration of flows, and soil types.

Approximately 6.39 acres and 1,495 linear feet of the overall 10-acre parcel is inundated by the San Joaquin River. The perennial drainage in the project site has a well-defined bed and bank, with steeply incised banks. The perennial drainage supports hydrophytic vegetation dominated by forested freshwater emergent wetland and exhibits an ordinary high-water mark. Deeper areas of the perennial drainage consist of open water and lack vegetation. Portions of the perennial drainage located along the levees with riprap support limited vegetation. The San Joaquin River is a traditional navigable water of the U.S. and flows directly to the Suisun Bay, San Fransico Bay, and the Pacific Ocean.

Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction activities. Wildlife corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species

extinction; and, (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The San Joaquin River is a migration corridor for a variety of fish species. Upland portions of the project site are not considered wildlife migration corridors as the project site is located on an island in the Delta and does not link areas of suitable wildlife habitat. Although some wildlife may travel through upland areas of project site on a local level, it is not considered a wildlife migration corridor.

Impact Analysis

a) 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?

Less than Significant with Mitigation Incorporated.

Listed and Special-Status Plants

According to the database query, 21 listed and/or special-status plants have the potential to occur on-site or in the vicinity of the project site (CDFW 2025; CNPS 2025). Based on field observations, published information, and literature review, seven special-status plants have the potential to occur within the project site: bristly sedge, woolly rose-mallow, Delta tule pea, Mason's lilaeopsis, Delta mudwort, side-flowering skullcap, and Suisun Marsh aster.

Potentially suitable habitat for bristly sedge, woolly rose-mallow, Delta tule pea, Mason's lilaeopsis, Delta mudwort, side-flowering skullcap, and Suisun Marsh aster is located along the bank of the San Joaquin River within the overall 10-acre parcel. However, the majority of the project site is comprised of ruderal habitat and open water, which does not provide suitable habitat for these species. Impacts to the bank of the San Joaquin River and associated emergent wetland vegetation could occur from installation of the dock gangway landing, which could impact these species if present in the construction area.

Potential indirect impacts to these species during construction could include an accumulation of fugitive dust or debris on leaves which could result in reduced photosynthesis or disrupting potential pollinators by the presence and disturbance of construction equipment or crews. Direct impacts could include removal of individual plants during vegetation clearing, elimination of habitat through crushing due to crews or equipment, disrupted soil quality as a result of spills or erosion, and the establishment of noxious and invasive weed species during construction and operation.

The project applicant plans to seek coverage under the SJMSCP and intends to comply with appropriate mitigation measures for Covered Species as outlined in the SJMSCP. Species-specific measures for Covered Species under the SJMSCP have been incorporated into this document, and additional measures have been incorporated for species not included under the SJMSCP. Implementation of Mitigation Measure BIO-1, which requires that a qualified botanist conduct special-status plant surveys during the appropriate blooming period and is included in Section 5.2.4.29 of the SJMSCP, would reduce potential project-related impacts to bristly sedge, woolly rose-mallow, Delta tule pea, Mason's lilaeopsis, Delta mudwort, side-flowering skullcap, and Suisun Marsh aster to less than significant.

Listed and Special-Status Wildlife

According to the database query, 23 listed and/or special-status wildlife species have the potential to occur on-site or in the vicinity of the project site (CDFW 2025; USFWS 2025a; NOAA 2025). Based on field observations, published information, and literature review, 11 special-status wildlife species have the potential to occur within the project site: steelhead trout, California Central Valley DPS, delta smelt, longfin smelt, San Francisco Bay-Delta DPS, green sturgeon, southern DPS, giant garter snake, northwestern pond turtle, tricolored blackbird, Swainson's hawk, white-tailed kite, California black rail, and song sparrow "Modesto" population.

In addition to these special-status wildlife species, other migratory birds and raptors protected under federal, State, and local laws/policies also have the potential to occur within the project site.

Steelhead Trout, California Central Valley DPS

Central Valley steelhead are not known to spawn in the San Joaquin River, but small populations have been observed in the Stanislaus, Mokelumne, and Calaveras rivers, and other streams previously thought to be devoid of steelhead that are tributary to the San Joaquin River. It is unknown if the steelhead in those rivers are predominantly resident or anadromous, but both are presumably present (NOAA 2014). Adult steelhead that may migrate through the San Joaquin River to reach these systems could be present in the river from August through April and could be impacted by the proposed project during pile driving activities. Juvenile steelhead may also be present in the river while emigrating and could be impacted by the proposed project. Migrating steelhead could likely temporarily avoid the work area during pile driving activities, and the modelled hydroacoustic impact area for fishes greater than two grams such as salmonids would be restricted to the immediate work area, which allows salmonids in the area to utilize deeper waters of the river that are not acoustically impacted by pile driving activities. Steelhead may also avoid the project area completely by traveling through Middle River and Empire Cut to reach the main stem of the San Joaquin River.

Acoustic impacts associated with pile driving activities could potentially injure or kill individual fish if present within the area where acoustic effects to these species may occur. Temporary increases in suspended sediment during pile driving activities could temporarily bury substrates that support benthic macroinvertebrates, which are a food source for salmonids. However, due to the limited duration and extent of project actions, effects on salmonid feeding would be minimal both in extent and duration. Spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to adult steelhead in the vicinity of the work area during construction. Placement of the dock and piles may provide additional habitat for predatory fish species and perching locations for predatory bird species that would potentially negatively affect steelhead populations within the project area. Aquatic vegetation that supports refugia habitat for juvenile steelhead may also be marginally reduced from additional shading effects of the dock after construction is completed (±0.15 acre/6,692 square feet). Upon final construction of the dock, individual fish may avoid areas under the dock, resulting in a potential permanent increased risk of predation through this avoidance behavior (Ono *et al*. 2010).

The SJMSCP does not provide specific measures for special-status fish and relies on measures pertaining to riparian habitat protection to be umbrella protection measures for fish. Applicable measures from Section 5.2.4.31 of the SJMSCP have been incorporated into BIO-2 and additional measures related to dock construction and design have also been included into BIO-2 and BIO-4. With the implementation of

Mitigation Measures BIO-2 and BIO-4, potential impacts to steelhead would be reduced to less than significant.

Delta Smelt

Adult delta smelt migrate upstream between December and January and spawn between December and July (Moyle 2002). Potential construction-related effects on migrating adult delta smelt will largely be avoided by restricting in-water construction activities within the project site to the June 1 through October 31 work window as specified in the Programmatic Biological Opinion for projects expected to have relatively small effects on delta smelt (USFWS 2004). Therefore, migrating adults would not be substantially adversely affected by construction activities.

Potential spawning habitat for delta smelt includes shallow channel edge waters in the Delta and shallow water habitat in the Sacramento River. Construction will occur during a seven-day period sometime between June 1 and October 31 to avoid the spawning season, preferably after August. Therefore, substantial adverse effects on spawning delta smelt during construction would not occur.

Juvenile delta smelt may be subject to disturbance or displacement caused by construction activities that increase noise, turbidity, and suspended sediment. Larvae may be disrupted during summer months as they migrate downstream if they are present upstream of the project area. Incidental take of delta smelt may occur from direct mortality or injury during construction activity, or by the impairment of essential behavior patterns (i.e., feeding, escape from predators). In addition, injury could be caused by toxic substances (i.e., gasoline, lubricants, oil) entering the water. Construction-related effects on juvenile delta smelt will be minimized by restricting in-water construction activities to the seven-day period sometime within the June 1 through October 31 work window. The proposed project would greatly reduce these potential short-term effects by timing construction to periods when delta smelt eggs, larvae, and juveniles are absent from the project area, and adults would be expected to be absent or present only in low numbers (August 1 through October 31).

Placement of the dock and piles within the San Joaquin River could result in long-term effects on delta smelt. Potential long-term effects may include increased turbidity, increased noise associated with use of the dock, reduction of water quality associated with use of the dock, and providing a potential source of additional habitat for predatory fish species and perching locations for predatory bird species. Aquatic vegetation that is used by delta smelt for egg attachment and refugia from predators may be silted over or removed because of the placement of the dock in shallow water habitat that supports suitable aquatic vegetation for this species. In addition, individual fish may avoid areas under the dock, resulting in a potential permanent increased risk of predation through this avoidance behavior (Ono *et al*. 2010).

However, implementation of Mitigation Measures BIO-2 and BIO-4 would minimize the effects associated with construction of the dock by avoiding important migration seasons, minimizing the duration of construction, and incorporating project design measures to minimize temporary and permanent direct effects on fish habitat through construction techniques, best management practices, and dock design. The impact would be less than significant with incorporation of these mitigation measures.

Longfin Smelt

The San Joaquin River within the project area may provide suitable habitat for this species. However, a 12-month review of the species by the USFWS found that longfin smelt are currently rare in the

Sacramento region (50 CFR 17 Docket No. FWS-R8-ES-2008-0045) and the 2020 *Effects Analysis of State Water Project Effects on Longfin Smelt and Delta Smelt* by CDFW found that longfin smelt rarely spawn or occur higher than Rough and Ready Island and Cache Slough or in the Sacramento Deepwater Ship Channel (CDFW 2009). The project area is in between Rough and Ready Island and Cache Slough and may not be suitable for this species.

If present, potential construction-related effects on migrating and spawning adult longfin smelt will be avoided by restricting in-water construction activities within the project area to the June 1 through October 31 work window. However, juvenile longfin smelt may be impacted by the proposed project if present during pile driving activities while emigrating to the ocean. Juveniles could likely temporarily avoid the work area during pile driving activities and the modelled hydroacoustic impact area for fishes less than two grams such as smelt is restricted to ten meters of the work area which allows any fish in the area to utilize deeper waters of the river that are not acoustically impacted by pile driving activities. Longfin smelt may also avoid the project area completely by traveling through Middle River and Empire Cut to reach the main stem of the San Joaquin River.

Acoustic impacts associated with pile driving activities could potentially injure or kill individual fish if they were present within the area where acoustic effects to these species may occur. Temporary increases in suspended sediment during pile driving activities could temporarily bury substrates that support benthic macroinvertebrates, which are a food source for salmonids. However, due to the limited duration and extent of project actions, effects on salmonid feeding would be minimal both in extent and duration. In addition, spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to adult steelhead in the vicinity of the work area during construction. Placement of the dock and piles may provide additional habitat for predatory fish species and perching locations for predatory bird species that would potentially negatively affect longfin smelt populations within the project area. Aquatic vegetation that supports refugia habitat for juvenile longfin smelt may also be marginally reduced from additional shading effects of the dock after construction is completed (approximately 0.15 acre or 6,692 square feet). Upon final construction of the dock, individual fish may avoid areas under the dock, resulting in a potential permanent increased risk of predation through this avoidance behavior (Ono *et al*. 2010).

With the implementation of Mitigation Measures BIO-2 and BIO-4, potential impacts to longfin smelt would be reduced to less than significant.

Green Sturgeon

Green sturgeon are not known to migrate through the San Joaquin River to reach spawning grounds and migrating adults and spawning adults will not be impacted by the proposed project. However, juvenile green sturgeon have been observed in the San Joaquin River, especially near the Delta, and may be impacted by construction if present.

If juveniles are present during construction activities, proposed actions associated with placement of support piles may temporarily increase sediment, silt, and pollutants, which could adversely affect rearing habitat or reduce food production, such as aquatic invertebrates, for juvenile green sturgeon. Pile-driving activities are expected to be completed within seven days, so these effects are expected to be minimal and of limited duration. If juvenile green sturgeon use nearshore areas of the river as foraging habitat or refuge from predators, they would be expected to move to deep water habitat during temporary pile driving activities. However, this species primarily uses deep water habitats and

not shallow water, such as in the area of the dock footprint. Spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to juvenile sturgeon in the vicinity of the project area during construction. Restricting in-water activities to the seven-day period within the June 1 through October 31 work window and implementing the avoidance and minimization measures described under Mitigation Measures BIO-2 and BIO-4 would minimize, but not completely avoid, potential construction-related effects on juvenile green sturgeon if present.

With the implementation of Mitigation Measures BIO-2 and BIO-4, potential impacts to green sturgeon would be reduced to less than significant.

Giant Garter Snake

The majority of the proposed project is located in ruderal or open water habitats which do not provide suitable habitat for this species. However, minimal impacts to the bank of the San Joaquin River and associated emergent wetland vegetation are expected to occur with the construction of the dock gangway landing and could impact this species if present in the construction area. Because construction is proposed to occur during this species' active season, giant garter snakes (GGS) that may be present during construction would be expected to move away from the disturbance and avoid the area.

The modelled hydroacoustic impact area for fishes greater than two grams can also be applied to GGS and is restricted to the immediate work area which allows any GGS in the area to utilize other portions of the river that are not acoustically impacted by pile driving activities. Vibration from pile driving may also temporarily affect upland habitats adjacent to the dock which contains riprap GGS could potentially be present in. However, these vibrations would be minimal on land and no adverse effects to GGS are anticipated as a result of upland vibration.

Spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to GGS in the vicinity of the project area during construction. Other effects could occur through ground disturbance or vehicle/equipment injury or death to individuals during construction. Individual GGS that may be on the roadway could be struck by vehicles or equipment. However, vehicle/equipment use on the levee road would not be expected to be more impactful than current vehicle use on the levee road. Vehicles and equipment delivering dock materials would be expected to drive slowly and park to deliver the material and would not be driving fast through the project area.

With the implementation of Mitigation Measure BIO-3, which identifies measures to minimize impacts to GGS and is included as Section 5.2.4.8 of the SJMSCP, and BIO-4, which is an additional project-specific measure pertaining to water quality, potential impacts to GGS would be reduced to less than significant.

Northwestern Pond Turtle

Potential project-related impacts to northwestern pond turtle are expected to be similar to what is described above for GGS. With the implementation of Mitigation Measure BIO-4 and Mitigation Measure BIO-5, which identifies measures to minimize impacts to northwestern pond turtle and is included as Section5.2.4.10 of the SJMSCP, potential impacts to northwestern pond turtle are expected to be reduced to less than significant.

Tricolored Blackbird

Proposed construction activities are not anticipated to impact foraging tricolored blackbirds and the foraging habitat within the project site is of low quality and is not a typical foraging habitat type for this species. Individual birds foraging or otherwise occurring within the project site could readily avoid construction areas or contact with construction equipment or personnel. Therefore, no impacts to individual tricolored blackbirds are anticipated unless this species nests on the site. In the unlikely event this species nests onsite, impacts could occur through nest disturbance, leading to the destruction of eggs or nestlings. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code.

Ground-disturbing and other development activities including grading, vegetation clearing, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, Mitigation Measure BIO-6 from the SJMSCP would be implemented to minimize impacts to nesting birds. With the implementation of Mitigation Measure BIO-6, potential impacts to tricolored blackbird would be reduced to less than significant.

Swainson's Hawk

Suitable nesting and foraging habitat for this species are not present in the proposed project area but are present in the surrounding vicinity. If this species were to nest in an off-site tree, the nest may be close enough to the project area to still be impacted by the project. There are several trees that could provide nesting habitat within a 0.5-mile radius of the project area. The proposed project has the potential for adverse effects on Swainson’s hawk through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the vicinity of the project. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Displacement of non-breeding adults would not have a significant impact. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code and have a significant impact.

Ground-disturbing and other development activities including grading, vegetation clearing, and construction could impact nesting Swainson’s hawks if these activities occur during the nesting season (generally March 1 to September 30). To avoid impacts to Swainson’s hawks, all ground disturbing activity shall be completed between October 1 and February 28, if feasible. If construction cannot occur outside of the nesting season, Mitigation Measure BIO-6 would be implemented to minimize impacts to nesting birds. With the implementation of Mitigation Measure BIO-6, potential impacts to Swainson’s hawk would be reduced to less than significant.

White-Tailed Kite

Potential project-related impacts to white-tailed kite are expected to be similar to what is described above for Swainson’s hawk. With the implementation of Mitigation Measure BIO-6, potential impacts to white-tailed kite would be reduced to less than significant.

California Black Rail

The proposed project will not impact marsh habitat and is expected to have minimal impacts along the bank of the San Joaquin River where potentially suitable habitat for this species is located. The majority of the project site is comprised of ruderal habitat which does not provide suitable habitat for this species. Minimal impacts to the bank of the San Joaquin River and associated emergent wetland vegetation are expected to occur with the construction of the dock gangway landing and could impact this species if present in the construction area. If this species nests along the bank of the river or in the vicinity of the construction area, it could also be impacted by construction activities.

The proposed project has the potential for adverse effects to California black rail through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the project site or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code.

Ground-disturbing and other development activities including grading, vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, Mitigation Measure BIO-6 would be implemented to minimize impacts to nesting birds. With the implementation of Mitigation Measure BIO-6, potential impacts to burrowing owl would be reduced to less than significant.

Song Sparrow "Modesto" Population

The proposed project has the potential for adverse effects to song sparrow "Modesto" population through nest disturbance, leading to the destruction of eggs or nestlings if this species nests in the project site or the immediate surroundings. Non-breeding adults could readily avoid contact with construction equipment or personnel by moving out of the construction area. Eggs and young still dependent on the nest would be susceptible to injury or mortality through physical contact or through nest abandonment caused by the displacement of adults. Needless destruction of eggs or young would be a violation of the Fish and Game Code.

Ground-disturbing and other development activities including grading, vegetation clearing, tree removal/trim, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, Mitigation Measure BIO-6 would be implemented to minimize impacts to nesting birds. With the implementation of Mitigation Measure BIO-6, potential impacts to white-tailed kite would be reduced to less than significant.

Other Nesting Migratory Birds and Raptors

Migratory birds are protected under the Migratory Birds Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 Code of Federal Regulations (CFR) 10; this also includes feathers or other parts, nests, eggs, or

products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

A number of migratory birds and raptors have the potential to nest in or adjacent to the project site. Suitable nest locations within and adjacent to the project site include trees, grass, shrubs, artificial structures, and bare ground. Ground-disturbing and other development activities including grading, vegetation clearing, and construction could impact nesting birds if these activities occur during the nesting season (generally February 1 to August 31). To avoid impacts to nesting birds, all ground disturbing activity shall be completed between September 1 and January 31, if feasible. If construction cannot occur outside of the nesting season, Mitigation Measure BIO-6 would be implemented to minimize impacts to nesting birds. With the implementation of Mitigation Measure BIO-6, potential impacts to nesting birds would be reduced to less than significant.

Impact Conclusion

With implementation of Mitigation Measure BIO-1 through BIO-6, impacts to special-status plant and wildlife species would be less than significant.

Mitigation Measure BIO-1: Special-Status Plant Survey

The following mitigation measure is from Section 5.2.4.29 of the SJMSCP to reduce or avoid potential project-related impacts to SJMSCP Covered Plant Species:

A qualified botanist shall conduct a special-status plant survey within the appropriate identification (blooming) period prior to the initiation of any ground-disturbing activities. One survey conducted in April will satisfy the blooming period for Delta mudwort and can serve as an early season survey for other plant species, and a second survey in July will satisfy the blooming periods for the remainder of the special-status plants with potential to occur in the project site.

For all SJMSCP Covered Plants, if approved by the Joint Power's Authority (JPA) with the concurrence of the Permitting Agencies' representatives on the Technical Advisory Committee (TAC), the timing of preconstruction surveys for SJMSCP Covered Plants may be modified (i.e., the length of survey windows may be reduced) on a case-by-case based upon the TAC's assessment of the season's weather patterns (which may have affected blooming cycles) and the likelihood of species occurrences on a particular site given the specifics of the site's topography, existing land uses, aspect, slope, presence of competing vegetation, soils or other related factors which may have modified the blooming cycle for the species.

If special-status plants are observed within the project site, the following mitigation measures shall be required:

- *For widely distributed plant species*: Mason's lilaeopsis, woolly rose-mallow, Suisun marsh aster, Delta tule pea, Delta mudwort:

Attempt acquisition. If the plant population is considered healthy by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC, then the parcel owner shall be approached to consider selling a conservation easement including a buffer area as prescribed in Section 5.4.4 of the SJMSCP and sufficient to maintain the hydrological needs of the plants. Alternatively, the landowner may be approached to consider land dedication in-lieu of paying SJMSCP development fees. If the project proponent is not agreeable to acquisition, then compensation shall be as prescribed in SJMSCP Section 5.3.1.

- *B. For narrowly distributed plant species*: bristly sedge and side-flowering skullcap:

  Attempt acquisition. If the plant population is considered healthy by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC , then the parcel owner shall be approached to consider selling a conservation easement including a buffer area a as prescribed in Section 5.4.4 of the SJMSCP and sufficient to maintain the hydrological and ecological (e.g., account for weed control, buffers, inclusion of pollinators) needs of the plants. Alternatively, the landowner may be approached to consider land dedication in-lieu of paying SJMSCP development fees.

  Consultation. If the landowner rejects acquisition of the population, then the JPA shall, with the concurrence of the Permitting Agencies' representatives on the TAC, determine the appropriate mitigation measures (e.g., seed collection) for each plant population based upon the species type, relative health and abundance.

Mitigation Measure BIO-2: Special-Status Fish

The SJMSCP does not provide specific measures for special-status fish and relies on measures pertaining to riparian habitat protection to be umbrella protection measures for fish. The following measures are from Section 5.2.4.31 of the SJMSCP and would reduce or avoid potential project-related impacts to special-status fish:

- Require appropriate erosion control measures (e.g., hay bales, filter fences, vegetative buffer strips or other accepted equivalents) to reduce siltation and contaminated runoff from project sites.

- Retain emergent (rising out of water) and submergent (covered by water) vegetation.

Additional measures have also been provided by the project applicant regarding dock construction and design. These additional measures will also reduce or avoid potential project-related impacts to special-status fish. Dock installation shall occur for a seven-day period sometime within the June 1 and October 31 work window during daylight hours (one hour after sunrise to no later than sunset) to minimize the potential impacts to special-status fish species during construction. This window will avoid sensitive periods such as migration or spawning periods of special-status fish. The dock shall be pre-manufactured off-site to reduce the amount of installation time on the water and to minimize potential effects on water quality. The following dock design features shall be incorporated into the project design to minimize impacts to special-status fish:

- The dock will be placed in sufficiently deep water to minimize or preclude dredging, avoid groundings, and avoid displacement of submerged aquatic vegetation.

- Overwater structures will use the fewest number of piles as practicable (15) for necessary support of the structure to minimize pile shading, substrate impacts, and impacts to water circulation.

- Pilings will be spaced at least 10 feet apart at the center to minimize shading.

- If cutting, boring, or touch-up preservation applications must be performed over the water, then tarps, barriers, plastic tubs, or similar devices will be used to capture debris, spills, or drips.

Additionally, the following construction Best Management Practices (BMPs) shall be implemented during pile driving activities to minimize acoustic effects during dock installation:

- The drop hammer will be 3,000 pounds or less.

- No single strike will exceed 191 decibels (dB) for an estimated distance of 10 meters.

- The minimum number of piles will be used (15) to safely support the dock structure while minimizing the duration of the acoustic effects associated with pile driving.

- Pile driving will utilize curtains to mitigate negative impacts to water quality.

- Pile driving will utilize wooden cushion blocks to minimize acoustic impacts.

- Pile driving will occur only during daylight hours and initially will occur at low energy levels and reduced impact frequency. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved.

Mitigation Measure BIO-3: Giant Garter Snake

The following mitigation measure is from Section 5.2.4.8 of the SJMSCP to reduce or avoid potential project-related impacts to giant garter snake:

For areas with potential giant garter snake habitat, the following is required.

- Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2nd and April 30th, the JPA, with the concurrence of the Permitting Agencies' representatives on the TAC, shall determine if additional measures are necessary to minimize and avoid take.

- Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary.

- Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance.

- Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.

- In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site:
    - Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;
    - Restrict working areas, spoils and equipment storage and other project activities to areas outside of marshes, wetlands and ditches; and
    - Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.
- Pre-construction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.
- Other provisions of the USFWS Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat shall be implemented (excluding programmatic mitigation ratios which are superseded by the SJMSCP's mitigation ratios).

Mitigation Measure BIO-4: Avoid Impacts to Water Quality

To avoid impacts to water quality during construction activities, the following construction BMPs shall be implemented during handling of construction materials, debris, and waste:

- Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted.
- All debris and waste will be picked up daily. All workers shall not dump any litter or construction debris within the river or where it may pass into the river.
- Water containing mud, silt, or other potential pollutants from equipment washing or other activities, shall not be allowed to enter the river or placed in locations that may be subjected to high storm flows.
- Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life, wildlife, or riparian habitat shall be prevented from contaminating the soil and/or entering the river.
- Hazardous materials such as fuels, oils, solvents, etc., shall be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitat. All fueling and maintenance of vehicles and other equipment shall occur at least 200 feet from any aquatic habitat.

In the event of accidental spills or emergencies involving potentially hazardous materials, the following measures shall be taken:

- If cutting, boring, or touch-up preservation applications must be performed over the water during installation of the dock and/or gangway, then tarps, barriers, plastic tubs, or similar devices shall be used to capture debris or accidental spills or drips.

- Absorbent materials designated for spill containment and cleanup activities shall be on-site during all stages of construction for use in an accidental spill. Before entering the work site, all field personnel shall be aware of the location of spill kits and trained in their appropriate use.

- In the event of a hazardous materials spill into the river, the California Office of Emergency Services State Warning Center shall be immediately notified by calling 1-800-852-7550 and written notification shall be immediately provided to the California Department of Fish and Wildlife (CDFW) by email at R31600Program@wildlife.ca.gov. All reasonable measures shall be taken to document the extent of the impacts and affected areas, including photographic documentation of affected areas, or any injured fish or wildlife.

Mitigation Measure BIO-5: Northwestern Pond Turtles

The following mitigation measure is from Section 5.2.4.10 of the SJMSCP to reduce or avoid potential project-related impacts to northwestern pond turtle:

When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall [be] indicated by temporary fencing if construction has or will begin before nesting periods are ended (the period from egg laying to emergence of hatchlings is normally April to November).

Mitigation Measure BIO-6: Special-Status Birds, Migratory Birds, and Raptors

The SJMSCP includes measures for nesting birds and general compliance with the Migratory Bird Treaty Act (MBTA); these measures are grouped into three categories: General, Habitat Protection, and Stressor Management and are listed below. These measures will reduce or avoid potential project-related impacts on special-status birds, migratory birds, and raptors.

- General Measures

    - A qualified biologist shall educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife. This shall be conducted in the form of an environmental awareness training and may be combined with other trainings, as applicable.

    - Prior to removal of an inactive nest, a qualified biologist shall ensure that the nest is not protected under the Endangered Species Act or the Bald and Golden Eagle Protection Act (BGEPA). Nests protected under ESA or BGEPA cannot be removed without a valid permit.

    - Do not collect birds (live or dead) or their parts (e.g., feathers) or nests without a valid permit.

- Provide enclosed solid waste receptacles at all project areas. Non-hazardous solid waste (trash) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor.

- Report any incidental take of a migratory bird, to the local USFWS or CDFW Service Office.

- Habitat Protection

  - Minimize project creep by clearly delineating and maintaining project boundaries (including staging areas).

  - Consult all local, State, and Federal regulations for the development of an appropriate buffer distance between the development site and any wetland or waterway, as applicable.

  - Maximize the use of disturbed land for all project activities (i.e., siting, lay-down areas, and construction).

  - Implement standard soil erosion and dust control measures. For example:

    - Establish vegetation cover to stabilize soil.

    - Use erosion blankets to prevent soil loss.

    - Water bare soil to prevent wind erosion and dust issues.

- Stressor Management

  - Schedule all vegetation removal, trimming, and grading of vegetated areas outside of the peak bird breeding season (February 1 to August 31) to the maximum extent practicable. Use available resources, such as internet-based tools to identify peak breeding months for local bird species; or contact local Service Migratory Bird Program Office for breeding bird information.

  - When project activities cannot occur outside the bird nesting season (February 1 to August 31), conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact and buffer any nesting locations found during surveys.

    - Generally, the surveys should be conducted no more than five days prior to the scheduled activity.

    - Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance.

    - If active nests or breeding behavior (e.g., courtship, nest building, territorial defense, etc.) are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If the activity must occur, establish

a buffer zone (100-feet minimum) around the nest and no activities will occur within that buffer zone until nestlings have fledged and left the nest area. The dimension of the buffer zone may need to be expanded depending on the proposed activity, habitat type, and species present and should be coordinated with the biologist on site and/or SJMSCP.

- When establishing the buffer zone, construct a barrier (e.g., plastic fencing) to protect the area. If the fence is knocked down or destroyed, work will suspend wholly, or in part, until the fence is satisfactorily repaired.

- When establishing a buffer zone, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs. Prior to vegetation clearing, the monitor will ensure that the limits of construction have been properly staked and are readily identifiable. Any associated project activities that are inconsistent with the applicable conservation measures, and activities that may result in the 'take of migratory birds' will be immediately halted and reported to the SJMSCP and the appropriate agency office within 24 hours.

- If establishing a buffer zone of a minimum of 100-feet is not feasible, contact the appropriate agency office for guidance to minimize impacts to migratory birds associated with the proposed project or removal of an active nest. Active nests may only be removed if you receive a permit from your local Migratory Bird Permit Office. A permit may authorize active nest removal by a qualified biologist with bird handling experience or by a permitted bird rehabilitator.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated. Approximately 6.39 acres and 1,495 linear feet of the overall 10-acre parcel is inundated by the San Joaquin River, a perennial drainage. A total of approximately 0.15 acre (6,692 square feet) of the San Joaquin River would be permanently impacted by installation of the dock and associated gangway. With implementation of Mitigation Measure BIO-7, the impact to perennial drainage habitat would be less than significant.

Mitigation Measure BIO-7: Aquatic Resources Delineation and Regulatory Permitting

A formal aquatic resources delineation has been conducted for the project site and shall be submitted to the U.S. Army Corps of Engineers (USACE) for verification. Before the initiation of any construction activities that could result in impacts to potentially regulated aquatic features, the extent of the features within the project site shall be verified by the USACE. The project applicant shall obtain 404 and 401 permits for any impacts to Waters of the U.S. A permit under Section 10 of the Rivers and Harbors Act for placement of a structure within a navigable water shall also be required. Mitigation measures and any other requirements contained in these permits shall be implemented.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated. Approximately 6.39 acres and 1,495 linear feet of the overall 10-acre parcel is inundated by the San Joaquin River. A total of approximately 0.15 acre (6,692 square feet) of the San Joaquin River would be permanently impacted by installation of the dock and associated gangway. With implementation of Mitigation Measure BIO-7, the impact would be less than significant.

d) 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?

Less than Significant with Mitigation Incorporated. Upland areas of the proposed project would not interfere with the movement of any native species or with established native resident or migratory wildlife corridors. Approximately 6.39 acres and 1,495 linear feet of the overall 10-acre parcel is inundated by the San Joaquin River. The proposed project would install a dock and gangway, which would total approximately 0.15 acre (6,692 square feet) in the San Joaquin River. Within the overall parcel, the San Joaquin River is a migratory corridor for several species of common and special-status fish species. However, with the implementation of Mitigation Measures BIO-2 and BIO-4, the impact to migrating fish species would be reduced to less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than significant impact. The County General Plan contains several goals and policies aimed at protecting natural resources within the County. As discussed in questions a) through d) above, the proposed project would implement Mitigation Measures BIO-1 through BIO-7 to avoid impacts to special-status species, perennial drainage habitat, and wildlife movement. The proposed project would not require the removal of trees; therefore, the project would not conflict with the County's Tree Protection Ordinance (Section 9-400.80 of the County Development Title). Additionally, no riparian habitat was mapped on the project site; therefore, the project would not conflict with the County's Riparian Habitat Ordinance (Section 9-707.030 of the County Development Title). Therefore, the project would not conflict with local policies or ordinances protecting biological resources, and the impact would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant with Mitigation Incorporated. The proposed project would be subject to the SJMSCP, and the project applicant plans to seek coverage to mitigate project impacts under this plan. The SJMSCP, in accordance with Section 10(a)(1)(B) of the FESA and Section 2081(b), Incidental Take Permits, of the CESA, provides compensation for the conversion of open space to non-open space uses which affect the species covered by the SJMSCP. The proposed project would be required to comply with the conditions of the SJMSCP, consisting of the implementation of applicable avoidance and minimization measures and payment of land conversion fees. Therefore, with the implementation of Mitigation Measures BIO-1 through BIO-7, the project would not result in conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The impact would be less than significant with mitigation incorporated.

V. CULTURAL RESOURCES

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

The discussion below is based on information contained in Chapter 4.E, Cultural and Paleontological Resources, of the Draft EIR prepared for the San Joaquin County 2035 General Plan (County 2014).

Environmental Setting

Data obtained from the Central California Information Center (CCIC) indicates that as of November 2013 (CCIC File No. 8773L), approximately 108,688 acres (12 percent of the County) have been surveyed for cultural resources in the County. It is likely that many prehistoric sites, historic era remains, and paleontological resources might be found on the surface, as well as in subsurface contexts, throughout the County, particularly but not exclusively in riparian (streamside or riverside) settings and on the elevated landforms flanking the County (County 2014).

According to the CCIC, as of the time the Draft EIR was prepared, San Joaquin County contained 5,152 documented historical resources, including 271 prehistoric archaeological sites, 313 historic-era archaeological sites, 15 multi-component archaeological sites, and 4,553 historic-era buildings or structures that need to be preserved to share significance of cultural resources through interpretive education opportunities with the community and visitors (County 2014).

In April 2012, the Office of Historic Preservation (OHP) Historic Property Data File for San Joaquin County listed 3,490 evaluated cultural resources. Of these, 34 are of national importance and are listed on the National Register of Historic Places (NRHP), 381 are of State importance and are listed on the California Register of Historical Resources (CRHR), 26 are listed as California Historical Landmarks (CHL), and nine as California Points of Historical Interest (CPHI), which provides an opportunity to support a cultural resources program or larger preservation effort within the County (County 2014).

In addition to the many recorded and evaluated historic resources in the County, there may also exist many previously unknown historic buildings or structures, as only a small percentage of the County has been systematically surveyed and evaluated for the existence of such resources. For example, numerous buildings or structures in the County that are at least 50 years old (the minimum age threshold for eligibility for listing in the NRHP or CRHR) have never been professionally surveyed or evaluated for their potential historical significance, especially in rural areas outside of the incorporated city limits (County 2014).

Many archaeological sites in the County have been destroyed by construction, agriculture, and river erosion. Remaining archaeological sites in the County represent about five percent of the original inventory and are of exceptional importance for the study of regional prehistory. Significant, and/or important cultural resources, may exist in the subsurface of farmland or other highly modified localities, such as within cities. For example, archaeological investigations within the City of Stockton demonstrated that significant cultural remains can be found below the surface of "disturbed," cultivated, or industrialized areas in the County (County 2014).

Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant with Mitigation Incorporated. The proposed project is located on a 10-acre parcel that appears to be a graded area that was historically created with dredging materials prior to 1937. The project site consists entirely of imported fill soil situated above the San Joaquin River. The project site contains no buildings or structures that could be eligible for listing in the CRHR or NRHP. As outlined in the letter from the State Historic Preservation Officer (SHPO) dated May 14, 2025, and included as Appendix G to this IS/MND, USACE initiated consultation in accordance with Section 106 of the National Historic Preservation Act (NHPA). USACE completed a records search and initiated consultation with Indian tribes and other consulting parties listed on the NAHC contact list on March 19, 2024. To date, no consulting Indian tribe or additional consulting party has provided information regarding potential historic properties of religious and cultural tribal significance within the project. No historic properties have been identified within the project site and therefore, no historic properties would be affected.

As the project site was created from dredging materials and fill, the proposed project is not anticipated to cause substantial adverse changes in the significance of historical resources or archeological resources in the project area. However, in the unlikely event that cultural resources are encountered during construction, Mitigation Measure CUL-1 would be implemented to address potential impacts on cultural resources in the project area. With implementation of Mitigation Measure CUL-1, the impact would be less than significant for questions a) and b).

Mitigation Measure CUL-1: Accidental Discovery of Cultural Resources

In the event that cultural resources are exposed during ground-disturbing activities, construction activities shall be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features, including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, the retained archaeologist, who meets the Secretary of the Interior's *Professional Qualifications Standards*, shall assess the resource, and provide appropriate management recommendations. If the discovery proves to be California Register of Historical Resources (CRHR)- or National Register of Historical Places (NRHP)-eligible, additional documentation and analysis, such as data recovery excavation, shall be warranted.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated. The proposed project is not anticipated to disturb human remains. However, in the unlikely event that human remains are encountered during construction, Mitigation Measure CUL-2, which outlines the required steps to be taken in the event human remains are encountered, would be implemented. With implementation of Mitigation Measure CUL-2, the impact would be less than significant.

Mitigation Measure CUL-2: Accidental Discovery of Human Remains

Although considered highly unlikely, there is always the possibility that ground-disturbing activities during construction may uncover previously unknown human remains. In the event of an accidental discovery or recognition of any human remains, Public Resources Code (PRC) Section 5097.98 shall be followed. Once project-related earthmoving begins and if there is a discovery or recognition of human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the specific location, or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or

2. Where the following conditions occur, the landowner or their authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the project area in a location not subject to further subsurface disturbance:

    - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission;
    - The descendent identified fails to make a recommendation; or,
    - The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

All treatment recommendations made by the Tribe and other cultural resources specialists shall be documented in the confidential portion of the project record. Work in the area(s) of the cultural find shall only proceed after authorization from the lead agency in coordination with the Tribe.

VI. ENERGY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Environmental Setting

California's electricity needs are satisfied by a variety of entities, including investor-owned utilities, publicly owned utilities, electric service providers and community choice aggregators. In 2020, the California power mix totaled 272,576 gigawatt hours (GWh). In-state generation accounted for 51 percent of the state's power mix. The remaining electricity came from out-of-state imports (CEC 2021a). Table 7, *California Electricity Sources 2020*, provides a summary of California's electricity sources as of 2020.

Table 7
CALIFORNIA ELECTRICITY SOURCES 2020

Fuel Type	Percent of California Power
Coal	2.74
Large Hydro	12.21
Natural Gas	37.06
Nuclear	9.33
Oil	0.01
Other (Petroleum Coke/Waste Heat)	0.19
Renewables (Excluding Large Hydro)	33.09
Unspecified	5.36

Source: CEC 2021a

Natural gas provides the largest portion of the total in-state capacity and electricity generation in California, with nearly 45 percent of the natural gas burned in California used for electricity generation in a typical year. Much of the remainder is consumed in the residential, industrial, and commercial sectors for uses such as cooking, space heating, and as an alternative transportation fuel. In 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet per year (bcf/year), up from 2,196 bcf/year in 2010 (CEC 2021b).

Transportation accounts for a major portion of California's energy budget. Automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil. Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being

consumed by light-duty cars, pickup trucks, and sport utility vehicles (SUVs). In 2015, 15.1 billion gallons of gasoline were sold in California (CEC 2021c). Diesel fuel is the second most consumed fuel in California, used by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats, and farm and construction equipment. In 2015, 4.2-billion gallons of diesel were sold in California (CEC 2021d).

Impact Analysis

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact.

Construction

Energy consumed for proposed project construction would primarily consist of transportation fuels in the form of diesel and gasoline. Fuel consumption would result from the use of on-road and off-highway trucks for the transportation of construction materials, construction worker vehicles traveling to and from the proposed project site, and the use of off-road construction equipment. While construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Additionally, the project would be required to comply with State idling rules: commercial diesel vehicles- 13 CCR Chapter 10 Section 2485; off road diesel vehicles- 13 CCR Chapter 9 Article 4.8 Section 2449, resulting in reduced transportation fuels.

Operation

During long-term operation of the project, energy would be consumed in the form of diesel and gasoline used by vehicles, water taxis, and boats traveling to and from the project site; building heating and cooling; and electricity used to power the buildings. Operational energy demands were estimated to be 121,867 kWh per year, based on CalEEMod defaults a. As outlined in Section 5.III, Air Quality, operational energy demands, would not exceed SJVAPCD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$.

Energy use and GHG emissions are closely related. As discussed in Section 5.VIII, Greenhouse Gas Emissions, the project GHG emissions would not exceed the adjusted CAPCOA threshold.

Impact Conclusion

Based on the above analysis, construction and operation of the proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project operation. Therefore, the impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. See the discussion under question a) above. The proposed project would not result in a substantial new demand for energy resources nor conflict with or obstruct any State or local plan for renewable energy or energy efficiency. Therefore, the impact would be less than significant.

VII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☒	☐	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

San Joaquin County is located in the San Joaquin Valley, which comprises the southernmost portion of the Great Valley Geomorphic Province of California. The Great Valley geomorphic province is characterized by a long alluvial plain that extends approximately 400 miles through central California. The San Joaquin Valley is drained by the San Joaquin River, which has been depositing sediments in the valley for about 160 million years (County 2014).

The NRCS mapped one soil unit occurring within the project site: Ryde clay loam, partially drained, 0 to 2 percent slopes, MLRA 16. This soil unit is comprised of herbaceous organic material derived from reeds

and tules, and fine-loamy alluvium derived from mixed rock sources. It is typical of floodplains and deltas. A general soil profile is clay loam from 0 to 24 inches, mucky clay loam from 24 to 32 inches, and stratified muck to silty clay loam from 32 to 79 inches. It is very poorly drained, has a rare frequency of flooding, and no frequency of ponding. This soil unit is considered hydric (USDA 2025).

Geologic Hazards

Expansive Soils

Expansive soils are characterized by their potential "shrink-swell" behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. Clay minerals such as smectite, bentonite, montmorillonite, beidellite, vermiculite and others are known to expand with changes in moisture content. According to the soil survey data for San Joaquin County, close to half of the upper five feet of soils throughout the County have a low shrink-swell potential, a lesser portion is considered to have a moderate potential, and about an eighth of the area (primarily in the southwestern end of the County) has been mapped with a high potential (County 2014).

Soil Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind, and underground water. Excessive soil erosion can eventually lead to damage to building foundations and roadways. Areas that are susceptible to erosion are often those that become exposed during the construction phase of development when existing cover is removed, or earthwork activities disturb sub-grade areas (County 2014).

Settlement

Settlement can occur from immediate settlement, consolidation, shrinkage of expansive soil, and liquefaction. Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement. Subsidence can result in reduced storage capacity of groundwater aquifers. Subsidence within the County is usually the result of pumping groundwater or oxidation of peat in the Delta (County 2014).

Landslides and Slope Failure

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, either triggered by static (i.e., gravity) or dynamic (i.e., earthquake) forces. Steep slopes in the county are relatively limited and are primarily found in the southwestern portion of the County within the Coastal Range. In addition, there are minor slopes, in terms of vertical height, which are susceptible to slope instability in various levees located throughout the Delta area (County 2014).

Seismic Hazards

Seismic Activity

The County is located in a region that lies between two areas of seismic activity. The active faults associated with the San Andreas Fault System of the greater San Francisco Bay Area lie west of the County line, with the Marsh Creek-Greenville active fault located immediately west of the southern tip

of the County. To the east lies a regional shear zone associated with the Sierra Nevada foothills known as the Foothills Fault System. Other active faults associated with the San Andreas Fault System include the Concord, Calaveras, Hayward, and the San Andreas fault. There are no active faults located within San Joaquin County (County 2014).

Liquefaction

Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits (County 2014).

Impact Analysis

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

    i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

Less than Significant Impact. The County is located in a region that lies between two areas of seismic activity. The active faults associated with the San Andreas Fault System of the greater San Francisco Bay Area lie west of the County line, with the Marsh Creek-Greenville active fault located immediately west of the southern tip of the County. To the east lies a regional shear zone associated with the Sierra Nevada foothills known as the Foothills Fault System. Other active faults associated with the San Andreas Fault System include the Concord, Calaveras, Hayward, and the San Andreas fault. There are no active faults located within San Joaquin County (County 2014). According to the DOC Earthquake Hazards Zone Application (EQ Zapp) Map, there are no known active faults crossing the project site, and the site is not located within an Alquist Priolo Fault Zone (DOC 2025b). Therefore, the risk of ground rupture as a result of proposed project activities would be unlikely, and the impact would be less than significant.

    ii. Strong seismic ground shaking?

Less than Significant Impact. The project site may be subject to ground shaking from earthquakes occurring outside the County. However, the potential for seismic ground shaking in the project area would be considered low, as stated under question a.i) above. The proposed project would be required to comply with the provisions of the California Building Code (CBC) and the County's Building Regulations (Title 8 of the San Joaquin Ordinance Code), which would increase the stability of the proposed structures and their ability to withstand potential occurrences of strong seismic ground shaking. Therefore, with adherence to existing building regulations, the impact would be less than significant.

    iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction generally occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong seismic ground shaking. Under certain

circumstances, seismic ground shaking can temporarily transform an otherwise solid, granular material to a fluid state. Liquefaction is most often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. The project site is not located within a mapped liquefaction zone (DOC 2025b). Therefore, the risk of seismic-related ground failure, including liquefaction, would be unlikely, and the impact would be less than significant.

iv. Landslides?

Less than Significant Impact. Terrain in the project site is relatively flat, with an elevation ranging from approximately six to 12 feet amsl. Due to the relatively flat topography and lack of steep slopes on the project site, landslides are unlikely to occur on the project site or in the immediate vicinity. As noted in question a.i), there are no known active faults crossing the project site and the site is not located within an Alquist Priolo Fault Zone. Additionally, the project site is not located within a mapped landslide zone (DOC 2025b). Therefore, there would be little potential for seismically induced landslides, and the impact would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Areas that are susceptible to erosion are often those that become exposed during the construction phase of development when existing cover is removed, or earthwork activities disturb sub-grade areas (County 2014). Construction activities that require more than one acre of ground disturbance are regulated by the CVRWQCB and are subject to the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, including preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) during construction. The SWPPP must include details of how the sediment and erosion control best management practices (BMPs) would be implemented.

The project site is relatively flat and lacks steep slopes. As the proposed project would disturb greater than once acre, the proposed project would be subject to NPDES requirements and would be required to prepare and implement a SWPPP including BMPs to reduce soil erosion during construction activities. Additionally, the proposed project would be required to adhere to the provisions of the County Development Title regulating construction activities, including Chapter 9-812, Grading and Drainage Permits, which would require the project applicant to obtain a grading permit prior to construction to protect against soil loss and pollution of watercourses (County 2025b). Therefore, with the required compliance with existing NPDES and County regulations, construction of the proposed project would not result in substantial soil erosion or the loss of topsoil, and the impact would be less than significant.

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

Less than Significant Impact. As noted under question a.i), a.iii), and a.iv), impacts related to geologic hazards, including earthquakes, liquefaction, and landslides would be less than significant for the proposed project. Construction of the proposed project would require minor ground disturbance and grading. Although the project site may be subject to ground shaking and secondary seismic activities from earthquakes occurring outside the County, development of the proposed project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Additionally, the proposed project would be required to comply with the provisions of the CBC and the County's Building

Regulations (Title 8 of the San Joaquin Ordinance Code), which would minimize potential adverse effects in the event of a geologic unit becoming unstable. Therefore, the impact would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. According to the Soil Expansive Potential Map prepared on September 17, 2024, for the County, McDonald Island contains areas of expansive soil ranging from low (0 to 3 percent) to high (6 to 9 percent) potential (County 2024a). The project site is not mapped as containing expansive soil; however, land immediately south of the project site is mapped as containing moderate (3 to 6 percent) potential for expansion (County 2024a). All development in California is required to comply with the CBC, which contains construction and engineering standards for projects located in areas that have high shrink-swell soils (County 2014). Therefore, with adherence to existing CBC requirements and the County's Building Regulations (Title 8 of the San Joaquin Ordinance Code), potential impacts related to expansive soil would be minimized, and the impact would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Less than Significant with Mitigation Incorporated. Due to the location of the project, public sewer systems are not available; therefore, the project would construct a private septic system that includes a 5,000-gallon underground wastewater holding tank, a 5,000-sf primary septic system disposal field, a 5,000-sf replacement septic system disposal field, and a 500-gallon aboveground wastewater pump-out holding tank. The NRCS mapped one soil unit occurring within the project site, Ryde clay loam, which is rated as "very limited" for septic tank absorption (USDA 2025). However, the septic system would be required to be permitted through the San Joaquin County Environmental Health Department (SJCEHD) in accordance with California Health and Safety Code and Chapters 9-604, Wastewater Treatment and Disposal, and 9-605, Private On-Site Wastewater Disposal Facilities, of the County Development Title. The proposed septic system would also be required to comply with the County's Onsite Wastewater Treatment Systems Standards (County 2017). These requirements are designed to ensure proper handling and disposal of sewage effluent by governing construction, repair, destruction, permitting and inspection of on-site septic systems. With implementation of Mitigation Measure GEO-1, which requires septic system engineering design review and approval, the impact would be less than significant.

Mitigation Measure GEO-1: Septic System Engineering Design Review

Prior to the issuance of building permits, the project applicant shall retain a qualified professional engineer to prepare and submit a detailed engineered design plan for any proposed sewage holding tank system to the San Joaquin County Environmental Health Department (SJCEHD) for review and approval. The design plans shall include the following specifications: location and configuration of the proposed septic system, the area required to be reserved for future sewage disposal repair/replacement, and design calculations that include the maximum number of people that will be served by the proposed septic system.

The project applicant shall also perform and submit a site-specific Soil Suitability and Nitrate Loading Study that evaluates projected staffing and customer use and a Percolation Test that conforms to the *U.S. EPA Design Manual: Onsite Wastewater Treatment and Disposal Systems* to SJCEHD, which shall both be approved by SJCEHD prior to the issuance of a building permit. The proposed septic system shall

be constructed in accordance with the approved design and study findings, and under permit and inspection by SJCEHD.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation Incorporated. The majority of paleontological specimens from San Joaquin County have been found in rock formations in the foothills of the Diablo Mountain Range. However, remains of extinct animals such as mammoth, could be found virtually anywhere in the County, especially along watercourses such as the San Joaquin River and its tributaries (County 2014).

The proposed project site is located in the northeastern portion of McDonald Island in a rural area of the County. No previous surveys conducted on the project site or in the project area have identified the project site as sensitive for paleontological resources or other geologically sensitive resources, nor have testing or ground disturbing activities performed to date uncovered any paleontological resources or geologically sensitive resources. While the likelihood of encountering paleontological resources and other geologically sensitive resources would be low, project-related ground disturbing activities could affect the integrity of a previously unknown paleontological or other geologically sensitive resource. Mitigation Measure GEO-2 would avoid and minimize impacts to paleontological resources. With implementation of Mitigation Measure GEO-2, the impact would be less than significant.

Mitigation Measure GEO-2: Avoid and Minimize Impacts to Paleontological Resources

In the event paleontological or other geologically sensitive resources (such as fossils or fossil formations) are identified during any phase of project construction, all excavations within 100 feet of the find shall be temporarily halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the County who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under the California Environmental Quality Act (CEQA), the County shall implement those measures which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code (PRC) Section 21083.2.

VIII. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The GHGs defined under California's Assembly Bill (AB) 32, described below, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Estimates of GHG emissions are commonly presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. GHG emissions quantities in this analysis are presented in metric tons (MT) of CO_2e. For consistency with United Nations Standards, modeling, and reporting of GHGs in California and the U.S. use the GWPs defined in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (IPCC 2007): CO_2 – 1; CH_4 – 25; N_2O – 298.

Regulatory Setting

GHG Reduction Regulations and Plans

The primary GHG reduction regulatory legislation and plans (applicable to the project) at the State, regional, and local levels are described below. Implementation of California's GHG reduction mandates is primarily under the authority of CARB at the State level, FRAQMD at the regional level, and the City at the local level.

Executive Order S-3-05: On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Executive Orders are not laws and can only provide the governor's direction to State agencies to act within their authority to reinforce existing laws.

Assembly Bill 32 – Global Warming Solution Act of 2006: The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of Statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

Executive Order B-30-15: On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions to 80 percent under 1990 levels by 2050.

Senate Bill 32: Signed into law by Governor Brown on September 8, 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 1279: Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and ensure that by 2045, Statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

California Air Resources Board Scoping Plan: The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived

climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030. On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

San Joaquin Valley Air Pollution Control District: In December 2009, the SJVAPCD adopted the following guidance documents applicable to the project:

- Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009a), and

- District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009b).

This guidance and policy are the documents referenced in the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts,* adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

1. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;

2. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement best performance standards (BPS); and

3. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent, compared to business-as-usual.

The SJVAPCD adopted a Climate Change Action Plan (CCAP) in 2008 and issued guidance for development project compliance with the plan in 2009. The guidance adopted an approach that relies on the use of BPS to reduce GHG emissions. Projects implementing BPS would be determined to have a less than cumulatively significant impact. For projects not implementing BPS, demonstration of a 29 percent reduction in project-specific (i.e., operational) GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact (SJVAPCD 2009a). Both the SJVAPCD CCAP and the guidance for development project compliance are limited to achieving the State 2020 GHG reduction goals mandated by AB 32. The SJVAPCD CCAP and the guidance for development project compliance do not address California's post-2020 GHG reduction goals.

San Joaquin Council of Governments: The San Joaquin Council of Governments (SJCOG) is preparing a Climate Adaptation & Resiliency Study to incorporate strategies set forth in the SJCOG's 2018 RTP/SCS. Those strategies include reducing transportation-related emissions, but do not set quantitative thresholds for GHG emissions (SJCOG 2018).

Methodology and Assumptions

See Section 5.III, Air Quality, for a discussion on methodology and assumptions.

Standards of Significance

Given the relatively small levels of emissions generated by a project in relationship to the total amount of GHG emissions generated on a national or global basis, individual projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts. According to Appendix G of the state CEQA Guidelines, the following criteria may be considered in establishing the significance of GHG emissions:

Would the project:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The determination of significance is governed by CEQA Guidelines 15064.4, entitled "Determining the Significance of Impacts from Greenhouse Gas Emissions." CEQA Guidelines Section 15064.4(a) states, "[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to … [use a quantitative model or qualitative model]" (emphasis added). In turn, CEQA Guidelines Section 15064.4(b) clarifies that a lead agency should consider "Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project." Therefore, consistent with CEQA Guidelines Section 15064.4, the GHG emissions analysis for the project appropriately relies upon a threshold based on the exercise of careful judgement and believed to be appropriate in the context of this project.

Prior to 2020, a screening level based on the California Air Pollution Control Officers Associations (CAPCOA's) report *CEQA & Climate Change* was used as a tool used to determine whether further analysis would be needed to examine the GHG impacts of a project (CAPCOA 2008). CAPCOA developed a screening threshold of 900 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year by analyzing the capture of 90 percent or more of future discretionary development for residential and commercial projects across the state. Direct and cumulative impacts would be potentially significant and require further analysis if a project results in emissions that exceed 900 MT CO_2e beyond current baseline emissions. This screening threshold was developed with the goal in mind of achieving the reductions described by AB 32 for meeting 1990 levels of statewide GHG emissions by the year 2020.

Subsequently, SB 32 set a further GHG emission reduction target of 40 percent below 1990 levels by 2030. To achieve this target, a regression trajectory can be projected by reducing the operational year emissions goal from the 900 MT CO_2e target in 2020 to the 540 MT CO_2e target in 2030. This trajectory is outlined in Table 8, *GHG Significance Thresholds Trajectory*, below. Therefore, for the purpose of this report, 629 MT CO_2e is considered a valid and adequate screening level as it is based on current methodologies. This threshold is intended to disclose quantitative information and put the Project generated GHG emissions in the appropriate statewide context and consider the Project's potential impacts.

Table 8
GHG SIGNIFICANCE THRESHOLDS TRAJECTORY

Year	Screening Level (MT CO_2e)
2020	900
2021	855
2022	813
2023	722
2024	734
2025	697
2026	662
2027	629
2028	598
2029	568
2030	540

Source: CAPCOA 2008; SB 32
Note: Emissions reduce by 4.98 percent each year to achieve SB 32's 2030 target.
MT = metric tons; CO2e = carbon dioxide equivalents.

To be conservative in accounting for all the project's GHG emissions, the construction period emissions were amortized (i.e., averaged) over the anticipated 30-year lifespan of the project and added to the project's operational emissions.

Impact Analysis

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. GHG emissions would be generated by the project during construction (vehicle engine exhaust from construction equipment, on-road hauling trucks, and worker commuting trips) and during long-term operation (employee and guest trips, use of 27 fire pits, and use of emergency propane generator with a 226 hp motor). GHG emissions were calculated using CalEEMod, as described in *Methodology and Assumptions*.

Construction Emissions

The project's construction period GHG emissions was estimated to result in the emission of approximately 363 MT CO_2e over the constructed period. Averaged over 30 years, the proposed

construction activities would contribute approximately 12.1 MT CO_2e emissions per year. Table 8, Operational GHG Emissions, below, shows the calculated total annual emissions and amortized construction emissions for the project.

Operational Emissions

The project's operational GHG emissions was estimated to result in the emission of approximately 267.7 MT CO_2e. Table 9 below demonstrates that the project's total annual operational emissions would not exceed the adjusted CAPCOA threshold.

Table 9
OPERATIONAL GHG EMISSIONS

Emission Sources	2027 Emissions (MT CO_2e)
Mobile – employees traveling by car from N. Zuckerman Road to the resort	7.3
Mobile – employees and guests traveling by car to Kings Island Marina parking area	133.4
Mobile – employees and guests traveling by water taxi from Kings Island Marina to the resort	0.1
Mobile – guests traveling by private boat to the resort	4.8
Area	62.8
Energy	43.8
Water	1.5
Waste	8.7
Refrigerants	4.9
Stationary	0.4
Subtotal[1]	**267.7**
Construction (Amortized over 30 years)	12.1
Total	**279.8**
CAPCOA 2027 Threshold	*629*
Exceed Threshold?	**No**

Source: CalEEMod (output data is provided in Appendix B); CAPCOA 2008
[1] Totals may not sum due to rounding.
GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent;
CAPCOA = California Air Pollution Control Officers Association

Impact Conclusion

As shown in Table 8, the project's construction and operational emissions would not exceed the adjusted CAPCOA threshold. Therefore, the project would not generate significant GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The original overall State plan and policy was AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 was to reduce GHG emissions to

1990 levels by 2020. Senate Bill (SB) 32 extended the requirements of AB 32 by requiring further reductions of 40 percent below 1990 levels by 2030. AB 1279, the California Climate Crisis Act, was approved on September 16, 2022, and declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, Statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. The 2022 CARB Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the Statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

SJCOG is preparing a Climate Adaptation & Resiliency Study to incorporate strategies set forth in the SJCOG's 2018 RTP/SCS (SJCOG 2018). However, the County does not have a CAP or other GHG reduction plan addressing State GHG reduction goals after 2020. As shown under question a), the project's construction and operational emissions would not exceed the adjusted CAPCOA threshold. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the impact would be less than significant.

IX. HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Environmental Setting

Hazardous Materials

Hazardous materials include all flammable, reactive, corrosive, or toxic substances, which, because of these properties, pose potential harm to the public or environment. The California Code of Regulations defines a hazardous material or hazardous waste as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either: (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (County 2014).

Numerous federal and State laws regulate hazardous materials and wastes, such as the California Environmental Protection Agency (Cal/EPA) and Department of Toxic Substances Control (DTSC). However, depending on the waste, the Office of the State Fire Marshal (OSFM), the SWRCB, or another agency may be involved. Locally, SJCEHD, San Joaquin County Office of Emergency Services (SJCOES), and the SJVAPCD have responsibility for enforcing some State standards (County 2014).

The SJCEHD is the Certified Unified Program Agency (CUPA) for all cities and unincorporated areas within San Joaquin County. The CUPA was created by the California legislature to minimize the number of inspections and different fees for businesses. The SJCEHD provides the management and record keeping of hazardous materials and underground storage tank (UST) sites for San Joaquin County. Through the Hazardous Materials Program, the SJCEHD inspects businesses for compliance with the Hazardous Waste Control Act. Hazardous waste is subject to storage time limits, disposal requirements and labeling requirements on containers.

Emergency Response and Planning

The SJOES is responsible for effective planning for emergencies including those related to hazardous material incidents. The SJOES coordinates planning, response to emergencies, improves procedures for incident notification, and provides training and equipment to safety personnel. The SJOES maintains the County Local Hazard Mitigation Plan (LHMP), most recently updated in 2023, which includes strategies for the County and other local jurisdictions to identify and implement mitigation actions for reducing damages from various natural and technological disasters (County 2023).

The SJOES and other County departments maintain the Emergency Operations Plan (EOP), which established the central role of the San Joaquin County Emergency Operations Center (EOC) in the overall incident management of emergencies and major disasters. The EOP is developed pursuant to the California Emergency Services Act and conforms to the Standardized Emergency Management System (SEMS). The EOP identifies major highway/freeway routes in the County that would serve as possible evacuation routes in the event of an emergency, including I-5, I-205, I-580, and Highways 99, 12, 88, 4, 120, 132, and 26 (County 2022).

Impact Analysis

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. Construction activities would involve the limited transport, storage, use, and/or disposal of hazardous materials, such as for the fueling and servicing of construction equipment on-site. The routine transport, use, or disposal of hazardous materials during construction would be required to comply with existing local, State, and federal regulations. Therefore, construction activities that require transport, storage, use, and/or disposal of hazardous materials would not create a significant hazard to the public or the environment.

Operation and maintenance activities would involve the use of limited hazardous materials, such as cleaners and pool chemicals. If spilled during construction and/or operational activities, these substances could pose a risk to the environment and to human health. However, the proposed land use typically does not present an operational hazard associated with the accidental release of hazardous substances into the environment, as the project is not anticipated to use, store, dispose of, or transport large volumes of hazardous materials. The routine transport, use, and disposal of hazardous materials

during project operation would be subject to local, State, and federal regulations to minimize risk and exposure. Therefore, in compliance with existing regulations, the proposed project would not create a significant hazard to the public or environment, and the impact would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact with Mitigation Incorporated. The project site has no history of previous land uses associated with potentially hazardous sites, as discussed in greater detail in question d). As discussed above in question a), project construction and operation would involve the limited use of hazardous materials; however, these materials would be required to be transported, used, and stored in accordance with existing regulations that would limit the potential for their accidental release. Additionally, construction BMPs would be implemented during handling of construction materials, debris, and waste, as required under Mitigation Measure BIO-4. With adherence to regulations and implementation of Mitigation Measure BIO-4, the potential for foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be low. Therefore, the impact would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The nearest school to the project site is Elkhorn Elementary School, located approximately 7.9 miles northeast of the project site. No proposed schools are located within one-quarter mile of the site. Therefore, because the project site would not emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school, no impact would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact. The following databases were reviewed for the project site and surrounding area to identify potential hazardous contamination sites: the SWRCB's GeoTracker tool (SWRCB 2025), California DTSC's EnviroStor online tool (DTSC 2025), and the USEPA's Superfund National Priorities List (USEPA 2025). Based on the results of the databases reviewed, the project site is not located on a hazardous contamination site. DTSC indicates two closed program cleanup sites associated with PG&E's Whiskey Slough and McDonald Island Compressor stations are located over 2 miles south of the project site. These cleanup program sites were completed and closed in 2018 and 2017, respectively (DTSC 2025). The project site is not located on a list of hazardous materials sites and therefore, the impact would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The closest airports are the Kingdon Airpark, located over 7 miles northeast of the project site, and the Stockton Metropolitan Airport, located approximately 15 miles southeast of the project site. Due to the distance from the airport, the project would not expose people residing or working in the project area to excessive noise levels from aircraft or airport operations. Therefore, no impact would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. There are no emergency evacuation routes on McDonald Island, nor is the island located within a mapped evacuation zone (County 2022). The project site is located on the northeastern corner of McDonald Island. Access to McDonald Island is via a dirt levee road from McDonald River Bridge off of Roberts Island, in the southeastern corner of McDonald Island. N. Zuckerman Road is the primary roadway on McDonald Island and traverses the perimeter of the island. Due to the location of the proposed project, and because there are no emergency evacuation routes near the project site, implementation of the proposed project would not impair or physically interfere with an adopted emergency response or evacuation plan. Therefore, the impact would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The proposed project would receive electricity from PG&E, and it is anticipated that the project would require the installation of new electrical transformers and underground power lines. Propane would be delivered on-site and stored in a 1,000-gallon propane tank. A "U"-shaped gravel internal access road off the two vehicle entrances would provide circulation throughout the proposed resort. The installation and/or maintenance of infrastructure associated with the proposed project would not involve any unique elements that would exacerbate fire risk.

Additionally, pursuant to CBC Chapter 7A, *Fire Hazard Severity Zones and Building Standards and Materials*, and PRC Section 4291, the project applicant would be required to maintain a 100-foot radius of defensible space around the proposed structures to reduce the risk of structural fires. For these reasons, the proposed infrastructure would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, the proposed project would not expose people or structures to significant risk of loss, injury, or death involving wildland fires. The impact would be less than significant.

X. HYDROLOGY AND WATER QUALITY

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?	☐	☐	☒	☐
	iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?	☐	☐	☒	☐
	iv. Impede or redirect flood flows?	☐	☐	☒	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental Setting

Surface Water

The Central Valley is divided into three hydrologic regions or surface water basins including the Sacramento River Basin in the north, the San Joaquin River Basin in the center, and the Tulare Lake Basin to the very south. The two main drainages for these valleys, the Sacramento River and the San Joaquin River, empty into the San Francisco Bay estuary system through a large expanse of interconnected canals, streambeds, sloughs, marshes and peat islands known as the Delta (County 2014).

The County lies entirely within the San Joaquin River Basin which is bounded topographically and geologically by the bedrock of the Diablo Range on the west and the Sierra Nevada to the east. The San

Joaquin River flows in a southeast to northwest direction from the Sierra Nevada through the County into the Delta, San Francisco Bay, and ultimately the Pacific Ocean. Both the headwaters and ultimate destination of the San Joaquin River and its tributaries are outside of the County. Four major rivers and streams drain from the western slope of the Sierra Nevada traversing or bordering the County, including Calaveras River, Mokelumne River, Stanislaus River, and San Joaquin River (County 2014).

Groundwater

The County lies within the San Joaquin Hydrologic Region and overlies three of the subbasins within the San Joaquin Valley Groundwater Basin: Eastern San Joaquin, Tracy, and Cosumnes (County 2014). The project site is located within the northern portion of the Tracy Subbasin (Basin No. 5-022.15), the boundaries of which follow the Old River on the northwest, the Coastal Range on the southwest and south, and the San Joaquin River on the east (GEI Consultants 2021).

In 2014, the California legislature, including Assembly Bill (AB) 1739, Senate Bill (SB) 1168, and SB 1319, enacted the Sustainable Groundwater Management Act (SGMA) in response to the continued overdraft of California's groundwater resources, requiring local agencies to form groundwater sustainability agencies (GSAs) for the high and medium basins, and to develop and implement groundwater sustainability plans (GSPs) to avoid undesirable results and mitigated overdraft from groundwater basins within 20 years. Six agencies (Banta-Carbona Irrigation District, Byron-Bethany Irrigation District, City of Lathrop, City of Tracy, San Joaquin County, and the Stewart Tract) comprise the six GSAs responsible for sustainability managing groundwater in the Tracy Subbasin, and the final GSP was developed in November 2021 (GEI Consultants 2021). The California Department of Water Resources (DWR) Sustainable Groundwater Management Office sent a letter to the County on January 18, 2024, evaluating and approving the Tracy Subbasin GSP (DWR 2024). As determined in the letter and in the GSP, the Tracy Subbasin is not currently in a state of long-term overdraft and projections of future basin extractions are likely to stay within current and historic ranges, at least until the next periodic evaluation by the GSA and DWR.

Flood Hazard Areas

The County receives runoff from over 40 percent of the land area in California. Flood events from rainstorms generally occur between November and April and are characterized by high peak flows of moderate duration. Snowmelt floods, which normally occur between April and June, have larger water volumes and last longer than rain flooding. Intensive rainstorms or snowmelt generally cause flooding because of levee overtopping, levee failure, or localized drainage problems (County 2014).

The Federal Emergency Management Agency (FEMA) provides information on flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps (FIRMs). FEMA identifies designated zones to indicate flood hazard potential. The project site is located on Map Panel No. 06077C0290F, effective 10/16/2009 (FEMA 2025). Through correspondence with FEMA, a Letter of Map Amendment (LOMA) from FEMA's Federal Insurance and Mitigation Administration dated December 11, 2024, and included as Appendix H to this IS/MND, determined that the project site is not located within a SFHA. A LOMA is a letter from FEMA that states that an existing structure or parcel of land "that is on naturally high ground and has not been elevated by fill" would not be inundated by the base flood.

Impact Analysis

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant with Mitigation Incorporated.

Construction

Project construction would involve ground disturbing activities such as grading, trenching, and building construction. Disturbed soils are typically more susceptible to erosion from rain and wind, which in the absence of preventative measures, can lead to mobilization of sediments and silt through runoff. Erosion potential can increase under storm events where slopes are steep. The proposed project site is relatively flat and lacks steep slopes. As discussed in Section 5.VII, Geology and Soils, project construction would result in more than one acre of ground disturbance and would be subject to the requirements of the NPDES Construction Permit, including preparation and implementation of a SWPPP during construction. The primary objectives of the SWPPP are to (1) identify pollutant sources that may affect the quality of stormwater associated with construction activity and (2) identify, construct, and implement stormwater pollution prevention measures to reduce pollutants in stormwater discharges during and after construction. The SWPPP is required to include a description of potential pollutants and the manner in which sediments and hazardous materials present on site during construction (including vehicle and equipment fuels) would be managed. In addition, project construction activities would be required to adhere to the applicable provisions of the County Development Title, including Chapter 9-812, Grading and Drainage Permits, which would require the project applicant to obtain a grading permit prior to construction to protect against soil loss and pollution of watercourses (County 2025b).

Fueling or maintenance of construction vehicles within the project area could pose a risk of accidental spills or releases of fuels, oils, trash, or other potentially toxic materials. An accidental release of these materials could pose a threat to water quality if contaminants enter receiving water bodies, including the San Joaquin River. The magnitude of the impact from an accidental release depends on the amount and type of material spilled. However, with implementation of Mitigation Measure BIO-4, which requires that construction BMPs be implemented during handling of construction materials, debris, and waste, potential impacts to water quality during construction would be reduced to less than significant.

Operation

The proposed project would construct a stormwater system to convey surface runoff to the proposed underground stormwater retention basin. A 4,000-sf underground stormwater retention basin would be constructed under the proposed dog run and would temporarily detain stormwater collected on-site to allow sediment and particulates to settle prior to ground infiltration. Therefore, the project design would ensure that the proposed project would not substantially degrade surface water or ground water quality, nor violate water quality standards or waste-discharge requirements. The impact during project operation would be less than significant.

Impact Conclusion

With adherence to the applicable provisions of the County Development Title, preparation of a SWPPP, and implementation of Mitigation Measure BIO-4, project construction would not substantially degrade surface water or ground water quality, nor violate water quality standards or waste-discharge

requirements. During operation, the proposed stormwater system and underground stormwater retention basin would ensure that runoff is contained on-site and would not impact water quality in the San Joaquin River. Therefore, the impact related to water quality would be less than significant with mitigation incorporated.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. During operation, water on-site would be pumped from a new proposed well and stored in a proposed 5,000-gallon water storage tank located in the southwestern corner of the project site. The existing well on-site would be utilized for landscaping and other non-potable uses. Per the New Public Water System Technical Report, the total average daily water demand for the project is estimated to be 6,917.9 gpd. The 25 proposed rental lodges would be rented to overnight guests on a temporary, short-term basis. As these rental lodges would not represent permanent housing stock that would require long-term water availability to serve the population, the proposed water system would be classified as a Transient Non-Community Public Water. The proposed well would be regulated by Chapter 9-601, Water Well and Well Drilling Regulations, and Chapter 9-602, Water Systems, of the County Development Title, and the design would be required to be reviewed by SJCEHD and the County Public Works Department.

Chapter 7 of the Tracy Subbasin GSP provides historical, current, and projected water budgets for the entire subbasin, as well as projected budgets for each of the management areas under climate change conditions. The project site is located within the Delta Management Area of the subbasin, which encompasses the Tracy Subbasin portion of the Delta Primary Zone. The Tracy Subbasin GSP projected that, between 2016 and 2065, the annual inflow of water into the Delta Management area of the Tracy Subbasin would be 255,828 acre feet per year (AFY), and annual outflow would be 254,116 AFY. Of the projected annual outflow, the GSP projected that 140,806 AFY would be attributed to pumping (GEI Consultants 2021). The proposed project's water demand of 6,917.9 gpd, or 7.75 AFY, would represent less than 0.001 percent of the projected annual outflow due to pumping within the Delta Management Area of the Tracy Subbasin or total projected annual outflow. Due to the small nature of the project, the project would represent a minimal demand on groundwater within the Tracy Subbasin.

Additionally, the proposed impervious surfaces, which are discussed in greater detail in the response to question c.ii) and c.iii), would not result in substantial surface runoff or otherwise substantially interfere with groundwater recharge. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, nor impede sustainable groundwater management of the Tracy Subbasin. The impact would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

    i. Result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. As previously discussed in Section 5.VII, Geology and Soils, as the proposed project would disturb greater than one acre, the project would be subject to NPDES requirements and would be required to prepare and implement a SWPPP including BMPs to reduce soil erosion during construction activities. Additionally, the proposed project would be required to adhere to the applicable provisions of the County Development Title regulating construction activities, including Chapter 9-812,

Grading and Drainage Permits, which would require the project applicant to obtain a grading permit prior to construction to protect against soil loss and pollution of watercourses (County 2025b). Therefore, with adherence to existing NPDES and County requirements, construction activities would not result in substantial erosion or siltation on- or off-site, and the impact would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?

Less than Significant Impact. As discussed in question a) and c.i), as the proposed project would disturb greater than one acre, the project would be required to adhere to existing NPDES and County regulations, which would minimize surface runoff during ground-disturbing activities. Project construction would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional resources of polluted runoff. Therefore, the construction-related impact would be less than significant for questions c.ii) and c.iii).

The project site is currently undeveloped and does not contain existing stormwater drainage systems. Development of the proposed project would result in the construction of 18,723 sf (0.43 acre) of impervious surfaces associated with all concrete and asphalt paving. The construction of impervious surfaces would increase the amount of surface runoff compared to existing site conditions; however, the project would construct a stormwater system to convey surface runoff to the proposed underground stormwater retention basin. A 4,000-sf underground stormwater retention basin would be constructed under the proposed dog run and would temporarily detain stormwater collected on-site to allow sediment and particulates to settle prior to ground infiltration. The stormwater system would be required to be designed in accordance with Chapter 9-606, Storm Drainage, of the County Development Title, which requires that stormwater facilities are properly designed, sited, constructed, and maintained to efficiently capture runoff and minimize impacts to water quality. Additionally, the project would utilize 12,044 sf of pervious pavers for the proposed pedestrian walkway and 8,649 sf of gravel for the internal access road to facilitate infiltration and reduce the amount of surface runoff. The project design would ensure that the proposed project would not contribute runoff water which would or provide substantial additional resources of polluted runoff. Therefore, the impact for questions c.ii) and c.iii) would be less than significant.

iv. Impede or redirect flood flows?

Less than Significant Impact. According to a LOMA from FEMA's Federal Insurance and Mitigation Administration, dated December 11, 2024, the project site is not located within a SFHA; therefore, the site is not located within an area that would be subject to inundation by the one percent annual chance flood (100-year flood). Additionally, as discussed in questions c.ii) and c.iii), the project would construct a stormwater system to convey surface runoff to the proposed underground stormwater retention basin. A 4,000-sf underground stormwater retention basin would be constructed under the proposed dog run and would temporarily detain stormwater collected on-site to allow sediment and particulates to settle prior to ground infiltration. The stormwater system would be required to be designed in accordance with Chapter 9-606, Storm Drainage, of the County Development Title, which requires that stormwater facilities are properly designed, sited, constructed, and maintained to efficiently capture

runoff. Therefore, implementation of the proposed project would not impede or redirect flood flows, and the impact would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. As discussed in question c.iv) above, according to a LOMA from FEMA's Federal Insurance and Mitigation Administration, dated December 11, 2024, the project site is not located within a SFHA; therefore, the site is not located within an area that would be subject to inundation by the one percent annual chance flood (100-year flood). The project site is located over 60 miles east of the Pacific Ocean; therefore, there is no risk of tsunami at the site. A seiche is a standing wave that occurs in a partially or fully enclosed body of water, such as in lakes and reservoirs. The project would be located on the San Joaquin River, which is not susceptible to seiche events. Therefore, the risk of seiche at the project site would be unlikely. Because the project site is not located within a SFHA, nor is the site at risk of tsunami or seiche, the risk of project inundation would be unlikely. Therefore, the proposed project would not risk release of pollutants due to project inundation, and the impact would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. As discussed in question a), the proposed project would have a less than significant impact related to water quality with implementation of Mitigation Measure BIO-4, which requires that construction BMPs be implemented during handling of construction materials/debris. Additionally, as discussed in question b), the proposed water system would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, nor impede sustainable groundwater management of the Tracy Subbasin. Therefore, the project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and the impact would be less than significant.

XI. LAND USE AND PLANNING

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause 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?	☐	☐	☒	☐

Environmental Setting

San Joaquin County General Plan

The General Plan designates the project site as OS/RC (Resource Conservation), which provides for areas with significant natural resources that should remain in open space, used for recreation, or preserved and used for resource production (e.g., mining). The Resource Conservation (OS/RC) designation may be applicable to any area of the County that is essentially unimproved and planned to remain open in character, improved for recreational uses, managed in the production of resources, protected from development-related impacts, or restricted from access for the protection of the community (e.g., floodplains).

The General Plan contains the following policies applicable to land use on OS/RC (Resource Conservation) designated land:

- **Policy LU-8.1: Open Space Preservation.** The County shall limit, to the extent feasible, the conversion of open space and agricultural lands to urban uses, and place a high priority on preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, public safety, water resource protection, and overall community benefit.

- **Policy LU-8.2: Open Space Character.** The County shall require new development in Resource Conservation designated areas to be planned and designed to maintain the scenic open space character of the surrounding area, including view corridors from highways. New development should use natural landforms and vegetation in the least visually disruptive manner possible, and use design, construction, and maintenance techniques that minimize the visibility of structures.

The General Plan contains the following policies applicable to marinas and land use in the Delta:

- **Policy D-5.2: Delta Protection.** The County shall ensure that waterway development and development on Delta islands protects the natural beauty, fisheries, wildlife, riparian vegetation, and the navigability of the waterway.

- **Policy LU-5.17: New Marinas.** The County shall require proposed new marinas to be evaluated to assess their impacts on the waterways, riparian habitat, adjacent land uses, and traffic circulation.

- **Policy NCR-8.23: Marina Facilities.** The County shall require new or expanded marinas to include the following facilities: adequate restrooms, pump-out facilities, trash containers, and oil waste disposal facilities.

Zoning

The project site is zoned AG-80 (General Agriculture, 80-acre minimum), which is established to preserve agricultural lands for the continuation of commercial agricultural enterprises. The proposed project would be an allowed use (Recreation Facilities – Resort; Marina) on the current zoning with a Conditional Use Permit.

Delta Protection Commission

The Delta Protection Act of 1992 (Act) established the Delta Protection Commission (DPC), a State entity to plan for and guide the conservation and enhancement of the natural resources of the Delta, while sustaining agriculture and meeting increased recreational demand. The Act defines a Primary Zone, which comprises the principal jurisdiction of the DPC. The Secondary Zone is the area outside the Primary Zone and within the "Legal Delta"; the Secondary Zone is not within the planning area of the DPC. The Act requires DPC to prepare and adopt a Land Use and Resource Management Plan for the Primary Zone of the Delta, which must meet specific goals. The Plan's goals for recreational uses in the Delta are to ensure that facilities are maintained and supervised, to prevent trespassing on private lands, and to promote recreational uses. The proposed project is located on McDonald Island, which is within the Primary Zone of the Delta.

Delta Stewardship Council

The Delta Stewardship Counsil (DSC) was established by legislation to create a comprehensive, long-term plan to guide federal, State, and local agencies in managing the Delta. The resulting Delta Plan has requirements for certain projects, categorized as "covered actions", that must be found to be consistent with the DSC's Delta Plan regulations. The County has determined that, because the proposed project will not have a significant impact on government-sponsored flood control programs, which is one of the criteria to be categorized as a "covered action", the project is exempt from this regulation.

Impact Analysis

a) Physically divide an established community?

No Impact. The proposed project is located in a rural area of unincorporated San Joaquin County in the northeastern corner of McDonald Island, near the confluence of Stockton Deepwater Channel and Headreach Cut-off. McDonald Island is approximately 53 miles south of Sacramento and is bounded on the north and east by San Joaquin River, on the south by the Empire Cut inlet, and on the west by Middle River and Latham Slough. The proposed project site is currently undeveloped and would not construct new roadways or linear features outside of the project site that would physically divide an established community. Therefore, no impact would occur.

b) Cause 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?

Less than Significant Impact. The proposed project would include construction of a private resort and marina, which would provide a new recreation facility in the Delta. The proposed project would be an allowed use (Recreation Facilities – Resort; Marina) on the current zoning of the site with a Conditional Use Permit. The project site has a Resource Conservation (OS/RC) land use designation, which applies to areas in the County that may be improved for recreational uses (County 2016). The proposed project's land use would be compatible with the existing land use designation, as well as with the applicable General Plan goals that relate to recreational uses in the Delta.

The project site is located on McDonald Island within the Delta and is further regulated by the DPC and DSC. The proposed project would be consistent with the DPC's Land Use and Resource Management Plan goals related to recreation facilities in the Primary Zone of the Delta. Lastly, the County has determined that, because the proposed project will not have a significant impact on government-sponsored flood control programs, which is one of the criteria to be categorized as a "covered action", the project is exempt from the DSC's Delta Plan regulations. Therefore, the proposed project would not conflict with applicable land use plans, policies, or regulations, and the impact would be less than significant.

XII. MINERAL RESOURCES

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Setting

The primary extractive resources in San Joaquin County are sand and gravel aggregate with limited mining of peat soil, placer gold, and silver. Mining activities are monitored by the State Office of Mining Reclamation (OMR) and the County Public Works Department to ensure compliance with applicable laws, to promote reclamation that is cost-effective and beneficial to end-uses, and to protect public health and safety. As of 2013, the OMR identified a total of 41 mining sites within San Joaquin County, with 13 active mines and 4 newly permitted mines. The remaining mines are either closed or idle. Nearly all of the mines listed are related to the extraction and processing of sand and gravel aggregate and are located near sand and gravel deposits in the southwest and northeast areas of the County (County 2014).

Impact Analysis

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The project site does not include known mineral resources, nor is the project site within or adjacent to active mining operations (DOC 2025c; DOC 2025d). Implementation of the project would not result in the loss of availability of mineral resources or locally important mineral resource recovery site. Therefore, no impact would occur for questions a) and b).

XIII. NOISE

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:					
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Noise Metrics

All noise-level and sound-level values presented herein are expressed in terms of decibels (dB), with A weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time averaged noise levels of one hour are expressed by the symbol "L_{EQ}" unless a different time period is specified. Maximum noise levels are expressed by the symbol "L_{MAX}."

Because decibels are logarithmic units, S_{PL} cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions. For example, if one automobile produces an S_{PL} of 70 dBA when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1 dBA changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hertz [Hz]–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dBA increase is generally perceived as a distinctly noticeable increase, and a 10 dBA increase is generally perceived as a doubling of loudness.

Vibration Metrics

Groundborne vibration consists of rapidly fluctuating motions or waves transmitted through the ground with an average motion of zero. Sources of groundborne vibrations include natural phenomena and anthropogenic causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Peak particle velocity (PPV) is commonly used to quantify vibration amplitude. The PPV, with units of inches per second (in/sec), is defined as the maximum instantaneous positive or negative peak of the vibration wave.

County Noise Regulations

Section 9-404.060(a), Additional Regulations for Specific Activities, of the County Development Title limits general construction noise to weekdays from 6:00 a.m. to 9:00 p.m. Pre-construction activities, including loading and unloading, deliveries, truck idling, backup beeps, and radios, also are limited to these construction noise hours. Additionally, no noise-producing construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Building Official.

Section 9-404.040(b), Noise Limits, of the County Development Title states that proposed projects that will create new stationary noise sources or expand existing stationary noise sources shall be required to mitigate the noise levels from these sources, so as not to exceed the noise level standards specified in Table 9-404.040, Part II (presented in Table 10, below) for the specified noise sensitive land uses:

Table 10
MAXIMUM ALLOWABLE NOISE EXPOSURE FOR NOISE-SENSITIVE LAND USES
PART II: STATIONARY NOISE SOURCES

Sound Level	Outdoor Activity Areas of Noise Sensitive Land Uses	
	Daytime[1] (7:00 a.m. – 10:00 p.m.)	Nighttime[2] (10:00 p.m. – 7:00 a.m.)
Hourly equivalent sound level (L_{EQ}), dB[3]	55	45
Maximum sound level (L_{MAX}), dB	75	65

Source: County Code Section 9-404.040

[1] Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

[2] Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

[3] If the noise source operates for less than 30 minutes per hour, then the maximum sound level standard shall apply.

Noise Sensitive Lands Uses

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, or similar facilities where quiet is an important attribute of the environment. The closest existing NSLUs to the project site is a single-family residential home located approximately 3,500 feet (0.66 miles) southeast of the project site. There are no schools, hospitals, hotels, resorts, or libraries located in the project vicinity.

Impact Analysis

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. Pursuant to Section 9-404.020(c), Exemptions, noise associated with construction is exempt from further provisions of Chapter 9-404, Noise, provided that construction noise occurs between the hours of 6:00 a.m. and 9:00 p.m. Project construction activities would adhere to Section 9-404.060(a), Additional Regulations for Specific Activities, of the County Development Title, which limits pre-construction activities and general construction noise to weekdays from 6:00 a.m. to 9:00 p.m.

Construction Noise

Project construction would require the use of off-road equipment including dozers, graders, excavators, and backhoes which would be a temporary source of noise. However, because the closest NSLU to the project site is located more than 0.5 mile away and because project construction activities would be restricted to the hours between 6:00 a.m. and 9:00 p.m., construction of the project would not result in substantial temporary increase in ambient noise levels in the vicinity of the project.

Operational Noise

Project on-site operation noise sources would include building heating, ventilation, and air conditioning (HVAC) systems, an emergency generator, and outdoor recreation (including a pool, volleyball, pickleball, and a dog run). Because the closest NSLU to the project site is located more than 0.5 mile away, project on-site operational noise would not result in noise exceeding the County standard of 55 dBA L_{EQ} daytime or 45 dBA L_{EQ} nighttime measured at the outdoor use area of NSLUs.

The project would result in the addition of traffic to West Eight Mile Road near King Island Marina. In typical outdoor environments, a 3 dBA increase in noise is considered a just perceptible increase. A 3 dBA increase in noise requires a doubling of sound energy or, in the case of traffic noise, a doubling of traffic volume. Per County traffic counts, West Eight Mile Road near King Island Marina carries 1,381 ADT (County 2025c). Based on the 40 project parking spaces at King Island Marina, the project would add up to 80 ADT to West Eight Mile Road and would not result in a perceptible increase in traffic noise.

Impact Conclusion

Construction or operation of the project would not result in a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County noise ordinance, and the impact would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Per the Caltrans *Transportation and Construction Vibration Guidance Manual*, for continuous vibrations, a level of 0.2 In/sec PPV is the threshold at which there is a risk of architectural damage to normal dwelling houses (houses with plastered walls and ceilings) and is the level at which the human response to continuous vibrations (indoors) is considered “annoying” (Caltrans 2020). Construction of the project would require pile driving for installation of the marina docks and the

use of a vibratory roller for compaction of soils, gravel, and asphalt. The closest occupied structure to the project site is a building at the Delta Yacht Club, approximately 540 feet north of the project marina location, across the San Joaquin River. At a reference distance of 25 feet, an impact pile driver with a 36,000-foot-pound reference energy would result in 0.650 in/sec PPV, and a large vibratory roller would result in 0.210 in/sec PPV (Caltrans 2020). At the closest off-site occupied structure (540 feet), an impact pile driver would result in 0.022 in/sec PPV, and a large vibrator roller would result in 0.07 in/sec PPV measured.[3] The vibrations levels would not exceed the 0.2 in/sec PPV threshold for building damage or human annoyance. Therefore, the project would not result in the generation of excessive groundborne vibration levels, and the impact would be less than significant.

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

No Impact. The closest airports are the Kingdon Airpark, located over 7 miles northeast of the project site, and the Stockton Metropolitan Airport, located approximately 15 miles southeast of the project site. Due to the distance from the airport, the project would not expose people residing or working in the project area to excessive noise levels from aircraft or airport operations. Therefore, no impact would occur.

[3] Equipment PPV = Reference PPV * $(25/D)^n$(in/sec), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receptor in feet, and n= 1.1 (the value related to the attenuation rate through the ground); formula from Caltrans 2020.

XIV. POPULATION AND HOUSING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

State Housing Element law (Government Code Section 65580 et seq.) mandates that local governments must adequately plan to meet the existing and projected housing needs of all economic segments of the community. Each local government in California is required to adopt a comprehensive, long-term General Plan for the physical development of their city or county. The Housing Element is one of the mandated elements of the General Plan. State law requires local government plans to address the existing and projected housing needs of all economic segments of the community through their housing elements. The purpose of the San Joaquin County 2023-2031 Housing Element is to identify the County's housing needs, to identify goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs, and to define the policies and programs that the County will implement to achieve the stated goals and objectives (County 2024b).

According to the U.S. Census Bureau, the population in the County in 2024 was estimated to be 816,108 people (USCB 2025). From 2010 to 2023, San Joaquin County's unincorporated population experienced an 11.0 percent growth rate. In comparison, the County had a 15.7 percent growth rate as a whole. The majority of the unincorporated area of the County is designated for agricultural use, which is typical for other counties in the Central Valley, and for open space in the areas, including and immediately adjacent to the San Joaquin River and its tributaries. Many of the more rural unincorporated communities also have primarily agricultural land use designations and consistent zoning, which lends itself to much lower-density housing. Lower-density residential and rural designations are also typical in the Spheres of Influence (SOIs) of Tracy, Manteca, Ripon, and Escalon (County 2024b).

Impact Analysis

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant Impact. The proposed project would include construction of a private resort and marina on McDonald Island in the Delta. Implementation of the proposed project could provide short-term jobs during project construction; however, these jobs would be temporary in nature and would not

induce substantial population growth. During operation, it is anticipated that maximum 16 employees for the proposed project would mainly reside locally; however, if future employees move to the County for work, it would be within the projected increase in population for planned growth as outlined in the County's Housing Element.

The 25 proposed rental lodges would be rented to overnight guests on a temporary basis; however, these rental lodges would not represent permanent housing stock. Although the project would construct new utilities on-site, the proposed utilities would serve the operation of the proposed resort and marina and would not result in indirect growth on McDonald Island or surrounding areas. Therefore, the proposed project would not involve the construction or replacement of homes and would not directly induce substantial population growth in the County. The impact would be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As discussed above in question a), the proposed project would construct 25 rental lodges that would be rented to overnight guests on a temporary basis. The project site is currently undeveloped, and implementation of the proposed project would not displace existing people or housing. Therefore, no impact would occur.

XV. PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Environmental Setting

Fire Protection

The Stockton Fire District (SFD) provides mutual fire protection services for the project site. The nearest SFD stations to the project site include Station 10, located approximately 7.4 miles southeast of the site, and Station 7, located approximately 7.5 miles east of the site.

Police Protection

Police services in unincorporated areas of San Joaquin County are provided by the San Joaquin County Sheriff's Department. The Sheriff's Department Office is located approximately 13.6 miles southeast of the project site. The California Highway Patrol (CHP) assists in maintaining routine patrols and investigating traffic accidents on public roads in unincorporated areas. The project site is located within the CHP Central Division.

Schools

The project site is located within the Lodi Unified School District. The nearest school to the project site within the Lodi Unified School District is Elkhorn Elementary School, located approximately 7.9 miles northeast of the project site.

Parks

San Joaquin County has several regional park facilities that offer a wide variety of recreational opportunities. The San Joaquin County Parks and Recreation department manages the operation and expansion of all County-owned regional, community, and neighborhood park facilities (County 2014).

Several community and neighborhood parks within the City of Stockton are located approximately 5 to 6 miles east of the project site.

Libraries

The Stockton-San Joaquin County Public Library system offers public library services throughout the County, with a collection of over one million items and an annual circulation of nearly 2.1 million items in 2008. Funding for the library system is provided through the City of Stockton, San Joaquin County, and the State of California through Public Library Foundation Program funding (County 2014). There are no libraries located within the vicinity of the project site.

Impact Analysis

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

b) Police protection?

Less than Significant Impact. The project site receives fire protection from the SFD and police protection services from the County Sheriff's Department and the CHP Central Division. The potential for a minor increase in demand for fire and police protection services may occur during project construction due to increased potential for a crime or accident; however, these minor public demands would not overburden the existing fire and police protection services within the project area.

During project operation, it is anticipated that up to 250 overnight guests would be on-site at a time and could either reside in the proposed lodges or personal boats that utilize the proposed marina. The project site would include a 5,000-gallon water storage tank that could be used for fire suppression. The project applicant would also be required to adhere to all federal, State, and local fire requirements/ regulations for setbacks and defensible space, including requirements adherence to the CBC Chapter 7A, *Fire Hazard Severity Zones and Building Standards and Materials*, and PRC Section 4291, which requires property owners to maintain clearance of flammable vegetation of 100 feet from structures in order to reduce the risk of fire. The project site would also include a four-foot-high wood ranch fence located along the southern boundary of the resort to prevent unauthorized entry. Emergency vehicles would access the project site via N. Zuckerman Road and the proposed marina would be able to accommodate emergency response boats.

Although there is potential for crime or accidents to occur during project operations, due to the small nature of the project, the incremental demand on fire and police protection services required during operation of the proposed project would not overburden existing fire and police protection services within the project area and would not require the provision of new or altered facilities. Therefore, the impact would be less than significant for questions a) and b).

c) Schools?

d) Parks?

e) Other public facilities?

No Impact. As discussed in section 5.XIV, Population and Housing, the 25 proposed rental lodges would be rented to overnight guests on a temporary basis and would not represent permanent housing stock. The proposed project would not directly induce substantial population growth in the County, nor would otherwise promote or indirectly induce new development in the County. The project would not cause an increase in demand for schools, parks, or other public facilities; therefore, the project would not require the construction or expansion of new public facilities or result in the degradation of those facilities. No impact would occur for questions c) through e).

XVI. RECREATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☒	☐	☐

Environmental Setting

San Joaquin County has several regional park facilities that offer a wide variety of recreational opportunities. The San Joaquin County Parks and Recreation department manages the operation and expansion of all County-owned regional, community, and neighborhood park facilities (County 2014). Several community and neighborhood parks within the City of Stockton are located approximately 5 to 6 miles east of the project site.

Impact Analysis

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. As discussed in section 5.XIV, Population and Housing, the 25 proposed rental lodges would be rented to overnight guests on a temporary basis and would not represent permanent housing stock. The proposed project would not directly induce substantial population growth in the County, nor would it otherwise promote or indirectly induce new development in the County. The project would not cause an increase in demand for parks; therefore, the project would not require the construction or expansion of new parks or result in the degradation of those facilities. No impact would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than Significant Impact with Mitigation Incorporated. As discussed in question a), the proposed project would not require the expansion of recreational facilities due to unplanned population growth; however, the proposed project would construct a private resort and marina in the Delta, which would provide private recreational facilities to resort guests. However, as evaluated throughout this IS/MND, the proposed project would not result in substantial adverse effects on the environment with implementation of mitigation measures. Therefore, with implementation of mitigation measures identified throughout this IS/MND, the impact would be less than significant.

XVII. TRANSPORTATION

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b)	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d)	Result in inadequate emergency access?	☐	☐	☒	☐

Environmental Setting

Roadways

Roadways in the immediate project vicinity include N. Zuckerman Road, an unpaved dirt levee road that traverses the perimeter of McDonald Island; W. McDonald Road, a paved, two-lane local roadway; and Neugebauer Road, a paved, two-lane local roadway. W. McDonald Road and Neugebauer Road are located on Roberts Island and provide access to McDonald Island via McDonald River Bridge.

Marinas and Boat Transportation

Waterways, including the San Joaquin River, provide navigable boating routes throughout the Delta. The nearest marina to the project site is the King Island Marina located approximately 2.1 miles northeast of the project site.

Impact Analysis

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The project site is located on McDonald Island in the Delta. McDonald Island is mainly comprised of open space and agricultural fields, and is developed with PG&E facilities, pump stations, and a few labor camp residences and abandoned structures throughout the island. Access to the project site is via dirt levee road from McDonald River Bridge off of Roberts Island, in the southeastern corner of McDonald Island. N. Zuckerman Road is the primary roadway on McDonald Island and traverses the perimeter of the island. The majority of N. Zuckerman Road is unpaved and unstriped. There are no public transit services, rail services, or formal bicycle or pedestrian facilities in the immediate project vicinity. Project construction would result in increased vehicle trips on N. Zuckerman Road and roadways in the vicinity of McDonald Island. However, construction would be short-term and temporary and would not result in lane closures or otherwise conflict with program

plans, ordinances, or policies addressing the circulation system including transit, roadway, bicycle, or pedestrian facilities.

Once operational, resort guests and employees would primarily travel to the project site via a water taxi from King Island Marina parking area. Through a parking agreement between the project applicant and King Island Marina, King Island Marina would allow for up to 40 guest and employee vehicles to utilize the existing parking lot located at 11530 W. Eight Mile Road in Stockton. The 40 parking spaces would include 25 guest spaces (one space per lodge), 10 employee spaces, and five additional spaces. Along with the existing parking facilities at King Island Marina, five paved guest parking spaces, including one ADA parking space, would be located on the project site. Guests that arrive by personal boat would utilize the proposed dock and would not require vehicular parking spaces. The proposed dock does not include designated berths; however, it would have a capacity of approximately 33 to 44 boats, depending on the length of the boat. Per Section 9-406.040 of the County Development Title, the proposed project would be required to provide 0.4 parking spaces per berth. Assuming a maximum capacity of 44 boats, the project would be required to provide 17.6 spaces. Therefore, because the project includes 40 parking spaces at the King Island Marina and five parking spaces on-site, the project would be consistent with applicable provisions of the County Development Title. As mentioned, there are no public transit services, rail services, or formal bicycle or pedestrian facilities in the immediate project vicinity. Therefore, project operation would not otherwise conflict with program plans, ordinances, or policies addressing the circulation system including transit, roadway, bicycle, or pedestrian facilities. Therefore, the impact would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact. Senate Bill (SB) 743, passed in 2013, required the Governor's Office of Land Use and Climate Innovation (LCI), to develop new CEQA Guidelines that address traffic metrics under CEQA. As stated in the legislation, "automobile delay, as described solely by Level of Service (LOS) or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the CEQA guidelines, if any." The Office of Administrative Law approved the updated CEQA Guidelines on December 28, 2018, and the changes are reflected in new CEQA Guidelines (Section 15064.3). CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the determination of significance for transportation impacts. Pursuant to the current CEQA Guidelines, VMT replaced congestion as the metric for determining transportation impacts. The 2018 LCI Technical Advisory on Evaluating Transportation Impacts in CEQA recommends that small land use projects that would generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant impact related to VMT.

As discussed in Section 5.III, Air Quality, operation of the proposed project is estimated to generate a total of 84 vehicle trips per day, including up to four trips for employees traveling to the site by vehicle and up to 80 trips for guests traveling to the King Island Marina parking area, who would then travel to the site via water taxi. Therefore, as the proposed project would not generate more than 110 vehicle trips per day, the impact related to VMT would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact. Access to McDonald Island is via a dirt levee road from McDonald River Bridge off of Roberts Island, in the southeastern corner of McDonald Island. N. Zuckerman Road is the primary roadway on McDonald Island and traverses the perimeter of the island. The project would include two gated vehicle entrances off N. Zuckerman Road for vehicles to access the project site. A "U"-shaped gravel internal access road off the two vehicle entrances would provide vehicle circulation throughout the proposed resort. The project would not construct geometric design features or result in incompatible uses that would substantially increase hazards. Therefore, the impact would be less than significant.

d) Result in inadequate emergency access?

Less than Significant Impact. There are no emergency evacuation routes on McDonald Island, nor is the island located within a mapped evacuation zone (County 2022). The project site is located on the northeastern corner of McDonald Island. Access to McDonald Island is via a dirt levee road from McDonald River Bridge off of Roberts Island, in the southeastern corner of McDonald Island. N. Zuckerman Road is the primary roadway on McDonald Island and traverses the perimeter of the island. In the event of an emergency or evacuation, it is anticipated that guests and employees would evacuate the resort by water taxi and/or by vehicle along N. Zuckerman Road. In the event of an emergency, adequate access for emergency service vehicles would be available along N. Zuckerman Road, which is approximately 20 feet in width. Additionally, the proposed dock would be designed to accommodate emergency response boats; as such, San Joaquin County Sheriff could access the project site via boat in the event of an emergency. Therefore, the project would not result in inadequate emergency access, and the impact would be less than significant.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii. 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Environmental Setting

CEQA, as amended in 2014 by Assembly Bill (AB) 52, requires that lead agencies provide notice to California Native American tribes that have requested notice of projects subject to CEQA review, and consult with tribes that responded to the notice within 30 days of receipt with a request for consultation. Section 21073 of the PRC defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes.

The purpose of consultation is to identify Tribal Cultural Resources (TCRs) that may be significantly impacted by the proposed project, and to allow the County to avoid or mitigate significant impacts prior to project approval and implementation. Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

> *Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
>
> *(a) included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or,*

(b) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or,

(c) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because the first two criteria also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as a Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators and can only be identified by a culturally affiliated tribe, which has been determined under State law to be the subject matter expert for TCRs.

Impact Analysis

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:

   i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

   ii. 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 Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant with Mitigation Incorporated. CEQA requires that the County initiate consultation (known as AB 52) with tribes at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is required to develop appropriate avoidance, impact minimization, and mitigation measures. Therefore, in accordance with the requirements summarized above, the County carried out tribal consultation for the project. Formal invitations to consult under CEQA were sent by the County to the following tribes on November 15, 2024:

- Buena Vista Rancheria
- North Valley Yokuts Tribe
- United Auburn Indian Community
- CA Valley Miwok Tribe

Each tribe was provided with a brief description of the project and its location, the contact information for the County's authorized representative, and a notification that the tribe has 30 days to request consultation. As of the time this IS/MND was written, the County did not receive responses from any of the tribes listed above, and consultation was closed.

The proposed project is not anticipated to cause substantial adverse changes in the significance of a tribal cultural resource in the project area. However, in the unlikely event that tribal cultural resources are encountered during construction, Mitigation Measure TCR-1 would be implemented. With implementation of Mitigation Measure TCR-1, potential impacts to TCRs would be reduced to less than significant.

Mitigation Measure TCR-1: Inadvertent Discovery of Tribal Cultural Resources

In the event that Tribal Cultural Resources (TCRs), archaeological artifacts, other cultural resources, articulated, or disarticulated human remains are exposed during ground-disturbing activities, all construction activities shall be halted within 100 feet of the find (examples of potential cultural materials include but are not limited to midden soils, artifacts, chipped or worked stone, baked clay, shell, or bone). An archaeologist who meets the Secretary of the Interior's *Professional Qualifications Standards* shall then be retained to evaluate the resource's significance under the California Environmental Quality Act (CEQA) in close coordination with tribal members who would provide traditionally based cultural knowledge for the analysis. If the discovery proves to be significant, additional work and mitigation measures, such as those listed in Mitigation Measures CUL-1 and CUL-2, as deemed appropriate by the tribal organization consulting on the find. Such mitigation may include avoidance, data recovery excavation, or traditional ethnographic research into the cultural importance of the find to contemporary descendant communities.

XIX. UTILITIES AND SERVICE SYSTEMS

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:					
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Setting

Water Supply

Potable water for irrigation and domestic use in the County is provided through multiple agencies and water projects, including federal, regional, and local water districts, special districts, and private systems. The County lies within the San Joaquin Hydrologic Region and overlies three of the subbasins within the San Joaquin Valley Groundwater Basin: Eastern San Joaquin, Tracy, and Cosumnes (County 2014). The project site is located within the northern portion of the Tracy Subbasin (Basin No. 5-022.15), the boundaries of which follow the Old River on the northwest, DWR Sustainable Groundwater Management Office sent a letter to the County on January 18, 2024, evaluating and approving the Tracy Subbasin GSP (DWR 2024). As determined in the letter and in the GSP, the Tracy Subbasin is not currently in a state of long-term overdraft and projections of future basin extractions are likely to stay within current and historic ranges, at least until the next periodic evaluation by the GSA and DWR.

Wastewater

The collection, treatment, and disposal of wastewater in San Joaquin County occurs in primarily two ways: community collection and treatment systems with discharge into various rivers, watercourses,

and the Delta, or individual on-site wastewater treatment system (OWTS) with discharge into the ground (County 2014).

Stormwater

San Joaquin County is the primary provider for storm drainage infrastructure to unincorporated areas in the County. The unincorporated areas are mostly served by smaller individual or private systems (County 2014).

Solid Waste

San Joaquin County has an agreement with Waste Management Services (WMS) to provide general waste collection services, including organic recycling services, to residents and businesses. San Joaquin County contains five Class III sanitary landfills, one Class II sanitary landfill, three transfer stations, and one planned transfer station (CalRecycle 2025).

The San Joaquin County Solid Waste Division is the lead for the administration of solid wastes and the operation of related facilities. SJCEHD is involved in administering local and State regulations regarding waste management and has been appointed as the Local Enforcement Agency (LEA) in the unincorporated areas. The General Plan required the County to achieve a 75 percent diversion of landfilled waste by 2020 and requires a 90 percent diversion rate by 2035 (County 2014).

Natural Gas and Electricity

PG&E, San Joaquin Irrigation District (SJID), Lodi Electric Utility, and Ava Community Energy are the electric service providers in San Joaquin County. PG&E provides all of the natural gas services within the County (County 2014).

Impact Analysis

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

Less than Significant with Mitigation Incorporated. The project would require the construction of on-site utilities to service the project site, including water, wastewater, stormwater, electricity, and propane; however, the project would not require the relocation or construction of new or expanded utilities off-site.

Water Supply

Water on-site would be pumped from a new proposed well and stored in a proposed 5,000-gallon water storage tank located in the southwestern corner of the project site. The new water system would provide potable water for a total of 31 service connections for the 25 lodges, clubhouse, caretaker unit, laundry facilities, and pool, as well as 44 water spigots for the dock and two spigots for the dog run. Additionally, there is one existing well on-site, which would be utilized for landscaping, irrigation, and other non-potable uses. The proposed water system would be classified as a Transient Non-Community Public Water system and would be required to be designed in compliance with CCR Title 22, American Water Works Associated (AWWA) Standards and the Uniform Plumbing Code (UPC). The proposed well

would be regulated by Chapter 9-601, Water Well and Well Drilling Regulations, and Chapter 9-602, Water Systems, of the County Development Title, and the design would be required to be reviewed by SJCEHD and the County Public Works Department. Therefore, with adherence to existing well design and drilling regulations, the proposed water system would not result in significant environmental effects, and the impact would be less than significant.

Wastewater

As discussed in Section 5.VII, Geology and Soils, the project would construct a private septic system that includes a 5,000-gallon underground wastewater holding tank, a 5,000-sf primary septic system disposal field, a 5,000-sf replacement septic system disposal field, and a 500-gallon aboveground wastewater pump-out holding tank. The septic system would be required to be permitted through the SJCEHD in accordance with California Health and Safety Code and Chapters 9-604, Wastewater Treatment and Disposal, and 9-605, Private On-Site Wastewater Disposal Facilities, of the County Development Title. The proposed septic system would also be required to comply with the County's Onsite Wastewater Treatment Systems Standards (County 2017). These requirements are designed to ensure proper handling and disposal of sewage effluent by governing construction, repair, destruction, permitting and inspection of on-site septic systems. With implementation of Mitigation Measure GEO-1, which requires septic system engineering design review and approval, the impact would be less than significant.

Stormwater

Stormwater collected on-site would be conveyed to a 4,000-sf underground stormwater chamber retention system constructed under the proposed dog run, which would temporarily detain stormwater to allow sediment and particulates to settle prior to ground infiltration. The stormwater system would be required to be designed in accordance with Chapter 9-606, Storm Drainage, of the County Development Title, which requires that stormwater facilities are properly designed, sited, constructed, and maintained to efficiently capture runoff and minimize impacts to water quality. Therefore, with adherence to existing design regulations, the proposed stormwater system would not result in significant environmental effects, the impact would be less than significant.

Natural Gas and Electricity

Propane would be delivered on-site and stored in a 1,000-gallon propane tank located on a paved pad adjacent to the garage. Electric power on McDonald Island is currently provided by PG&E. It is anticipated that the project would require the installation of a new PG&E transformer and underground power lines to provide electricity to the project site. An existing 30-ft wide PG&E easement and pole line is located on the project site; however, the project applicant would be required to submit the project design plans to PG&E for review prior to construction to ensure compatible uses and activities within the easement. Additionally, the proposed connections to PG&E utilities would require review prior to the issuance of building permits to ensure appropriate design. Therefore, the impact resulting from extension of PG&E utilities would be less than significant.

Conclusion

As demonstrated above, the proposed project would require the construction of on-site water, wastewater, stormwater, electricity, and natural gas utilities to service the project site. However, due to the rural location and small nature of the project, the proposed project would not require the relocation or construction of new or expanded utilities off-site. All proposed utilities would be required to be

designed and constructed in accordance with existing federal, State, and local standards to minimize the potential for environmental effects. With implementation of Mitigation Measure GEO-1 for the proposed septic system, the impact related to on-site utilities would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. SB 610, as codified in the California Water Code (CWC) Division 6, Part 2.10 (Sections 10910-10915) requires preparation of a Water Supply Assessment (WSA) for "water-demand projects". CEQA Guidelines Section 15155(a)(1) provides definitions of water-demand projects, which includes projects that would demand an amount of water equivalent to or greater than the water required by a 500 dwelling unit project. The proposed project would construct 31 service connections for the 25 lodges, clubhouse, caretaker unit, laundry facilities, and pool, as well as 44 water spigots for the dock and two spigots for the dog run. It is anticipated that up to 250 overnight guests and approximately nine to 16 employees would be present on-site at a time. Therefore, the project would not be a water-demand project and would not require a WSA.

During operation, water on-site would be pumped from a new proposed well and stored in a proposed 5,000-gallon water storage tank located in the southwestern corner of the project site. The existing well on-site would be utilized for landscaping and other non-potable uses. The total average daily water demand for the project is estimated to be 6,917.9 gpd. The 25 proposed rental lodges would be rented to overnight guests on a temporary, short-term basis. As these rental lodges would not represent permanent housing stock that would require long-term water availability to serve the population, the proposed water system would be classified as a Transient Non-Community Public Water. The proposed well would be regulated by Chapter 9-601, Water Well and Well Drilling Regulations, and Chapter 9-602, Water Systems, of the County Development Title, and the design would be required to be reviewed by SJCEHD and the County Public Works Department.

Chapter 7 of the Tracy Subbasin GSP provides historical, current, and projected water budgets for the entire subbasin, as well as projected budgets for each of the management areas under climate change conditions. The project site is located within the Delta Management Area of the subbasin, which encompasses the Tracy Subbasin portion of the Delta Primary Zone. The Tracy Subbasin GSP projected that, between 2016 and 2065, the annual inflow of water into the Delta Management area of the Tracy Subbasin would be 255,828 AFY, and annual outflow would be 254,116 AFY. Of the projected annual outflow, the GSP projected that 140,806 AFY would be attributed to pumping (GEI Consultants 2021). The proposed project's water demand of 6,917.9 gpd, or 7.75 AFY, would represent less than 0.001 percent of the projected annual outflow due to pumping within the Delta Management Area of the Tracy Subbasin or total projected annual outflow. Due to the small nature of the project, the project would represent a minimal demand on groundwater within the Tracy Subbasin. Therefore, it is anticipated that the proposed well would have sufficient water to serve the project and reasonably foreseeable future during normal, dry, and multiple dry years. The impact would be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. As discussed in question a), the project would utilize a septic system and would not require a wastewater treatment provider to serve the site. Therefore, no impact would occur.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. Solid waste such as material packaging generated during project construction would be transported off-site to a licensed landfill. Since demolition is not required for the proposed project, construction-related solid waste would be minimal and would not exceed the capacity of landfills in the County. Additionally, 400 CY of vegetation and debris would be exported during site preparation. The vegetation and debris would be diverted from landfills to a green waste or composting facility in accordance with County waste diversion policies and CalRecycle standards.

During operation, solid waste would be generated by guests and employees; however, due to the relatively small size of the proposed project, it is anticipated that project operations would not generate a substantial amount of solid waste in excess of State or local standards, or in excess of the capacity of landfills in the County. The General Plan EIR notes that development facilitated by County General Plan implementation could require more landfill space than was available at the time of preparation of the EIR; however, the waste diversion policies outlined in the General Plan EIR were considered to conserve landfill volume and extend the capacity of existing landfills to 2054 or beyond (County 2014). As the proposed project would be required to comply with the General Plan requirements for waste diversion, the impact would be less than significant for questions d) and e).

XX. WILDFIRE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Environmental Setting

Fire potential for wildlands is based on three major factors: fuels, terrain, and weather (County 2014). The proposed project is located on McDonald Island in the Delta, and the elevation of the site varies between six and 12 feet amsl. The project site is bordered to the north, east, and west by San Joaquin River and wetlands, and to the south by N. Zuckerman Road and agricultural land.

PRC Section 4201-4204 directs the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRA) based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified as a major cause of wildfire spread. These zones, referred to as Fire Hazard Severity Zones (FHSZ), classify a wildland zone as Moderate, High, or Very High fire hazard based on the average hazard across the area included in the zone. According to the CAL FIRE Fire Hazard Severity Zone Viewer Map, the project site is located within an LRA and is not located on or near a Very High Fire Hazard Severity Zone (VHFHSZ; CAL FIRE 2025).

The Stockton Fire District (SFD) provides mutual fire protection services for the project site. The nearest SFD stations to the project site include Station 10, located approximately 7.4 miles southeast of the site, and Station 7, located approximately 7.5 miles east of the site.

Impact Analysis

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. There are no emergency evacuation routes on McDonald Island, nor is the island located within a mapped evacuation zone (County 2022). The project site is located on the northeastern corner of McDonald Island. Access to McDonald Island is via a dirt levee road from McDonald River Bridge off of Roberts Island, in the southeastern corner of McDonald Island. N. Zuckerman Road is the primary roadway on McDonald Island and traverses the perimeter of the island. As there are no emergency evacuation routes near the project site, implementation of the proposed project would not impair or physically interfere with an adopted emergency response or evacuation plan. Therefore, the impact would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant Impact. The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. According to the CAL FIRE Fire Hazard Severity Zone Viewer Map, the project site is located within an LRA and is not located on or near a VHFHSZ (CAL FIRE 2025). Nevertheless, construction of the proposed project could require activities that could result in sparks, such as welding or grinding, which have a greater likelihood of creating a source of ignition than other construction-related activities. However, construction workers would be trained in basic firefighting in the unlikely event of construction-related emergencies, and the availability of tools and training would allow construction crews to help control or extinguish fires they may come upon.

During project operation, the project applicant would be required to adhere to all federal, State, and local fire requirements/regulations for setbacks and defensible space, including requirements adherence to the CBC Chapter 7A, *Fire Hazard Severity Zones and Building Standards and Materials*, and PRC Section 4291, which requires property owners to maintain clearance of flammable vegetation of 100 feet from structures in order to reduce the risk of fire. Additionally, the proposed project is located within an LRA and is not mapped as a VHFHSZ. For these reasons, the proposed project would not exacerbate wildfire risks and would not expose project occupants to pollutant concentrations from wildfire. Therefore, the impact would be less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than Significant Impact. Propane would be delivered on-site and stored in a 1,000-gallon propane tank located on a paved pad adjacent to the garage. The project site would include a 5,000-gallon water storage tank that could be used for fire suppression. Electric power on McDonald Island is currently provided by PG&E. It is anticipated that the project would require the installation of a new PG&E transformer and underground power lines to provide electricity to the project site. A “U”-shaped gravel

internal access road off the two vehicle entrances would provide circulation throughout the proposed resort.

The installation and/or maintenance of infrastructure associated with the proposed project would not involve any unique elements that would exacerbate fire risk. However, the project proposes to construct a total of 27 fire pits on-site, including one fire pit per lodge and two additional common fire pits. It is anticipated that the use of the fire pits would be limited to three hours per day, three days per week, between April and October each year. However, as discussed above in question b), pursuant to CBC Chapter 7A, *Fire Hazard Severity Zones and Building Standards and Materials*, and PRC Section 4291, the project applicant would be required to maintain defensible space around the proposed structures, which would extend 100 feet from the structure to reduce the risk of structural fires. For these reasons, the proposed infrastructure would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, the impact would be less than significant.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than Significant Impact. As discussed in Section 5.VII, Geology and Soils, the project is not located on an unstable geologic unit or soil and does not have a high risk of landslides or liquefaction. The site is relatively flat, and the minimal grading associated with the project would not significantly alter drainage patterns. Therefore, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The impact would be less than significant.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	☐	☒	☐	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact with Mitigation Incorporated. Based on the preceding analyses contained in Sections 5.IV, Biological Resources; 5.V, Cultural Resources; 5.VII, Geology and Soils; 5.IX, Hazards and Hazardous Materials; 5.X, Hydrology and Water Quality; and 5.XVIII, Tribal Cultural Resources, the proposed project would implement Mitigation Measures BIO-1 through BIO-7, CUL-1 and CUL-2, GEO-2, and TCR-1 to reduce the potential impacts to biological, cultural, paleontological, and tribal cultural resources to a less than significant level. Therefore, with implementation of these mitigation measures, the project would not substantially degrade the quality of the environment substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Therefore, the impact would be less than significant with mitigation incorporated.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?

Less than Significant Impact with Mitigation Incorporated. As evaluated in Sections 5.I through 5.XX of this IS/MND, the proposed project would not result in substantial adverse effects with incorporation of Mitigation Measures BIO-1 through BIO-7, CUL-1 and CUL-2, GEO-1 and GEO-2, and TCR-1. With implementation of these mitigation measures, the project would not result in cumulatively considerable impacts in combination with past, present, and probable future projects in the County. Therefore, the impact would be less than significant with mitigation incorporated.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated. As described in Sections 5.III, Air Quality; 5.VII, Geology and Soils; 5.IX, Hazards and Hazardous Materials; and 5.XIII, Noise, the proposed project would not result in substantial environmental effects that would cause substantial direct or indirect adverse effects on human beings. As discussed in Section 5.IX, Hazards and Hazardous Materials, with implementation of Mitigation Measure BIO-4, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, the impact would be less than significant with mitigation incorporated.

6.0 MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared by the County per Section 15097 of the CEQA Guidelines. The MMRP is available as Appendix I to this IS/MND.

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Appendix I

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

Camp Gold Star Project

Purpose of Mitigation Monitoring and Reporting Program: The California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21081.6, requires that a Mitigation Monitoring and Reporting Program (MMRP) be established upon completing findings. CEQA stipulates that "the public agency shall adopt a reporting or 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. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP has been prepared in compliance with Section 21081.6 of CEQA to ensure that all required mitigation measures are implemented and completed according to schedule and maintained in a satisfactory manner during the construction and operation of the project, as required. San Joaquin County (County) is the Lead Agency for the Camp Gold Star Project (project) under CEQA and shall administer and implement this MMRP. The County is responsible for reviewing all monitoring reports, enforcement actions, and document disposition. The County shall rely on information provided by the project site observers/monitors (e.g., construction manager, project manager, biologist, archaeologist, etc.) as accurate and up-to-date and shall provide personnel to field check mitigation measure status, as required.

A table (attached) has been prepared to assist the responsible parties in implementing the MMRP. The table identifies individual mitigation measures, monitoring/mitigation timing, the responsible person/agency for implementing the measure, and space to confirm implementation of the mitigation measures. The numbering of mitigation measures follows the numbering sequence found in the Initial Study/Mitigated Negative Declaration (IS/MND).

MITIGATION MONITORING AND REPORTING PROGRAM
Camp Gold Star Project

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
BIOLOGICAL RESOURCES				
Mitigation Measure BIO-1: Special-Status Plant Survey The following mitigation measure is from Section 5.2.4.29 of the SJMSCP to reduce or avoid potential project-related impacts to SJMSCP Covered Plant Species: A qualified botanist shall conduct a special-status plant survey within the appropriate identification (blooming) period prior to the initiation of any ground-disturbing activities. One survey conducted in April will satisfy the blooming period for Delta mudwort and can serve as an early season survey for other plant species, and a second survey in July will satisfy the blooming periods for the remainder of the special-status plants with potential to occur in the project site. For all SJMSCP Covered Plants, if approved by the Joint Power's Authority (JPA) with the concurrence of the Permitting Agencies' representatives on the Technical Advisory Committee (TAC), the timing of preconstruction surveys for SJMSCP Covered Plants may be modified (i.e., the length of survey windows may be reduced) on a case-by-case based upon the TAC's assessment of the season's weather patterns (which may have affected blooming cycles) and the likelihood of species occurrences on a particular site given the specifics of the site's topography, existing land uses, aspect, slope, presence of competing vegetation, soils or other related factors which may have modified the blooming cycle for the species. If special-status plants are observed within the project site, the following mitigation measures shall be required:	Prior to initiation of any ground-disturbing activities.	Qualified Botanist		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• *For widely distributed plant species*: Mason's lilaeopsis, woolly rose-mallow, Suisun marsh aster, Delta tule pea, Delta mudwort: Attempt acquisition. If the plant population is considered healthy by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC, then the parcel owner shall be approached to consider selling a conservation easement including a buffer area as prescribed in Section 5.4.4 of the SJMSCP and sufficient to maintain the hydrological needs of the plants. Alternatively, the landowner may be approached to consider land dedication in-lieu of paying SJMSCP development fees. If the project proponent is not agreeable to acquisition, then compensation shall be as prescribed in SJMSCP Section 5.3.1. • *B. For narrowly distributed plant species*: bristly sedge and side-flowering skullcap: Attempt acquisition. If the plant population is considered healthy by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC , then the parcel owner shall be approached to consider selling a conservation easement including a buffer area a as prescribed in Section 5.4.4 of the SJMSCP and sufficient to maintain the hydrological and ecological (e.g., account for weed control, buffers, inclusion of pollinators) needs of the plants. Alternatively, the landowner may be approached to consider land dedication in-lieu of paying SJMSCP development fees. Consultation. If the landowner rejects acquisition of the population, then the JPA shall, with the concurrence of the				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
Permitting Agencies' representatives on the TAC, determine the appropriate mitigation measures (e.g., seed collection) for each plant population based upon the species type, relative health and abundance.				
Mitigation Measure BIO-2: Special-Status Fish The SJMSCP does not provide specific measures for special-status fish and relies on measures pertaining to riparian habitat protection to be umbrella protection measures for fish. The following measures are from Section 5.2.4.31 of the SJMSCP and would reduce or avoid potential project-related impacts to special-status fish: • Require appropriate erosion control measures (e.g., hay bales, filter fences, vegetative buffer strips or other accepted equivalents) to reduce siltation and contaminated runoff from project sites. • Retain emergent (rising out of water) and submergent (covered by water) vegetation. Additional measures have also been provided by the project applicant regarding dock construction and design. These additional measures will also reduce or avoid potential project-related impacts to special-status fish. Dock installation shall occur for a seven-day period sometime within the June 1 and October 31 work window during daylight hours (one hour after sunrise to no later than sunset) to minimize the potential impacts to special-status fish species during construction. This window will avoid sensitive periods such as migration or spawning periods of special-status fish. The dock shall be pre-manufactured off-site to reduce the amount of installation time on the water and to minimize potential effects on water quality. The following dock design features shall be incorporated into the project design to minimize impacts to special-status fish:	During construction.	Project Applicant		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• The dock will be placed in sufficiently deep water to minimize or preclude dredging, avoid groundings, and avoid displacement of submerged aquatic vegetation. • Overwater structures will use the fewest number of piles as practicable (15) for necessary support of the structure to minimize pile shading, substrate impacts, and impacts to water circulation. • Pilings will be spaced at least 10 feet apart at the center to minimize shading. • If cutting, boring, or touch-up preservation applications must be performed over the water, then tarps, barriers, plastic tubs, or similar devices will be used to capture debris, spills, or drips. Additionally, the following construction Best Management Practices (BMPs) shall be implemented during pile driving activities to minimize acoustic effects during dock installation: • The drop hammer will be 3,000 pounds or less. • No single strike will exceed 191 decibels (dB) for an estimated distance of 10 meters. • The minimum number of piles will be used (15) to safely support the dock structure while minimizing the duration of the acoustic effects associated with pile driving. • Pile driving will utilize curtains to mitigate negative impacts to water quality.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• Pile driving will utilize wooden cushion blocks to minimize acoustic impacts. • Pile driving will occur only during daylight hours and initially will occur at low energy levels and reduced impact frequency. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved.				
Mitigation Measure BIO-3: Giant Garter Snake The following mitigation measure is from Section 5.2.4.8 of the SJMSCP to reduce or avoid potential project-related impacts to giant garter snake: For areas with potential giant garter snake habitat, the following is required. • Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2nd and April 30th, the JPA, with the concurrence of the Permitting Agencies' representatives on the TAC, shall determine if additional measures are necessary to minimize and avoid take. • Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary. • Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance. • Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.	Prior to initiation of any ground-disturbing activities.	Construction Personnel.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site: o Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch; o Restrict working areas, spoils and equipment storage and other project activities to areas outside of marshes, wetlands and ditches; and o Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents. • Pre-construction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance. • Other provisions of the USFWS Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat shall be implemented (excluding programmatic mitigation ratios which are superseded by the SJMSCP's mitigation ratios).				
Mitigation Measure BIO-4: Avoid Impacts to Water Quality To avoid impacts to water quality during construction activities, the following construction BMPs shall be implemented during handling of construction materials, debris, and waste: • Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or	During handling of construction materials, debris, and waste.	Construction Personnel; Project Applicant.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted. • All debris and waste will be picked up daily. All workers shall not dump any litter or construction debris within the river or where it may pass into the river. • Water containing mud, silt, or other potential pollutants from equipment washing or other activities, shall not be allowed to enter the river or placed in locations that may be subjected to high storm flows. • Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life, wildlife, or riparian habitat shall be prevented from contaminating the soil and/or entering the river. • Hazardous materials such as fuels, oils, solvents, etc., shall be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitat. All fueling and maintenance of vehicles and other equipment shall occur at least 200 feet from any aquatic habitat. In the event of accidental spills or emergencies involving potentially hazardous materials, the following measures shall be taken: • If cutting, boring, or touch-up preservation applications must be performed over the water during installation of the dock and/or gangway, then tarps, barriers, plastic tubs, or similar devices shall be used to capture debris or accidental spills or drips.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• Absorbent materials designated for spill containment and cleanup activities shall be on-site during all stages of construction for use in an accidental spill. Before entering the work site, all field personnel shall be aware of the location of spill kits and trained in their appropriate use. • In the event of a hazardous materials spill into the river, the California Office of Emergency Services State Warning Center shall be immediately notified by calling 1-800-852-7550 and written notification shall be immediately provided to the California Department of Fish and Wildlife (CDFW) by email at R31600Program@wildlife.ca.gov. All reasonable measures shall be taken to document the extent of the impacts and affected areas, including photographic documentation of affected areas, or any injured fish or wildlife.				
Mitigation Measure BIO-5: Northwestern Pond Turtles The following mitigation measure is from Section 5.2.4.10 of the SJMSCP to reduce or avoid potential project-related impacts to northwestern pond turtle: When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall [be] indicated by temporary fencing if construction has or will begin before nesting periods are ended (the period from egg laying to emergence of hatchlings is normally April to November).	Prior to initiation of any ground-disturbing activities.	Construction Personnel.		
Mitigation Measure BIO-6: Special-Status Birds, Migratory Birds, and Raptors The SJMSCP includes measures for nesting birds and general compliance with the Migratory Bird Treaty Act (MBTA); these measures are grouped into three categories: General, Habitat Protection, and Stressor Management and are listed	Prior to initiation of any ground-disturbing activities.	Qualified Biologist; Construction Personnel; Project Applicant.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
below. These measures will reduce or avoid potential project-related impacts on special-status birds, migratory birds, and raptors. • General Measures o A qualified biologist shall educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife. This shall be conducted in the form of an environmental awareness training and may be combined with other trainings, as applicable. o Prior to removal of an inactive nest, a qualified biologist shall ensure that the nest is not protected under the Endangered Species Act or the Bald and Golden Eagle Protection Act (BGEPA). Nests protected under ESA or BGEPA cannot be removed without a valid permit. o Do not collect birds (live or dead) or their parts (e.g., feathers) or nests without a valid permit. o Provide enclosed solid waste receptacles at all project areas. Non-hazardous solid waste (trash) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor. o Report any incidental take of a migratory bird, to the local USFWS or CDFW Service Office. • Habitat Protection				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
○ Minimize project creep by clearly delineating and maintaining project boundaries (including staging areas). ○ Consult all local, State, and Federal regulations for the development of an appropriate buffer distance between the development site and any wetland or waterway, as applicable. ○ Maximize the use of disturbed land for all project activities (i.e., siting, lay-down areas, and construction). ○ Implement standard soil erosion and dust control measures. For example: ▪ Establish vegetation cover to stabilize soil. ▪ Use erosion blankets to prevent soil loss. ▪ Water bare soil to prevent wind erosion and dust issues. • Stressor Management ○ Schedule all vegetation removal, trimming, and grading of vegetated areas outside of the peak bird breeding season (February 1 to August 31) to the maximum extent practicable. Use available resources, such as internet-based tools to identify peak breeding months for local bird species; or contact local Service Migratory Bird Program Office for breeding bird information.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
○ When project activities cannot occur outside the bird nesting season (February 1 to August 31), conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact and buffer any nesting locations found during surveys. ▪ Generally, the surveys should be conducted no more than five days prior to the scheduled activity. ▪ Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance. ▪ If active nests or breeding behavior (e.g., courtship, nest building, territorial defense, etc.) are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If the activity must occur, establish a buffer zone (100-feet minimum) around the nest and no activities will occur within that buffer zone until nestlings have fledged and left the nest area. The dimension of the buffer zone may need to be expanded depending on the proposed activity, habitat type, and species present and should be coordinated with the biologist on site and/or SJMSCP. ▪ When establishing the buffer zone, construct a barrier (e.g., plastic fencing) to protect the area. If the fence is knocked down or destroyed, work will suspend wholly, or in part, until the fence is satisfactorily repaired.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
▪ When establishing a buffer zone, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs. Prior to vegetation clearing, the monitor will ensure that the limits of construction have been properly staked and are readily identifiable. Any associated project activities that are inconsistent with the applicable conservation measures, and activities that may result in the 'take of migratory birds' will be immediately halted and reported to the SJMSCP and the appropriate agency office within 24 hours. ▪ If establishing a buffer zone of a minimum of 100 feet is not feasible, contact the appropriate agency office for guidance to minimize impacts to migratory birds associated with the proposed project or removal of an active nest. Active nests may only be removed if you receive a permit from your local Migratory Bird Permit Office. A permit may authorize active nest removal by a qualified biologist with bird handling experience or by a permitted bird rehabilitator.				
Mitigation Measure BIO-7: Aquatic Resources Delineation and Regulatory Permitting A formal aquatic resources delineation has been conducted for the project site and shall be submitted to the U.S. Army Corps of Engineers (USACE) for verification. Before the initiation of any construction activities that could result in impacts to potentially regulated aquatic features, the extent of the features	Prior to initiation of any ground-disturbing activities.	Project Applicant.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
within the project site shall be verified by the USACE. The project applicant shall obtain 404 and 401 permits for any impacts to Waters of the U.S. A permit under Section 10 of the Rivers and Harbors Act for placement of a structure within a navigable water shall also be required. Mitigation measures and any other requirements contained in these permits shall be implemented.				
CULTURAL RESOURCES				
CUL-1: Accidental Discovery of Cultural Resources In the event that cultural resources are exposed during ground-disturbing activities, construction activities shall be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features, including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, the retained archaeologist, who meets the Secretary of the Interior's *Professional Qualifications Standards*, shall assess the resource, and provide appropriate management recommendations. If the discovery proves to be California Register of Historical Resources (CRHR)- or National Register of Historical Places (NRHP)-eligible, additional documentation and analysis, such as data recovery excavation, shall be warranted.	Immediately upon discovery.	San Joaquin County; Qualified Archaeologist.		
Mitigation Measure CUL-2: Accidental Discovery of Human Remains Although considered highly unlikely, there is always the possibility that ground-disturbing activities during construction may uncover previously unknown human remains. In the event of an accidental discovery or recognition of any human remains, Public Resources Code (PRC) Section 5097.98 shall be followed. Once project-related earthmoving begins and if there is a discovery or recognition of human remains, the following steps shall be taken:	Immediately upon discovery.	San Joaquin County; NAHC; Native American Representative; County Coroner.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
1. There shall be no further excavation or disturbance of the specific location, or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or 2. Where the following conditions occur, the landowner or their authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the project area in a location not subject to further subsurface disturbance: • The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission; • The descendent identified fails to make a recommendation; or, • The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
All treatment recommendations made by the Tribe and other cultural resources specialists shall be documented in the confidential portion of the project record. Work in the area(s) of the cultural find shall only proceed after authorization from the lead agency in coordination with the Tribe.				
GEOLOGY AND SOILS				
Mitigation Measure GEO-1: Septic System Engineering Design Review Prior to the issuance of building permits, the project applicant shall retain a qualified professional engineer to prepare and submit a detailed engineered design plan for any proposed sewage holding tank system to the San Joaquin County Environmental Health Department (SJCEHD) for review and approval. The design plans shall include the following specifications: location and configuration of the proposed septic system, the area required to be reserved for future sewage disposal repair/replacement, and design calculations that include the maximum number of people that will be served by the proposed septic system. The project applicant shall also perform and submit a site-specific Soil Suitability and Nitrate Loading Study that evaluates projected staffing and customer use and a Percolation Test that conforms to the *U.S. EPA Design Manual: Onsite Wastewater Treatment and Disposal Systems* to SJCEHD, which shall both be approved by SJCEHD prior to the issuance of a building permit. The proposed septic system shall be constructed in accordance with the approved design and study findings, and under permit and inspection by SJCEHD.	Prior to issuance of building permits.	Project Applicant; San Joaquin County.		
Mitigation Measure GEO-2: Avoid and Minimize Impacts to Paleontological Resources In the event paleontological or other geologically sensitive resources (such as fossils or fossil formations) are identified during any phase of project construction, all excavations within 100 feet of the find shall be temporarily	Immediately upon discovery.	Qualified paleontologist; San Joaquin County.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the County who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under the California Environmental Quality Act (CEQA), the County shall implement those measures which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code (PRC) Section 21083.2.				
TRIBAL CULTURAL RESOURCES				
Mitigation Measure TCR-1: Inadvertent Discovery of Tribal Cultural Resources In the event that Tribal Cultural Resources (TCRs), archaeological artifacts, other cultural resources, articulated, or disarticulated human remains are exposed during ground-disturbing activities, all construction activities shall be halted within 100 feet of the find (examples of potential cultural materials include but are not limited to midden soils, artifacts, chipped or worked stone, baked clay, shell, or bone). An archaeologist who meets the Secretary of the Interior's *Professional Qualifications Standards* shall then be retained to evaluate the resource's significance under the California Environmental Quality Act (CEQA) in close coordination with tribal members who would provide traditionally based cultural knowledge for the analysis. If the discovery proves to be significant, additional work and mitigation measures, such as those listed in Mitigation Measures CUL-1 and CUL-2, as deemed appropriate by the tribal organization consulting on the find. Such mitigation may include avoidance, data recovery excavation, or traditional ethnographic research into the cultural importance of the find to contemporary descendant communities.	Immediately upon discovery.	Native American Representative; Qualified Cultural Resources Specialist; San Joaquin County.		

Appendix A

New Public Water System Report

Camp Gold Star Resort & Marina
(Proposed Water System)
4103 N. Zuckerman Rd.,
Stockton, CA 95206

Preliminary - Technical - Report

Prepared for
Gena Farley
SWRCB, Division of Drinking Water
State Water Resources Control Board
3021 Reynolds Ranch Parkway, Suite 260
Lodi, CA 95240

Prepared by
Aracelia Franco
Quality Service, Inc.
November 2024

Preliminary Technical Report

Introduction

Quality Service, Inc. (QSI) has been hired by Camp Gold Star Marina (Proposed Water System) to complete the permitting documentation for a new small public water system due to instruction from San Joaquin County (SJC) Environmental Health Department (EHD). The business was required to become a public water system as it will serve water to more than 25 people annually. Camp Gold Star, LLC is the owner of the proposed Water System, Quality Service, Inc. (QSI) was hired to assist with the permitting documentation. The Water System will be designed to comply with regulations under Title 22 California Code of Regulations (CCR), American Water Works Associated (AWWA) Standards and the Uniform Plumbing Code (UPC).

Background

Camp Gold Star Marina first inquired permitting the pre-existing well onsite. However, this well was not permitted by the EHD as a public water system, the well did not meet current standards due to the depth of its annular seal. Camp Gold Star, LLC will be drilling another well onsite in order to have a source that meets California requirements.

Purpose

The purpose of this New Public Water System Technical Report (Report) is to provide specifications and information about the components of the proposed water system with the aim to prove the system meets California Drinking Water Standards in order to be permitted as a small water system.

Section I. Applicant General Information

Name of applicant: Camp Gold Star, LLC

Phone number of applicant: (925) 787-0821

Email address of applicant: Deltagman@yahoo.com

Name of engineering consultant responsible for the project: Quality Service Inc.

Phone number of engineering consultant: 209-838-7842

Email of engineering consultant: afranc@qualityservicein.net

Have you previously applied to be a public water system for this property?

☐ Yes

☑ No

Who is the legal owner of the property?

Frank Morgan, Melinda Lamb, & Tim Bubnial

Camp Gold Star, LLC, 1700 Riverlake Road, Discovery Bay, CA 94505

Section II. General Information on the Proposed Water System

County of proposed new public water system: San Joaquin

Assessor's Parcel Number(s) or address of proposed new public water system:

4103 N. Zuckerman Rd., Stockton, CA 95206. See Attachment 1.

Number of proposed connections (e.g. buildings, homes, etc.) the new public water system would serve:

29 buildings consisting of: 25 cabins, 1 club house, 1set of restrooms/showers, 1 laundry room, 1 caretaker's condo above the clubhouse, and 3 additional connections consisting of: 1 dock, 1 dog park, 1 outdoor shower see
Attachment 2.

Number of people the new public water system would serve:

10 employees (4 full time, 6 part time), 150 estimated average visitors to 250 on peak weekends and holidays.

Number of days per year the new public water system will serve water (e.g. 365): 365 days

What are the sources of water for the proposed public water system (mark all that apply, note: more detailed source information is required in Section VI):

- ☐ Lake or Pond
- ☐ River/Stream
- ☐ Spring
- ☐ Creek
- ☐ Multiple Wells
- ☐ Well within 100 feet of a lake, river, or creek
- ☑ Unknown/source does not exist yet

What type of properties will be served, indicate all that are applicable, or provide a copy of the use permit:

- ☐ Residential Community
- ☐ Businesses
- ☐ Industrial Park
- ☐ Schools/Daycares
- ☐ Winery
- ☐ Restaurant
- ☑ Park/Recreation
- ☐ Mobile Home Park
- ☐ Other:

Is any treatment known to be required for the source water? If yes, explain.

No existing well. No treatment is anticipated.

Provide a summary description of the proposed water system (physical facilities, type of legal entity it will be, who it will serve, who will manage it, existing facilities that will be incorporated, any contamination in the local area that could impact the water quality, other pertinent factors).

Camp Gold Star is a proposed 10-acre Resort and Marina in honor of fallen heroes (veterans and first responders). The resort will be classified as Public Water System based on the peak operation period; the resort will employ 10 employees and an estimated average of 150 visitors with a 250 daily maximum on peak season weekends and holidays. The water system will be considered and classified as a Transient, Non-Community ("TNC") Public Water System.

The one [1] existing well will be utilized for non-potable uses, irrigation purposes and dust control.

The new well will provide the demand for all fixtures that require potable water. The proposed water system will consist of 31 service connections entailing 25 mini lodges, each equipped with a bathroom and kitchenette, a club house with a caretaker unit attached, laundry facilities, a pool with an outdoor shower, a dock with 44 water spigots and dog park with 2 water spigots

No active sources of contamination were identified using GeoTracker within a one (1) mile radius. See Figure 1. Five (5) closed cases of either Leaky Underground Storage Tank (LUST) or similar cleanup sites were identified within a 3-mile radius. See Figure 2. In addition to, the surrounding vicinity is comprised of irrigated with no other known sources of contamination.

Figure 1

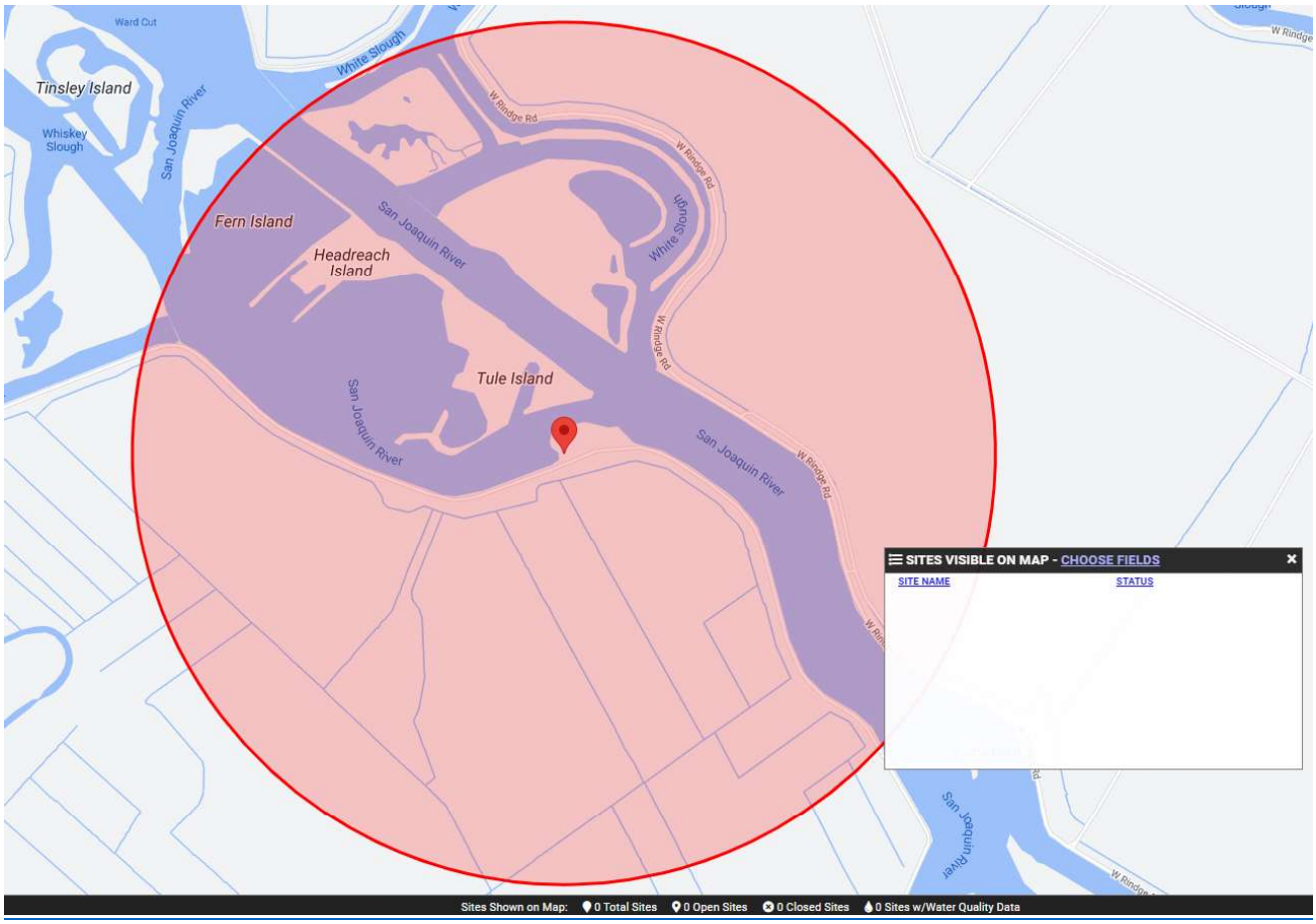
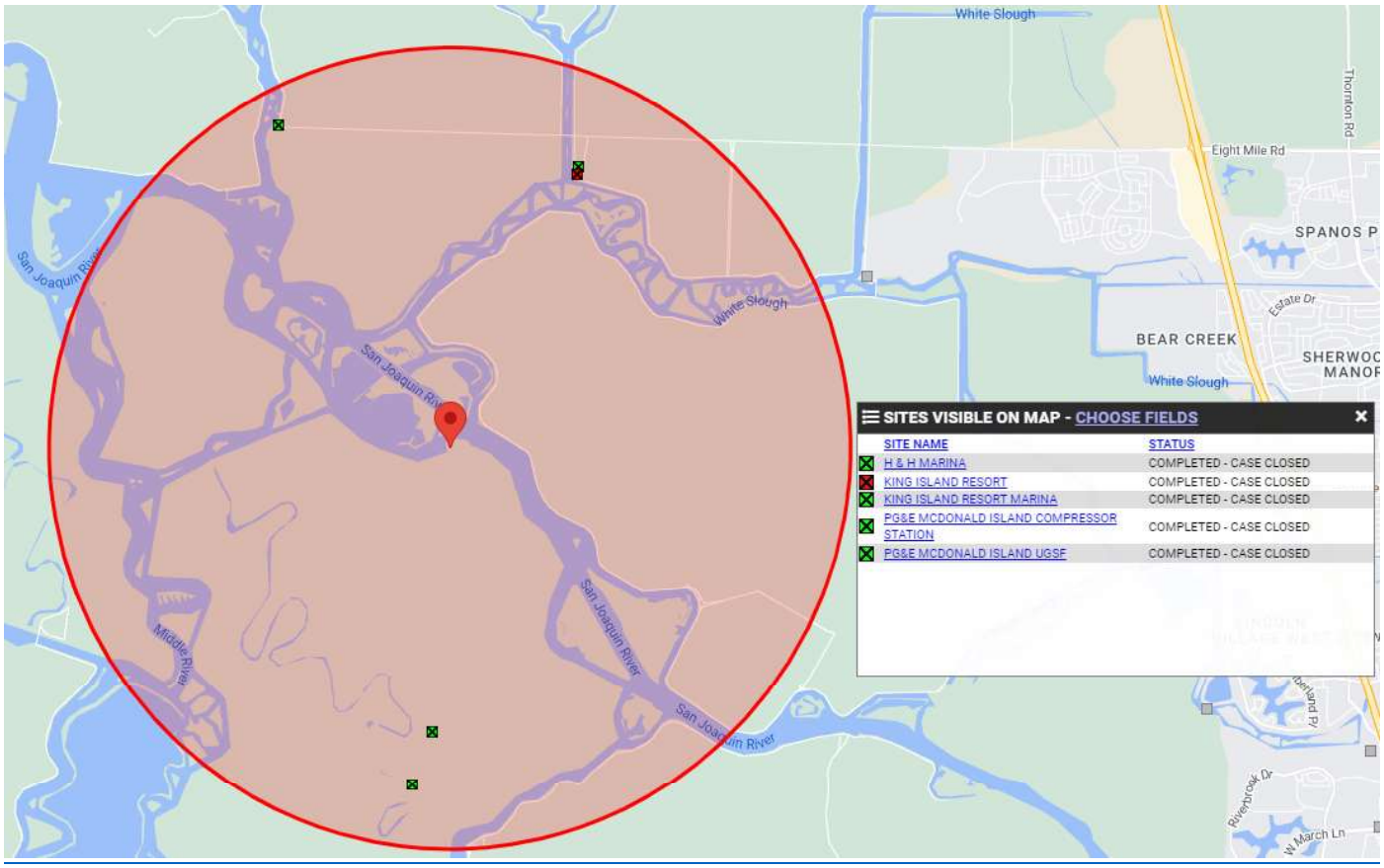


Figure 1



The review of the Drinking Water website (sdwis.waterboards.ca.gov/PDWW) found that there is one Community Water System (CWS) operating within a 3-mile radius of this site and are permitted to serve raw (untreated) source water. This water system was used as an indication a newly constructed groundwater source may meet all drinking water quality standards established for a Non-Transient Non-Community (NTNC) water system without treatment. However, it is not known if treatment will be required until the well has been properly constructed, developed, and well water samples collected and analyzed to determine if the any result exceeds the Maximum Contaminant Level (MCL)

See Attachment 1 for the boundaries of the water system.

Section III. Discussion of the Potential for the Proposed Water System to be served by an Existing Water System:

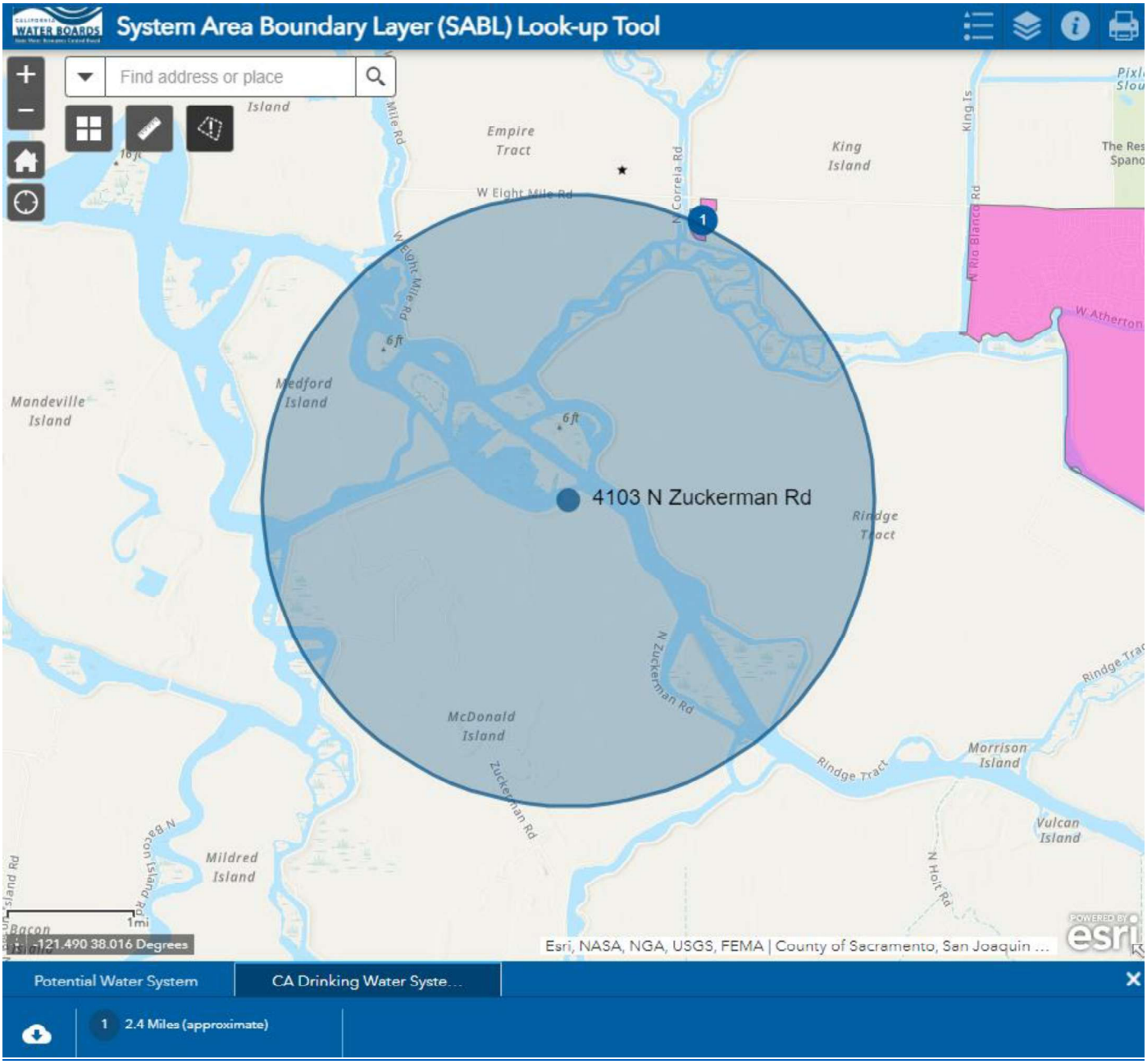
Community Water Systems in 3-mile Radius:

A search was conducted using the California Water System Area Boundary Map application and cross referenced by using the GeoTracker Map application. The following active Public Water System were identified within 3-mile radius.

1. CA3901114 King Island Trailer Park

See Figure 3.

Figure 2



Is the proposed water system in the County Local Area Formation Commission's (LAFCo) sphere of influence boundary for any city or municipal water service? CHSC 116527(c)(9)

☐ Yes
☑ No

Attach a feasibility report evaluating the possibility of obtaining water supply from each public water system listed above and the estimated costs. The report should include:

- *dates of contact with the public water systems;*
- *names and titles of all parties involved as well as phone numbers and email addresses of all*

parties;

- *a summary of their responses;*
- *all actions taken to obtain service for the proposed new public water system's service area; CHSC 116527(c)(2)*

all information provided by each identified public water system regarding the feasibility of annexing, connecting or otherwise supplying domestic water to the proposed service area. Commission's (LAFCo) executive officer and/or staff regarding identified public water systems.

There is only one [1] community water system within 3-mile radius. It is located across a deep-water channel and is a small community water system with 76 service connections and only one [1] source well. Connecting to the small community water systems would change their classification. The cost would be prohibitive for connection, and thus not be feasible. There are no large or municipal water systems located within a 3-mile radius.

Section IV. Managerial Consolidation

If physically connecting to another water system appears unfeasible, submit a discussion of all actions taken by the applicant to pursue a contract for managerial or operational oversight from the identified community water systems in Section III. This should include a summary of names, dates and contact information of those individuals you have interacted with as well as their responses. CHSC 116527(c)(7)

Not applicable. See above.

Section V. Cost of Proposed New Public Water System

We recommend that you review the Drinking Water Related Regulations related to operating a public water system. Please attach a report on the proposed cost to construct, operate, and maintain the proposed new public water system for 20 years. We recommend this report be prepared by an engineer who is knowledgeable regarding the legal requirements for public water systems, typically an engineer that has experience in working on public water systems. The new water system should consider the following costs listed below, as they would apply to the proposed water system. The report must also include a discussion of the proposed rates based on the costs. CHSC 116527(c)(5) Other costs may also be applicable, particularly those with other regulatory agencies, such as Division of Water Rights, LAFCo, Public Utilities Commission, business licenses, etc. To facilitate review of each cost, the section from the CCR Title 22, Division 5 discussing the specific requirements is included in parentheses. If the requirement comes from another regulatory section, the location is noted:

- *System engineering and design costs for construction and permitting (§64552), including pump tests (§64554), two water supply well sources for communities (§64554c and §64561), a 50-foot source protection zone around wells (§64560), and initial monitoring costs*
- *Construction costs, backup electricity for pumps to maintain 40 pounds per square inch (psi) minimum pressure at all times (§64602), proper construction of distribution systems (§64570-64580), installation of meters (§64561), adequate storage capacity (§64554 and 64585) and fire*

capacity (contact local fire official)

- *Monthly electricity costs for pumps, other utilities, interest on any debt service*
- *Cost of as-built maps (§64604)*
- *Annual water-treatment quality chemical costs (§64590), and equipment for distribution monitoring of any added chemical treatment (dependent on the type of needed treatment)*
- *Ongoing raw water chemical monitoring sampling and analysis costs (§64431-64445.2)*
- *Ongoing bacteriological monitoring sampling and analysis costs for untreatedwater (§64430)*
- *Ongoing bacteriological monitoring sampling and analysis costs for treated water (§64421- 64430, Table 64423-A)*
- *Maintenance of bacteriological plans (§64422) and emergency notification plans for notification of water quality emergencies(§64463-64466)*
- *Required lead and copper monitoring sampling and analysis costs and maintenance of lead and copper plan (§64670-64690.80, Table 64675-A)*
- *Required disinfection byproducts monitoring costs and maintenance of associatedplan (§64530-64537.6, Table 64534.2-A)*
- *Customer water quality complaint program (§64470)*
- *Flushing (§64575), valve and meter maintenance (§64600), and maintaining maps (§64604)*
- *Cross connection program and annual backflow device testing and maintenance (from Title 17, §7583-7605)*
- *Salary for licensed operator staff costs, including time for reports and inspections required by Division of Drinking Water staff(§64413.1-64413.7)*
- *The cost to maintain written procedures for system maintenance, for example main line breaks procedures, etc. (§64580, 64582, and 64583)*
- *Source capacity planning studies and permit amendments for any additional growth (§64558 and §64556)*
- *Annual Consumer Confidence Report preparation and distribution costs (§64480-64483)*
- *Annual electronic Report to State Water Resource Control Board-Division of Drinking Water (Health and Safety Code §116530)*
- *Records of the estimated life of all pumps, treatment, storage, and distribution system and an annual capital improvement plan to fund replacement*
- *Metering and billing staff costs*
- *Emergency reserve costs for drought, regulatory changes, public notice of bacteriological or chemical failures, etc.*
- *Maintaining of business licenses and paying annual permit fees (Ca Health and Safety Code §116565) and any State enforcement fees for actions resulting from water system non-compliance (Ca Health and Safety Code §116577)*

- *Appropriate workspace to house staff, records (§64470, §64423.1), and appropriate containment of chemicals*
- *Insurance and liability for staff, for duties including climbing tanks, handling hazardous chemicals, if appropriate.*
- *Knowledgeable management staff costs to coordinate the above and maintain financial controls (per Corporation Code and Government Code requirements and Health and*

  Safety Code §116540) and office supplies
- *If the source is surface water (lake, stream, pond, etc.), additional costs should be considered for the following:*
  - *A water treatment plant meeting all the requirements of the Surface Water Treatment Rule (§64650 through §64666)*
    - *Continuous operator supervision of the water treatment plant when operating (§64660) chemical monitoring equipment, at minimum turbidity and chlorine (§64655-64656.5, §64659)*
    - *Operations Plan (§64661)*
    - *Alarms (§64659)*
    - *Monthly monitoring reports to the Division of Drinking Water (§64662- 64664.2)*
    - *Additional raw water sampling requirements (§64654.8)*
    - *Watershed Sanitary Survey, every five years (§64665), and*
    - *Engineering Report after one year of operation for system optimization for alternative technologies (§64653 (i)).*

See Attachment 3.

Section VI. 20 Year Evaluation of Proposed New Public Water System's Supply Capacity CHSC 116527(c)(8)

Submit an analysis of the proposed new public water systems' total projected water supplies available during normal, single dry, or multiple dry water years to meet current demand, and any anticipated growth, for the next 20 years. If a source has not yet been constructed (e.g. a well) an engineer shall evaluate demands required under these scenarios. Please be aware that for a community water system using wells, it will be required to have at least <u>two</u> well sources and must be capable of meeting the maximum day demand with the highest-capacity source off-line, prior to being granted an initial domestic water supply permit, per Section 64554(c).

As the proposed public water system does not yet have a constructed well, we are unable to provide specific data for this system's projected water supplies under normal, single dry, or multiple dry water year scenarios. However, we have conducted an analysis based on data from comparable systems that were under the same deltaic conditions, located within the same basin and within a less than 10-mile radius of the proposed water system.

System A		System B		System C	
Date:	Static Water Level (ft.)	Date:	Static Water Level (ft.)	Date:	Static Water Level (ft.)
12/6/2022	15.73	6/15/2023	62.94	11/9/2023	5.5
6/14/2023	50.16	2/27/2024	56.07	6/9/2023	9.12
3/5/2024	65.11	4/30/2024	56.07	12/18/2023	8.12

The similar system's average static water levels are 40.74 feet during the dryer summer months and 34.43 feet during the wetter winter months. These levels provide a baseline for evaluating potential supply capacities under varying hydrological conditions.

Source capacity – Being a recreational park facility, the average daily demand (ADD) for the proposed water system will vary both daily and dramatically seasonally, therefore an estimate based on similar systems within the same deltaic conditions and seasonal demands have been used to estimate the ADD below:

Riverboat Marina with a transient population of 300:
Maximum Daily Demand (MDD) 10,376.8 – gpd
ADD (estimated) 10,376.8/1.5 = 6917.9 – gpd
Peak Hourly Demand (MDD/24) x 1.5 = 648.5 – gph

Korth's Pirate Lair Marina with 64 service connections:
Maximum Daily Demand (MDD) 17,616.3 – gpd
ADD (estimated) 17,616.3 – gpd /1.5 = 11,744.2 – gpd
Peak Hourly Demand (MDD/24) x 1.5 = 1,101.0 – gph

Water system usage tables see Attachment 5.

Once the well is constructed, an engineer will evaluate the system's demands under normal and dry year scenarios as required. Additionally, we acknowledge the regulatory requirement for at least two well sources capable of meeting maximum day demand with the highest-capacity source offline, as per Section 64554(c), prior to obtaining an initial domestic water supply permit.

This evaluation will be updated with site-specific data upon well construction to ensure compliance with all applicable requirements.

Section VII. Cost-Comparison CHSC 116527(c)(6)

Submit an analysis comparing the 20-year estimated costs associated with the construction, operation, and maintenance of the proposed new public water system to the 20-year costs associated with providing water through connecting to an existing public water system. Also, compare the long-term sustainability of each water system, including but not limited to local groundwater contamination migration, global climate change, and potential treatment needs.

Some water systems will require proposed water system to annex or enter into an out-of-area service agreement to obtain water. These identified water systems may not be excluded from cost comparison

evaluation due to the need for annexation or out-of-area agreements.

Not applicable. It is unfeasible to consolidate with only the single Small Community Water System within 3-mile proximity.

Attachment 1

Parcel Map

PARCEL MAP

BEING A PORTION OF PROJECTED SECTION 13, T. 2N., R.4 E., AND PROJECTED SECTION 18, T. 2N., R. 5 E., M.D.B.& M., ALSO BEING A PORTION OF McDONALD TRACT

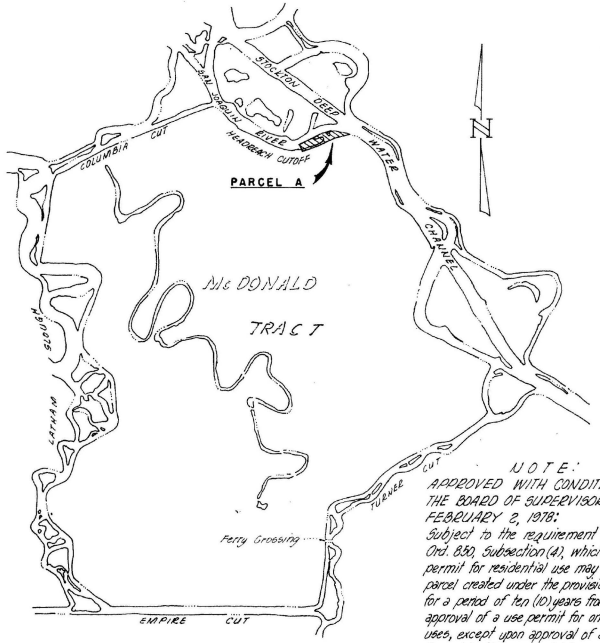
SAN JOAQUIN COUNTY, CALIFORNIA

R.W. SIEGFRIED & ASSOCIATES
STOCKTON, CALIFORNIA

CIVIL ENGINEERS
MARCH 1978

SHEET 1 OF 2 SHEETS

5-191



VICINITY MAP

Scale: 1" = 3333'

OWNER'S CERTIFICATE:

We, the undersigned owners of the land shown on this Parcel Map, do hereby consent to the preparation and recording of same.

Dated this 9 day of March, 1978.

John Zuckerman
John Zuckerman

Dated this 9 day of March, 1978.

E.M. Schwartz
E. M. Schwartz

Dated this 9 day of March, 1978.

Marion G Zuckerman by John Zuckerman
Marion G. Zuckerman — John Zuckerman, as her attorney-in-fact

Dated this 9 day of March, 1978.

David E Zuckerman by John Zuckerman
David E. Zuckerman — John Zuckerman, as his attorney-in-fact

Dated this 9 day of March, 1978.

Helen C Zuckerman by John Zuckerman
Helen C. Zuckerman — John Zuckerman, as her attorney-in-fact

Dated this 9 day of March, 1978.

David E Zuckerman and Marion G Zuckerman
David E. Zuckerman and Marion G. Zuckerman as Co-Trustees of "Testamentary Trust 2" created under the last will and Testament of Herbert G. Zuckerman, deceased, No. 12754 in the Superior Court of California for the County of Alameda.

By John Zuckerman
John Zuckerman, as their attorney-in-fact

NOTE:
APPROVED WITH CONDITIONS BY THE BOARD OF SUPERVISORS ON FEBRUARY 2, 1978:
Subject to the requirement of Section 8.30, Ord. 830, Subsection (4), which reads: "No permit for residential use may be issued on any parcel created under the provisions of this section for a period of ten (10) years from the date of approval of a use permit for one of the above uses, except upon approval of a use permit for residential uses which are accessory to and necessary for the operation of a marina."

OWNER'S CERTIFICATE:

David E Zuckerman and Marion G Zuckerman
David E. Zuckerman and Marion G. Zuckerman as Co-Trustees of "Testamentary Trust 2" created under the last will and Testament of Herbert G. Zuckerman, deceased, No. 12754 in the Superior Court of California for the County of Alameda.

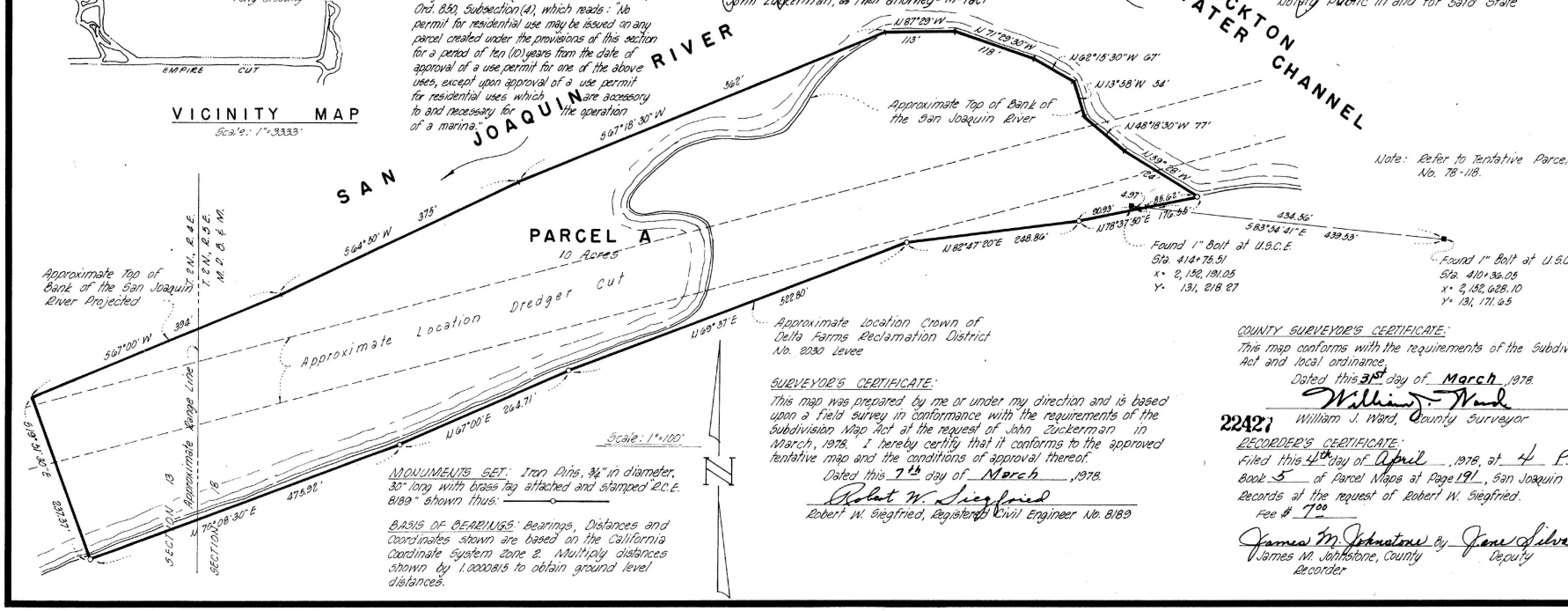
By John Zuckerman
John Zuckerman, as their attorney-in-fact

County of San Joaquin
State of California

On March 9, 1978, before me, the undersigned, personally appeared John Zuckerman, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal.

Notary Public in and for said State



Note: Refer to Tentative Parcel Map No. 78-118.

MONUMENTS SET: Iron Pins, ¾" in diameter, 30" long with brass tag attached and stamped "R.C.E. 8189" shown thus: ○

BASIS OF BEARINGS: Bearings, Distances and Coordinates shown are based on the California Coordinate System Zone 2. Multiply distances shown by 1.0000815 to obtain ground level distances.

SURVEYOR'S CERTIFICATE:

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act at the request of John Zuckerman in March, 1978. I hereby certify that it conforms to the approved tentative map and the conditions of approval thereof.

Dated this 7th day of March, 1978.

Robert W. Siegfried
Robert W. Siegfried, Registered Civil Engineer No. 8189

COUNTY SURVEYOR'S CERTIFICATE:

This map conforms with the requirements of the Subdivision map Act and local ordinance.

Dated this 31st day of March, 1978.

William J. Ward
22427
William J. Ward, County Surveyor

RECORDER'S CERTIFICATE:

Filed this 4th day of April, 1978, at 4 P.M., in Book 5 of Parcel Maps at Page 191, San Joaquin County Records at the request of Robert W. Siegfried.

Fee # 7.00

James M. Johnstone by Jane Silva
James M. Johnstone, County Recorder — Deputy

5-191

County of San Joaquin
State of California
On March 9, 1978, before me, the undersigned, personally appeared E.M. Schwartz, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.
WITNESS my hand and official seal.
Notary Public in and for said State

County of San Joaquin
State of California
On March 9, 1978, before me, the undersigned, personally appeared John Zuckerman, known to me to be the person whose name is subscribed to the within instrument as attorney in fact of Marion G. Zuckerman, and acknowledged to me that he subscribed the name of Marion G. Zuckerman thereto as principal, and his own name as attorney in fact.
WITNESS my hand and official seal.
Notary Public in and for said State

County of San Joaquin
State of California
On March 9, 1978, before me, the undersigned, personally appeared John Zuckerman, known to me to be the person whose name is subscribed to the within instrument as attorney in fact of David E. Zuckerman, and acknowledged to me that he subscribed the name of David E. Zuckerman thereto as principal, and his own name as attorney in fact.
WITNESS my hand and official seal.
Notary Public in and for said State

County of San Joaquin
State of California
On March 9, 1978, before me, the undersigned, personally appeared John Zuckerman, known to me to be the person whose name is subscribed to the within instrument as attorney in fact of Helen C. Zuckerman, and acknowledged to me that he subscribed the name of Helen C. Zuckerman thereto as principal, and his own name as attorney in fact.
WITNESS my hand and official seal.
Notary Public in and for said State

County of San Joaquin
State of California
On March 9, 1978 before me, the undersigned, personally appeared John Zuckerman, known to me to be the person whose name is subscribed to the within instrument as attorney in fact of David E. Zuckerman and Marion G. Zuckerman, and acknowledged to me that he subscribed the names of David E. Zuckerman and Marion G. Zuckerman thereto as principals, and his own name as attorney in fact.
WITNESS my hand and official seal.
Notary Public in and for said State

County of San Joaquin
State of California
On March 9, 1978, before me, the undersigned, personally appeared John Zuckerman, known to me to be the person whose name is subscribed to the within instrument as attorney in fact of David E. Zuckerman and Marion G. Zuckerman, and acknowledged to me that he subscribed the names of David E. Zuckerman and Marion G. Zuckerman thereto as principals, and his own name as attorney in fact.
WITNESS my hand and official seal.
Notary Public in and for said State

PARCEL MAP

BEING A PORTION OF PROJECTED SECTION 13, T. 2N., R.4E., AND PROJECTED SECTION 18, T. 2N., R. 5E., M.D.B.&M., ALSO BEING A PORTION OF McDONALD TRACT

SAN JOAQUIN COUNTY, CALIFORNIA

R.W. SIEGFRIED & ASSOCIATES CIVIL ENGINEERS
STOCKTON, CALIFORNIA MARCH 1978

SHEET 2 OF 2 SHEETS

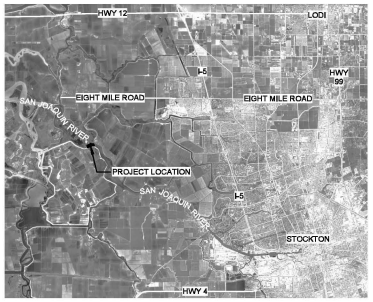
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5-191A

Attachment 2

Site Map

VICINITY MAP



LEGEND

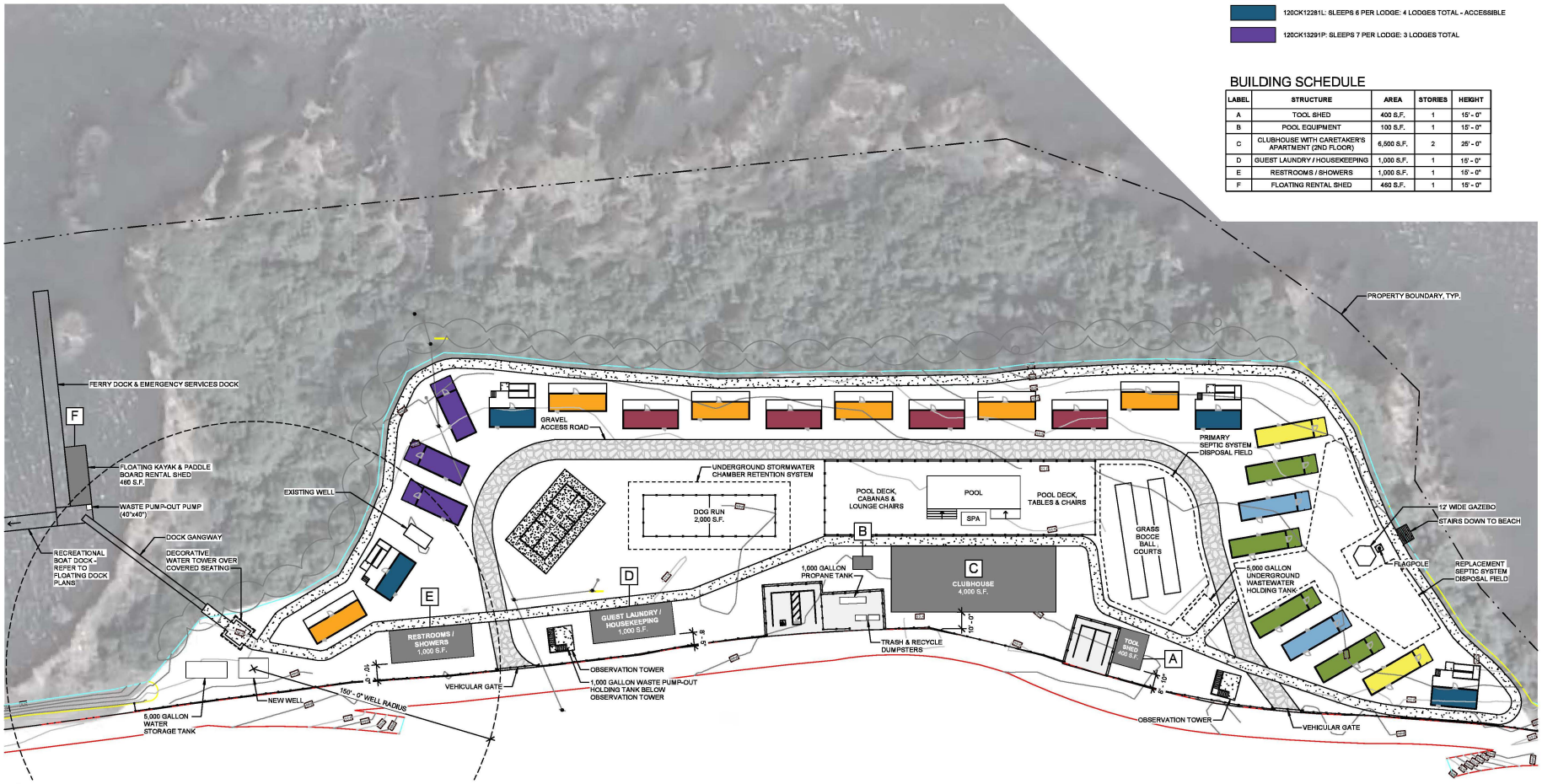
- PERVIOUS PAVER WALK
- CONCRETE PAVING
- ASPHALT PAVING
- GRAVEL ROAD
- PROPOSED BUILDING FOOTPRINT
- 6' HIGH FENCE

LODGES - PREFABRICATED MOBILE LODGES WITH DETACHABLE HITCH

- 120CK11331L - SLEEPS 6 PER LODGE: 4 LODGES TOTAL
- 120CK11351R: SLEEPS 6 PER LODGE: 6 LODGES TOTAL
- 120CK11351W: SLEEPS 6 PER LODGE: 2 LODGES TOTAL
- 120CK11351X: SLEEPS 6 PER LODGE: 4 LODGES TOTAL
- 120CK11351Z: SLEEPS 6 PER LODGE: 2 LODGES TOTAL
- 120CK12281L: SLEEPS 6 PER LODGE: 4 LODGES TOTAL - ACCESSIBLE
- 120CK13291P: SLEEPS 7 PER LODGE: 3 LODGES TOTAL

BUILDING SCHEDULE

LABEL	STRUCTURE	AREA	STORIES	HEIGHT
A	TOOL SHED	400 S.F.	1	15' - 0"
B	POOL EQUIPMENT	100 S.F.	1	15' - 0"
C	CLUBHOUSE WITH CARETAKER'S APARTMENT (2ND FLOOR)	6,500 S.F.	2	25' - 0"
D	GUEST LAUNDRY / HOUSEKEEPING	1,000 S.F.	1	15' - 0"
E	RESTROOMS / SHOWERS	1,000 S.F.	1	15' - 0"
F	FLOATING RENTAL SHED	460 S.F.	1	15' - 0"



SITE PLAN

1" = 30'-0"

WMB ARCHITECTS

5757 Pacific Avenue
Suite 226
Stockton, CA 95207

2000 L Street
Suite 125
Sacramento, CA 95811

T 209.944.9110
F 209.944.5711
www.wmbarchitects.com

Camp Gold Star
4103 Zuckerman Road
Stockton, CA 95206

WMB Project No. 24-015

09.30.24	SITE REVIEW

SITE PLAN

A1.1

9/30/2024 10:51:53 AM
Copyright WMB, Inc.

Attachment 3

Operation Cost Estimate

Camp Gold Star

Estimated Construction Cost Estimate for a New Source Well

Item	Description	Unit Cost, $	Quantity	Unit	Total Unit Cost
1	Permitting Process and Fees	$15,000.00	1	LS	$15,000.00
2	Test Well Constuction	$10,000.00	1	LS	$10,000.00
3	E-Log Survey	$3,000.00	1	LS	$3,000.00
4	Well Casing (non perforated)	$4,000.00	1	LS	$4,000.00
5	Well Casing (perforated screen)	$4,000.00	1	LS	$4,000.00
6	Gravel Envelope	$2,000.00	1	LS	$2,000.00
7	Annular and Transitional Seal	$2,000.00	1	LS	$2,000.00
8	Final Well Construction	$30,000.00	1	LS	$30,000.00
9	Well Source Capacity Testing	$4,200.00	1	LS	$4,200.00
10	Title 22 Analytical Testing	$2,000.00	1	EA	$2,000.00
11	Site Clean-up	$4,000.00	1	EA	$4,000.00
12	Pressure tank	$5,000.00	1	LS	$5,000.00
13	Water meter	$3,500.00	1	LS	$3,500.00
14	valves, discharge piping, misc. materials	$5,000.00	1	LS	$5,000.00
15	Connection to distribution system	$6,500.00	1	EA	$6,500.00
16	Wellhead improvements	$5,000.00	1	LS	$5,000.00
17	Power	$30,000.00	1	LS	$30,000.00
18	Distribution System Construction				
Estimated Construction Cost					$135,200.00
35% Contingency					$47,320.00
Estimated Project Cost					**$182,520.00**

Camp Gold Star Marina Transient
NonCommunity (TNC)
Operations Cost Estimate
adjusted for an inflation rate of 4%

Item	Cost Description	Current Year 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Year 6 2030	Year 7 2031	Year 8 2032	Year 9 2033	Year 10 2034	Year 11 2035	Year 12 2036	Year 13 2037	Year 14 2038	Year 15 2039	Year 16 2040	Year 17 2041	Year 18 2042	Year 19 2043	Year 20 2044
1	System engineering and design costs for construction and permitting, including pump test, a 50- foot protection zone, and initial monitoring costs.		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	Construction costs, backup for electricity for pump to maintain 40 pounds per square inch (psi) minimum pressure at all times, proper construction of distribution system, installation of meters.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Monthly electricity costs for pump, other utilities, interest an any dept service.	$ 3,500.00	$ 3,640.00	$ 3,785.60	$ 3,937.02	$ 4,094.50	$ 4,258.29	$ 4,428.62	$ 4,605.76	$ 4,789.99	$ 5,120.85	$ 5,180.85	$ 5,388.09	$ 5,603.61	$ 5,827.76	$ 6,060.87	$ 6,303.30	$ 6,555.43	$ 6,817.65	$ 7,090.36	$ 7,373.97
4	Cost of as-built maps.	$ 2,500.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Annual water-treatment quality chemical costs, and equipment for distribution monitoringof any added chemical treatment (dependent on the type of needed treatment).	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	Ongoing raw water chemical monitoring sampling and analysis costs.	$ 2,000.00	$ 2,080.00	$ 2,163.20	$ 2,249.73	$ 2,339.72	$ 2,433.31	$ 2,530.64	$ 2,631.86	$ 2,737.14	$ 2,846.62	$ 2,960.49	$ 3,078.91	$ 3,202.06	$ 3,330.15	$ 3,463.35	$ 3,601.89	$ 3,745.96	$ 3,745.96	$ 4,051.63	$ 4,213.70
7	Ongoing bacteriological monitoring sampling and analysis cost for untreated water.	$ 1,200.00	$ 1,248.00	$ 1,297.92	$ 1,349.84	$ 1,403.83	$ 1,459.98	$ 1,518.38	$ 1,579.12	$ 1,642.28	$ 1,707.97	$ 1,776.29	$ 1,847.34	$ 1,921.24	$ 1,998.09	$ 2,078.01	$ 2,161.13	$ 2,247.58	$ 2,337.48	$ 2,430.98	$ 2,528.22
8	Ongoing bacteriological monitoring sampling and analysis cost for treated water.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9	Maintenance of bacteriological plans and emergency notification plans for water quality emergencies.	$ 4,000.00	$ 4,160.00	$ 4,326.40	$ 4,499.46	$ 4,679.43	$ 4,866.61	$ 5,061.28	$ 5,263.73	$ 5,693.25	$ 5,920.98	$ 6,157.82	$ 6,157.82	$ 6,404.13	$ 6,660.29	$ 6,926.71	$ 7,203.77	$ 7,491.92	$ 7,791.60	$ 8,103.27	$ 8,427.40
10	Required lead and copper monitoring sampling and analysis costs and maintenance of lead and copper plan.	$ 500.00	$ 520.00	$ 540.80	$ 562.43	$ 584.93	$ 608.33	$ 632.66	$ 657.97	$ 684.28	$ 711.66	$ 740.12	$ 769.73	$ 800.52	$ 832.54	$ 865.84	$ 900.47	$ 936.49	$ 973.49	$ 1,012.91	$ 1,053.42
11	Required disinfection byproducts monitoring costs and maintenance of associated plan.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	Customer water quality complaint.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
13	flushing, valve and meter maintenance and maintaining maps.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14	Cross connection control program and annual backflow device testing and maintenance	$ 500.00	$ 520.00	$ 540.80	$ 562.43	$ 584.93	$ 608.33	$ 632.66	$ 657.97	$ 684.28	$ 711.66	$ 740.12	$ 769.73	$ 800.52	$ 532.54	$ 865.84	$ 900.47	$ 936.49	$ 973.95	$ 1,012.91	$ 1,053.42
15	Salary for licenced operator Staff costs, including time for reports and inspections required by Division of Drinking Water staff.	$ 7,000.00	$ 7,280.00	$ 7,571.20	$ 7,874.05	$ 8,189.01	$ 8,516.57	$ 8,857.23	$ 9,211.52	$ 9,579.98	$ 9,963.18	$ 10,361.71	$ 10,776.18	11.207.23	$ 11,655.51	$ 12,121.74	$ 12,606.60	$ 13,110.87	$ 13,635.30	$ 14,180.72	$ 14,747.94
16	The cost to maintain written procedures for the system maintenance, for example line breaks procedures, etc.	$ 1,800.00	$ 1,872.00	$ 1,946.88	$ 2,024.76	$ 2,105.75	$ 2,189.98	$ 2,277.57	$ 2,368.68	$ 2,463.42	$ 2,561.96	$ 2,664.44	$ 2,771.02	$ 2,881.86	$ 2,997.13	$ 3,117.02	$ 3,241.70	$ 3,371.37	$ 3,506.22	$ 3,646.47	$ 3,792.33
17	Source Capacity planning studies and permit amendments for any additional growth.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18	Annual Consumer Confidence Report preparation and distribution costs.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Annual electronic Report to State Water Resources Control Board-Division of Drinking Water	$ 3,000.00	$ 3,120.00	$ 3,244.80	$ 3,374.59	$ 3,509.58	$ 3,649.96	$ 3,795.96	$ 3,947.80	$ 4,105.71	$ 4,269.94	$ 4,440.73	$ 4,618.36	$ 4,803.10	$ 4,995.22	$ 5,195.03	$ 5,402.83	$ 5,618.94	$ 5,843.70	$ 6,077.45	$ 6,320.55
20	Records of estimated life of all pumps, treatment, storage, and distribution system and an annual capital improvement plan to fund replacement.	$ 120.00	$ 124.80	$ 129.79	$ 134.98	$ 140.38	$ 146.00	$ 151.84	$ 157.91	$ 164.23	$ 170.80	$ 177.63	$ 184.73	$ 192.12	$ 199.81	$ 207.80	$ 216.11	$ 224.76	$ 233.75	$ 243.10	$ 252.82
21	Metering and billing staff costs.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22	Emergency reserve costs for drought, regulatory changs, public notice of bacteriological or chemical failures, etc.	$ 1,000.00	$ 1,040.00	$ 1,081.60	$ 1,124.86	$ 1,169.86	$ 1,216.65	$ 1,265.32	$ 1,315.93	$ 1,368.57	$ 1,423.31	$ 1,480.24	$ 1,539.45	$ 1,601.03	$ 1,665.07	$ 1,731.68	$ 1,800.94	$ 1,872.98	$ 1,947.90	$ 2,025.82	$ 2,106.85
23	Appropriate work space to house staff records and appropriate containment of chemicals.	$ 800.00	$ 832.00	$ 865.28	$ 899.89	$ 935.89	$ 973.32	$ 1,012.26	$ 1,052.75	$ 1,094.86	$ 1,138.65	$ 1,184.20	$ 1,231.56	$ 1,280.83	$ 1,332.06	$ 1,385.34	$ 1,440.75	$ 1,498.38	$ 1,558.32	$ 1,620.65	$ 1,685.48
24	Insurance and liability for staff, for duties including climbing tanks, handling hazardous chemicals, if appropriate.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Knowledgeable management staff costs to coordinate the above and maintain financial controls and office supplies.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
26	maintaining of business licence and paying annual permit fees and any State enforcement fees for actions resulting from water system non-compliance.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total:																				

Attachment 4

Deed

Doc #: 2024-022830
03/20/2024 08:22:21 AM
Page 1 of 3 Fee: $30.00 Tax Paid: $269.50
Steve J. Bestolarides
San Joaquin County Recorder
Paid By:

RECORDING REQUESTED BY:

Old Republic Title Company

Escrow No.: 1231005949
APN: 129-080-540-000

When Recorded Mail Document and Tax Statements to:

Camp Gold Star, LLC a California limited liability company
1700 Riverlake Road
Discovery Bay, CA 94505

SPACE ABOVE THIS LINE IS FOR RECORDER'S USE

Grant Deed

Exempt from fee per GC27388.1(a)(2) and GC27388.2(b) ; document is subject to the imposition of documentary transfer tax

The undersigned grantor(s) declare(s):
Documentary Transfer Tax is $269.50
(X) computed on full value of property conveyed, or
( ) computed on full value less of liens and encumbrances remaining at time of sale.
(X) Unincorporated area: ( ) City of

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
Candyce Holliday, Trustee of the Candyce Holliday Trust dated June 21, 2018
hereby GRANT(S) to
Camp Gold Star, LLC a California limited liability company
that property in Unincorporated area of San Joaquin County, State of California, described as follows:
* * * See "Exhibit A" attached hereto and made a part hereof. * * *

Date: March 15, 2024

Candyce Holliday Trust dated June 21, 2018

By: Candyce Holliday
Candyce ~~Holliday~~, Trustee
Holliday CH

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Ventura

On March 18, 2024 before me, Perla Esgueda, a Notary Public, personally appeared Candyce Holliday, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Perla Esgueda

Name: Perla Esgueda
(Typed or Printed)

PERLA ESQUEDA
Notary Public - California
Ventura County
Commission # 2476465
My Comm. Expires Jan 11, 2028

(Seal)

PERLA ESQUEDA
Notary Public - California
Ventura County
Commission # 2476465
My Comm. Expires Jan 11, 2028

ORDER NO. : 1231005949

EXHIBIT A

The land referred to is situated in the unincorporated area of the County of San Joaquin, State of California, and is described as follows:

A portion of projected Section 13, Township 2 North, Range 4 East, Mount Diablo Base and Meridian, and projected Section 16, Township 2 North, Range 3 East, Mount Diablo Base and Meridian, also being a portion of McDonald Tract, described as follows:

Parcel "A" as shown upon Parcel Map filed for record April 4, 1978 in Book 5 of Parcel Maps at Page 191, San Joaquin County Records. together with a non-exclusive right of way along the levee road as the same may from time to time exist, for ingress and egress.

Excepting therefrom all minerals, mineral substances, mineral interest, ore, oil, gas, asphaltum and hydrocarbons lying in or under said land, and rights to drill for, produce, extract and take said substances from, and to store the same upon said land, and to inject and store therein any gas wherever produced, without limitations as to time, as granted to Weyl-Zuckerman & Company, a corporation, by Instrument dated January 9, 1947 and recorded January 10, 1947 in Vol. 1025 of Official Records, Page 174, San Joaquin County Records.

APN: 129-080-540-000

Attachment 5

Comparable Water System's Supply Capacity

RIVERBOAT MARINA WATER SYSTEM METER READINGS AND USAGE

Transient population of 300

Date of Reading	No. Days	Meter Reading	Gallons Used	GPD	MDD	PHD	GPM at PHD
05/02/2016	1	223,800.00		0.0	0.0	0.0	0.0
06/01/2016	30	337,100.00	113,300	3,776.7	5,665.0	354.1	5.9
07/06/2016	35	478,300.00	141,200	4,034.3	6,051.4	378.2	6.3
08/26/2016	51	655,100.00	176,800	3,466.7	5,200.0	325.0	5.4
09/09/2016	14	694,100.00	39,000	2,785.7	4,178.6	261.2	4.4
10/03/2016	24	771,400.00	77,300	3,220.8	4,831.3	302.0	5.0
11/07/2016	35	878,400.00	107,000	3,057.1	4,585.7	286.6	4.8
12/06/2016	29	957,100.00	78,700	2,713.8	4,070.7	254.4	4.2
01/12/2017	37	1,070,700.00	113,600	3,070.3	4,605.4	287.8	4.8
02/09/2017	28	1,138,300.00	67,600	2,414.3	3,621.4	226.3	3.8
03/06/2017	25	1,176,100.00	37,800	1,512.0	2,268.0	141.8	2.4
04/10/2017	35	1,235,200.00	59,100	1,688.6	2,532.9	158.3	2.6
05/08/2017	28	1,317,000.00	81,800	2,921.4	4,382.1	273.9	4.6
06/28/2017	51	1,570,400.00	253,400	4,968.6	7,452.9	465.8	7.8
07/27/2017	29	1,755,500.00	185,100	6,382.8	9,574.1	598.4	10.0
08/09/2017	13	1,826,700.00	71,200	5,476.9	8,215.4	513.5	8.6
09/08/2017	30	1,975,000.00	148,300	4,943.3	7,415.0	463.4	7.7
10/06/2017	**28**	**2,168,700.00**	**193,700**	**6,917.9**	**10,376.8**	**648.5**	**10.8**
11/09/2017	34	2,261,000.00	92,300	2,714.7	4,072.1	254.5	4.2
01/05/2018	57	2,268,700.00	7,700	135.1	202.6	12.7	0.2
02/02/2018	28	2,436,500.00	167,800	5,992.9	8,989.3	561.8	9.4
03/09/2018	35	2,504,100.00	67,600	1,931.4	2,897.1	181.1	3.0
04/18/2018	40	2,504,100.00	0	0.0	0.0	0.0	0.0
05/11/2018	23	2,688,900.00	184,800	8,034.8	12,052.2	753.3	12.6
06/08/2018	28	2,805,500.00	116,600	4,164.3	6,246.4	390.4	6.5
07/06/2018	28	2,958,800.00	153,300	5,475.0	8,212.5	513.3	8.6
08/03/2018	28	3,127,600.00	168,800	6,028.6	9,042.9	565.2	9.4
09/07/2018	35	3,300,800.00	173,200	4,948.6	7,422.9	463.9	7.7
10/05/2018	28	3,430,700.00	129,900	4,639.3	6,958.9	434.9	7.2
11/02/2018	28	3,504,100.00	73,400	2,621.4	3,932.1	245.8	4.1
12/14/2018	42	3,611,400.00	107,300	2,554.8	3,832.1	239.5	4.0
1/14/2019	31	3,666,600.00	55,200	1,780.6	2,671.0	166.9	2.8
2/8/2019	25	3,730,000.00	63,400	2,536.0	3,804.0	237.8	4.0
3/6/2019	26	3,776,100.00	46,100	1,773.1	2,659.6	166.2	2.8
4/2/2019	27	3,826,700.00	50,600	1,874.1	2,811.1	175.7	2.9
5/9/2019	37	3,897,700.00	71,000	1,918.9	2,878.4	179.9	3.0
6/4/2019	26	3,952,300.00	54,600	2,100.0	3,150.0	196.9	3.3
7/3/2019	29	4,057,700.00	105,400	3,634.5	5,451.7	340.7	5.7
8/8/2019	36	4,178,500.00	120,800	3,355.6	5,033.3	314.6	5.2
9/5/2019	28	4,264,100.00	85,600	3,057.1	4,585.7	286.6	4.8
10/8/2019	33	4,364,700.00	100,600	3,048.5	4,572.7	285.8	4.8
11/7/2019	30	4,471,100.00	106,400	3,546.7	5,320.0	332.5	5.5
12/5/2019	28	4,601,000.00	129,900	4,639.3	6,958.9	434.9	7.2

1/7/2020	33	4,712,700.00	111,700	3,384.8	5,077.3	317.3	5.3
2/6/2020	30	4,817,300.00	104,600	3,486.7	5,230.0	326.9	5.4
3/11/2020	34	4,928,800.00	111,500	3,279.4	4,919.1	307.4	5.1
4/1/2020	21	5,000,200.00	71,400	3,400.0	5,100.0	318.8	5.3
5/19/2020	48	5,185,600.00	185,400	3,862.5	5,793.8	362.1	6.0
6/10/2020	22	5,262,700.00	77,100	3,504.5	5,256.8	328.6	5.5
7/1/2020	21	5,332,400.00	69,700	3,319.0	4,978.6	311.2	5.2
8/3/2020	33	5,504,100.00	171,700	5,203.0	7,804.5	487.8	8.1
9/1/2020	29	5,634,900.00	130,800	4,510.3	6,765.5	422.8	7.0
10/5/2020	34	5,754,200.00	119,300	3,508.8	5,263.2	329.0	5.5
11/2/2020	28	5,826,900.00	72,700	2,596.4	3,894.6	243.4	4.1
12/2/2020	30	5,897,000.00	70,100	2,336.7	3,505.0	219.1	3.7
1/6/2021	35	5,936,900.00	39,900	1,140.0	1,710.0	106.9	1.8
2/3/2021	28	5,980,500.00	43,600	1,557.1	2,335.7	146.0	2.4
3/3/2021	28	6,035,300.00	54,800	1,957.1	2,935.7	183.5	3.1
4/7/2021	35	6,100,200.00	64,900	1,854.3	2,781.4	173.8	2.9
5/11/2021	34	6,222,400.00	122,200	3,594.1	5,391.2	336.9	5.6
6/9/2021	29	6,353,400.00	131,000	4,517.2	6,775.9	423.5	7.1
7/7/2021	28	6,517,000.00	163,600	5,842.9	8,764.3	547.8	9.1
8/11/2021	35	6,529,900.00	12,900	368.6	552.9	34.6	0.6
9/6/2021	26	6,602,700.00	72,800	2,800.0	4,200.0	262.5	4.4
10/6/2021	30	6,676,700.00	74,000	2,466.7	3,700.0	231.3	3.9
11/9/2021	34	6,729,600.00	52,900	1,555.9	2,333.8	145.9	2.4
12/15/2021	36	6,772,100.00	42,500	1,180.6	1,770.8	110.7	1.8
01/12/22	28	6,796,900.00	24,800	885.7	1,328.6	83.0	1.4
02/10/22	29	6,842,500.00	45,600	1,572.4	2,358.6	147.4	2.5
03/09/22	27	6,881,700.00	39,200	1,451.9	2,177.8	136.1	2.3
04/13/22	35	6,940,700.00	59,000	1,685.7	2,528.6	158.0	2.6
05/03/22	20	6,971,400.00	30,700	1,535.0	2,302.5	143.9	2.4
06/06/22	34	7,042,300.00	70,900	2,085.3	3,127.9	195.5	3.3
07/13/22	37	7,123,600.00	81,300	2,197.3	3,295.9	206.0	3.4
08/11/22	29	7,159,800.00	36,200	1,248.3	1,872.4	117.0	2.0
09/14/22	34	7,201,600.00	41,800	1,229.4	1,844.1	115.3	1.9
10/13/22	29	7,246,900.00	45,300	1,562.1	2,343.1	146.4	2.4
11/09/22	27	7,277,200.00	30,300	1,122.2	1,683.3	105.2	1.8

KORTH'S PIRATE LAIR MARINA WATER SYSTEM WATER SYSTEM METER READINGS

64 service connections consisting of 53- RS and 11-CM

Date of Reading	No. Days	Meter Reading	Gallons Used	GPD	MDD	PHD	GPM at PHD
12/14/2018	1	36,460,000.00		0.0	0.0	0.0	0.0
01/14/2019	31	36,584,000.00	124,000	4,000.0	6,000.0	375.0	6.3
02/08/2019	25	36,724,000.00	140,000	5,600.0	8,400.0	525.0	8.8
03/06/2019	26	36,835,000.00	111,000	4,269.2	6,403.8	400.2	6.7
04/02/2019	27	36,961,000.00	126,000	4,666.7	7,000.0	437.5	7.3
05/09/2019	37	37,175,000.00	214,000	5,783.8	8,675.7	542.2	9.0
06/04/2019	26	37,328,000.00	153,000	5,884.6	8,826.9	551.7	9.2
07/01/2019	27	37,479,000.00	151,000	5,592.6	8,388.9	524.3	8.7
08/08/2019	38	37,816,000.00	337,000	8,868.4	13,302.6	831.4	13.9
09/05/2019	28	38,020,000.00	204,000	7,285.7	10,928.6	683.0	11.4
10/08/2019	33	38,246,000.00	226,000	6,848.5	10,272.7	642.0	10.7
11/07/2019	30	38,410,000.00	164,000	5,466.7	8,200.0	512.5	8.5
12/05/2019	28	38,531,000.00	121,000	4,321.4	6,482.1	405.1	6.8
05/19/2020	166	39,246,000.00	715,000	4,307.2	6,460.8	403.8	6.7
07/01/2020	**43**	**39,751,000.00**	**505,000**	**11,744.2**	**17,616.3**	**1,101.0**	**18.4**
08/03/2020	33	39,832,000.00	81,000	2,454.5	3,681.8	230.1	3.8
09/28/2020	56	40,257,000.00	425,000	7,589.3	11,383.9	711.5	11.9
10/05/2020	7	40,301,000.00	44,000	6,285.7	9,428.6	589.3	9.8
11/02/2020	28	40,469,000.00	168,000	6,000.0	9,000.0	562.5	9.4
12/02/2020	30	40,624,000.00	155,000	5,166.7	7,750.0	484.4	8.1
01/06/2021	35	40,765,000.00	141,000	4,028.6	6,042.9	377.7	6.3
02/03/2021	28	40,878,000.00	113,000	4,035.7	6,053.6	378.3	6.3
03/03/2021	28	40,980,000.00	102,000	3,642.9	5,464.3	341.5	5.7
04/07/2021	35	41,148,000.00	168,000	4,800.0	7,200.0	450.0	7.5
05/05/2021	28	41,331,000.00	183,000	6,535.7	9,803.6	612.7	10.2
06/09/2021	35	41,567,000.00	236,000	6,742.9	10,114.3	632.1	10.5
07/07/2021	28	41,794,000.00	227,000	8,107.1	12,160.7	760.0	12.7
08/11/2021	35	42,111,000.00	317,000	9,057.1	13,585.7	849.1	14.2
09/06/2021	26	42,326,000.00	215,000	8,269.2	12,403.8	775.2	12.9
10/06/2021	30	42,525,000.00	199,000	6,633.3	9,950.0	621.9	10.4
11/09/2021	34	42,691,000.00	166,000	4,882.4	7,323.5	457.7	7.6
12/15/2021	36	42,836,000.00	145,000	4,027.8	6,041.7	377.6	6.3
01/12/2022	28	42,940,000.00	104,000	3,714.3	5,571.4	348.2	5.8
02/09/2022	28	43,038,000.00	98,000	3,500.0	5,250.0	328.1	5.5
03/09/2022	28	43,144,000.00	106,000	3,785.7	5,678.6	354.9	5.9
04/13/2022	35	43,311,000.00	167,000	4,771.4	7,157.1	447.3	7.5
05/03/2022	20	43,420,000.00	109,000	5,450.0	8,175.0	510.9	8.5
06/06/2022	34	43,647,000.00	227,000	6,676.5	10,014.7	625.9	10.4
07/06/2022	30	43,880,000.00	233,000	7,766.7	11,650.0	728.1	12.1

08/11/2022	36	44,145,000.00	265,000	7,361.1	11,041.7	690.1	11.5
09/14/2022	34	44,427,000.00	282,000	8,294.1	12,441.2	777.6	13.0
10/13/2022	29	44,625,000.00	198,000	6,827.6	10,241.4	640.1	10.7
11/09/2022	27	44,771,000.00	146,000	5,407.4	8,111.1	506.9	8.4
12/15/2022	36	44,896,000.00	125,000	3,472.2	5,208.3	325.5	5.4
01/20/2023	36	45,052,530.00	156,530	4,348.1	6,522.1	407.6	6.8
02/07/2023	18	45,118,000.00	65,470	3,637.2	5,455.8	341.0	5.7
03/07/2023	28	45,237,000.00	119,000	4,250.0	6,375.0	398.4	6.6
04/14/2023	38	45,411,000.00	174,000	4,578.9	6,868.4	429.3	7.2
05/02/2023	18	45,519,000.00	108,000	6,000.0	9,000.0	562.5	9.4
06/09/2023	38	45,797,000.00	278,000	7,315.8	10,973.7	685.9	11.4
07/20/2023	41	46,154,000.00	357,000	8,707.3	13,061.0	816.3	13.6
08/15/2023	26	46,380,000.00	226,000	8,692.3	13,038.5	814.9	13.6
09/27/2023	43	46,698,000.00	318,000	7,395.3	11,093.0	693.3	11.6
10/17/2023	20	46,838,000.00	140,000	7,000.0	10,500.0	656.3	10.9
11/21/2023	35	47,014,000.00	176,000	5,028.6	7,542.9	471.4	7.9
12/18/2023	27	47,134,000.00	120,000	4,444.4	6,666.7	416.7	6.9
01/23/2024	36	47,272,000.00	138,000	3,833.3	5,750.0	359.4	6.0
02/14/2024	22	47,359,000.00	87,000	3,954.5	5,931.8	370.7	6.2
03/14/2024	29	47,461,000.00	102,000	3,517.2	5,275.9	329.7	5.5
04/11/2024	28	47,584,000.00	123,000	4,392.9	6,589.3	411.8	6.9
05/09/2024	28	47,729,000.00	145,000	5,178.6	7,767.9	485.5	8.1
06/06/2024	28	47,916,000.00	187,000	6,678.6	10,017.9	626.1	10.4
07/11/2024	35	48,210,000.00	294,000	8,400.0	12,600.0	787.5	13.1
08/08/2024	28	48,420,000.00	210,000	7,500.0	11,250.0	703.1	11.7
09/05/2024	28	48,657,000.00	237,000	8,464.3	12,696.4	793.5	13.2
10/03/2024	28	48,865,000.00	208,000	7,428.6	11,142.9	696.4	11.6
11/07/2024	35	49,135,000.00	270,000	7,714.3	11,571.4	723.2	12.1
12/05/2024	28	49,305,000.00	170,000	6,071.4	9,107.1	569.2	9.5

Appendix B

Emissions Calculations and CalEEMod Output

Camp Goldstar Mobile Emissions - King Island Marina Trips

Criteria Pollutants

	Trip/day	Miles/Trip	ROG	NOX	SOX	CO	PM10	PM2.5
VMT Emissions (lbs)	80	13.9	0.1654	0.1980	0.0034	8.9624	0.0415	0.0166
Trip Emissions (lbs)	80	-	0.1662	0.0401	0.0001	0.5594	0.0003	0.0003
Total Daily Emissions (lbs)	-	-	0.33	0.24	0.00	9.52	0.04	0.02
Total Annual Emissions (tons)	-	-	**0.06**	**0.04**	**0.00**	**1.74**	**0.01**	**0.00**

GHG Global Warming Potential

CO2	1
CH4	25
N20	298

GHG Emissions

	Trip/day	Miles/Trip	CO2	CH4	N20	C02e
VMT Emissions (lbs)	80	13.9	783.6680	0.0162	0.0250	-
Trip Emissions (lbs)	80	-	13.0291	0.0092	0.0032	-
Total Daily Emissions (lbs)	-	-	796.6971	0.0254	0.0282	-
Total Annual Emissions (MT)	-	-	**131.9021**	**0.0042**	**0.0047**	**133.40**

Notes:
1. Emissions factors calculated from EMFAC2025 (version 2.0.0) assuming employee and customer fleet mix would be cars, light trucks, and medium duty vehicles (LDA, LDT1, LDT2, and MDV), gross vehicle weights up to 8,500 pounds.
2. VMT emissions include running exhaust (RUNEX), running loss (RUNLOSS), particulate matter break wear (PMBW), and particulate matter tire wear (PMTW).
3. Trip emissions include starting exhaust (STREX), hot soak evaporative (HOTSOAK), and diurnal evaporative (DIURNAL).
4. Trip estimated by assuming each project parking space at King Island Marina would generate two trips per day.
5. Trip distance from CalEEMod (version 2022.1) default Home-Work distance for San Juaquin county.
6. GHG Global warming potential from United Nations Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4).

Camp Goldstar Boat Emissions - King Island Marina Ferry

Criteria Pollutants

	Trip Data					Tons Per Year					
	Trip/day	**Miles/Trip**	**Speed (MPH)**	**Gal/hr**	**Gal/day**	**ROG**	**NOX**	**SOX**	**CO**	**PM10**	**PM2.5**
Annual Emissions (tons)	8	3.5	21.60	10.23	13.25	0.0019	0.0009	0.0000	0.0137	0.0003	0.0002

GHG Emissions

	Trip Data					Tons Per Year	
	Trip/day	**Miles/Trip**	**Speed (MPH)**	**Gal/hr**	**Gal/day**	**CO2**	**MT CO2e**
Annual Emissions (tons)	8	3.5	21.60	10.23	13.25	0.1016	0.1032

Notes:
1. Per project applicant, ferry would have two 200 horsepower outboard engines.
2. Average boat speed and fuel consumption calculated from boat performance data from Honda Marine Performance Tests (https://marine.honda.com/outboards/performance). Data unavailable for two 200 horsepower engines, data for two 225 horsepower engines used.
3. Emissions per gallon of fuel from CARB OFFROAD version 1.1.0.

Camp Goldstar Boat Emissions - Guest Boats

Criteria Pollutants

	Trip Data						Tons Per Year					
	Trip/day	**Fleet Mix**	**Miles/Trip**	**Speed (MPH)**	**Gal/hr**	**Gal/day**	**ROG**	**NOX**	**SOX**	**CO**	**PM10**	**PM2.5**
50 to 119 Horsepower	80	11.23%	20	12.57	2.16	30.90	0.01	0.002	0.00000	0.04	0.001	0.001
120 to 174 Horsepower	80	17.89%	20	13.50	3.45	73.09	0.02	0.003	0.00001	0.09	0.002	0.002
175 to 249 Horsepower	80	12.66%	20	21.81	4.92	45.67	0.01	0.004	0.00000	0.05	0.001	0.001
250 to 499 Horsepower	80	20.23%	20	21.57	7.04	105.71	0.02	0.007	0.00001	0.11	0.002	0.002
500 to 749 Horsepower	80	37.99%	20	25.75	14.89	351.40	0.03	0.010	0.00003	0.26	0.001	0.001
Total							**0.09**	**0.03**	**0.0001**	**0.55**	**0.007**	**0.006**

GHG Emissions

	Trip Data						Tons Per Year	
	Trip/day	**Fleet Mix**	**Miles/Trip**	**Speed (MPH)**	**Gal/hr**	**Gal/day**	**CO2**	**MT CO2e**
50 to 119 Horsepower	80	11.23%	20	12.57	2.16	30.90	0.19	0.19
120 to 174 Horsepower	80	17.89%	20	13.50	3.45	73.09	0.48	0.49
175 to 249 Horsepower	80	12.66%	20	21.81	4.92	45.67	0.34	0.34
250 to 499 Horsepower	80	20.23%	20	21.57	7.04	105.71	0.81	0.82
500 to 749 Horsepower	80	37.99%	20	25.75	14.89	351.40	2.94	2.99
Total								**4.84**

Notes:
1. Estimated 80 guest boat trips per day and 20 mile per trip.
2. Average boat speed and fuel consumption calculated from boat performance data from Honda Marine Performance Tests (https://marine.honda.com/outboards/performance). Inboard and sterndrive data unavailable, assumed to be similar to outboard data.
3. Fleet mix and emissions per gallon of fuel from CARB OFFROAD version 1.1.0.

Source: EMFAC2025 (v2.0.0) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2027
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for Combustion VMT and Electric VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption, kWh/day for Energy Consumption, kg/day for Hydrogen Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_STREX	PM2.5_RUNEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_STREX
San Joaquin	2027	LDA	Aggregate	Aggregate	Gasoline	206937.56	5937293.42	5937293.42	0.00	885475.12	4.4632E-01	1.8111E-01	2.0811E-02	1.9354E-03	1.3089E-02	1.2784E-02	2.2596E-02	2.1026E-03
San Joaquin	2027	LDA	Aggregate	Aggregate	Diesel	428.47	10509.89	10509.89	0.00	1766.29	3.2851E-03	0.0000E+00	2.5818E-04	0.0000E+00	2.3170E-05	2.3250E-05	2.6985E-04	0.0000E+00
San Joaquin	2027	LDA	Aggregate	Aggregate	Electricity	30389.14	1185127.10	0.00	1185127.10	149182.47	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	3.0047E-03	1.1591E-03	0.0000E+00	0.0000E+00
San Joaquin	2027	LDA	Aggregate	Aggregate	Plug-in Hybrid	6336.81	239908.22	116196.33	123711.90	24747.55	1.0369E-03	2.6884E-03	3.9252E-04	5.2544E-05	6.0824E-04	2.5672E-04	4.2690E-04	5.7146E-05
San Joaquin	2027	LDA	Aggregate	Aggregate	Fuel Cell Electric Vehicle	99.95	4285.87	0.00	4285.87	505.63	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.0866E-05	4.1738E-06	0.0000E+00	0.0000E+00
San Joaquin	2027	LDT1	Aggregate	Aggregate	Gasoline	20229.53	511705.49	511705.49	0.00	80444.19	1.2603E-01	3.5079E-02	2.0277E-03	2.5816E-04	1.1281E-03	1.3980E-03	2.2014E-03	2.8052E-04
San Joaquin	2027	LDT1	Aggregate	Aggregate	Diesel	4.76	63.95	63.95	0.00	12.69	1.0577E-04	0.0000E+00	1.7361E-05	0.0000E+00	1.4098E-07	1.9735E-07	1.8146E-05	0.0000E+00
San Joaquin	2027	LDT1	Aggregate	Aggregate	Electricity	297.45	13280.96	0.00	13280.96	1483.73	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	3.3671E-05	1.2950E-05	0.0000E+00	0.0000E+00
San Joaquin	2027	LDT1	Aggregate	Aggregate	Plug-in Hybrid	34.06	1478.30	741.09	737.21	138.44	6.6130E-06	1.5684E-05	1.8278E-06	2.1227E-07	3.7480E-06	1.5731E-06	1.9879E-06	2.3087E-07
San Joaquin	2027	LDT2	Aggregate	Aggregate	Gasoline	111842.33	3587626.13	3587626.13	0.00	528959.63	3.0549E-01	1.3809E-01	1.1143E-02	1.0425E-03	7.9094E-03	9.2925E-03	1.2109E-02	1.1331E-03
San Joaquin	2027	LDT2	Aggregate	Aggregate	Diesel	188.00	6133.13	6133.13	0.00	913.73	3.3720E-04	0.0000E+00	3.1292E-05	0.0000E+00	1.3521E-05	1.5884E-05	3.2706E-05	0.0000E+00
San Joaquin	2027	LDT2	Aggregate	Aggregate	Electricity	4232.17	183475.99	0.00	183475.99	22432.69	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	4.6517E-04	1.7903E-04	0.0000E+00	0.0000E+00
San Joaquin	2027	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1401.59	59243.41	30352.17	28891.24	5949.79	2.7084E-04	6.8180E-04	7.6405E-05	9.3897E-06	1.5020E-04	6.3023E-05	8.3098E-05	1.0212E-05
San Joaquin	2027	MDV	Aggregate	Aggregate	Gasoline	94783.69	2789792.94	2789792.94	0.00	422768.81	4.2892E-01	1.8307E-01	8.9771E-03	9.1624E-04	6.1504E-03	7.5719E-03	9.7610E-03	9.9634E-04
San Joaquin	2027	MDV	Aggregate	Aggregate	Diesel	2984.97	104076.53	104076.53	0.00	14244.89	4.5326E-03	0.0000E+00	3.9026E-04	0.0000E+00	2.2945E-04	2.6698E-04	4.0791E-04	0.0000E+00
San Joaquin	2027	MDV	Aggregate	Aggregate	Electricity	2741.11	114452.49	0.00	114452.49	13939.38	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.9017E-04	1.1170E-04	0.0000E+00	0.0000E+00
San Joaquin	2027	MDV	Aggregate	Aggregate	Plug-in Hybrid	924.16	36482.21	19064.48	17417.72	3813.69	1.7012E-04	4.3383E-04	5.8182E-05	7.4078E-06	9.2494E-05	3.8852E-05	6.3279E-05	8.0566E-06
						Total	**14784936.03**			**2156778.71**								
						Emissions/VMT (lbs)					1.7809E-04		5.9770E-06		4.4915E-06	4.4883E-06	6.4893E-06	
						Emissions/Trip (lbs)						5.0183E-04		3.9149E-06				4.2547E-06

Source: EMFAC2(
Region Type: Cou
Region: San Joaq
Calendar Year: 2(
Season: Annual
Vehicle Classifica
Units: miles/day

Region	PM10_PMTW	PM10_PMBW	CO2_RUNEX	CO2_STREX	CH4_RUNEX	CH4_STREX	N2O_RUNEX	N2O_STREX	ROG_RUNEX	ROG_STREX	ROG_DIURN	ROG_HOTSOAK	ROG_RUNLOSS	CO_RUNEX	CO_STREX	SOx_RUNEX	SOx_STREX
San Joaquin	5.2358E-02	3.6526E-02	2.0369E+03	6.7559E+01	4.6862E-02	4.8165E-02	4.4225E-02	1.6931E-02	2.1291E-01	2.7498E-01	5.2797E-01	2.2990E-01	2.7072E-01	2.6784E+01	3.1591E+00	8.7451E-03	2.9004E-04
San Joaquin	9.2681E-05	6.6427E-05	3.0576E+00	0.0000E+00	2.1147E-05	0.0000E+00	3.9786E-03	0.0000E+00	4.5528E-04	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	6.0940E-03	0.0000E+00	1.0047E-05	0.0000E+00
San Joaquin	1.2019E-02	3.3116E-03	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
San Joaquin	2.4330E-03	7.3349E-04	3.6119E+01	1.7565E+00	1.4977E-04	7.9460E-04	2.6900E-04	6.6369E-04	3.5647E-04	4.0196E-03	3.8518E-03	1.3188E-03	1.3517E-03	6.3863E-02	3.4353E-02	1.5507E-04	7.5412E-06
San Joaquin	4.3464E-05	1.1925E-05	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
San Joaquin	4.5125E-03	3.9941E-03	2.0659E+02	7.8341E+00	7.6537E-03	8.3398E-03	8.6676E-03	2.4825E-03	3.4997E-02	5.4174E-02	9.4181E-02	3.2978E-02	5.6985E-02	2.8973E+00	5.5461E-01	8.8695E-04	3.3634E-05
San Joaquin	5.6394E-07	5.6385E-07	3.1262E-02	0.0000E+00	9.9148E-07	0.0000E+00	3.5246E-06	0.0000E+00	2.1346E-05	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.6924E-04	0.0000E+00	1.0273E-07	0.0000E+00
San Joaquin	1.3469E-04	3.6999E-05	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
San Joaquin	1.4992E-05	4.4946E-06	2.3081E-01	1.0823E-02	9.5524E-07	4.5795E-06	1.7157E-06	3.2678E-06	2.2735E-06	2.3257E-05	1.1724E-05	3.8576E-06	3.8866E-06	4.1001E-04	1.9912E-04	9.9091E-07	4.6465E-08
San Joaquin	3.1637E-02	2.6550E-02	1.4497E+03	4.8394E+01	2.5075E-02	2.9981E-02	2.8156E-02	1.1100E-02	9.8156E-02	1.7338E-01	2.2813E-01	7.9472E-02	1.4437E-01	1.5516E+01	1.8972E+00	6.2237E-03	2.0777E-04
San Joaquin	5.4085E-05	4.5383E-05	2.1815E+00	0.0000E+00	5.0811E-06	0.0000E+00	2.6257E-03	0.0000E+00	1.0939E-04	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	1.2643E-03	0.0000E+00	7.1682E-06	0.0000E+00
San Joaquin	1.8607E-03	5.1152E-04	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
San Joaquin	6.0080E-04	1.8007E-04	9.4465E+00	4.9513E-01	3.9123E-05	1.9842E-04	7.0266E-05	1.5249E-04	9.3114E-05	1.0088E-03	5.0485E-04	1.6397E-04	1.7566E-04	1.6753E-02	8.6408E-03	4.0556E-05	2.1257E-06
San Joaquin	2.4602E-02	2.1634E-02	1.4118E+03	4.9184E+01	2.7883E-02	3.5766E-02	3.3068E-02	1.2204E-02	1.0583E-01	2.2618E-01	2.4437E-01	6.2025E-02	1.7159E-01	1.4261E+01	1.8813E+00	6.0611E-03	2.1116E-04
San Joaquin	9.1780E-04	7.6280E-04	4.7774E+01	0.0000E+00	5.2220E-05	0.0000E+00	4.4893E-02	0.0000E+00	1.1243E-03	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4197E-02	0.0000E+00	1.5698E-04	0.0000E+00
San Joaquin	1.1607E-03	3.1913E-04	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
San Joaquin	3.6998E-04	1.1101E-04	5.9281E+00	3.9643E-01	2.4574E-05	1.2652E-04	4.4135E-05	1.0583E-04	5.8486E-05	6.4278E-04	4.0921E-04	1.3362E-04	1.4536E-04	1.0490E-02	5.5042E-03	2.5451E-05	1.7020E-06
	1.7966E-05	1.2824E-05	7.0474E-01		1.4578E-05		2.2456E-05		6.1428E-05				8.7298E-05	8.0597E-03		3.0184E-06	
				1.6286E-01		1.1441E-04		4.0470E-05		6.8102E-04	1.0195E-03	3.7648E-04			6.9929E-03		6.9921E-07

Model Output: Off-Road Web Query (v1.1.0) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2027
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: Off-Road Web Query Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	ROG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	Fuel Consumption	Total_Population	
50 to 119 Horsepower															
San Joaquin	2027	Pleasure Craft - Vessels W/Outboard Engines	Aggregate	50	Gasoline	1.495E-01	4.514E-01	1.781E-02	2.079E+00	1.090E-02	8.237E-03	3.234E-05	123268.19	1495.1	
					Emissions per Gallon	1.213E-06	3.662E-06	1.445E-07	1.687E-05	8.842E-08	6.683E-08	2.624E-10		Fleet Mix for Bin	11.23%
120 to 174 Horsepower															
San Joaquin	2027	Pleasure Craft - Vessels W/Outboard Engines	Aggregate	120	Gasoline	3.535E-01	1.346E+00	4.955E-02	6.997E+00	2.888E-02	2.181E-02	9.906E-05	385374.17	2380.8	
San Joaquin	2027	Pleasure Craft - Vessels W/Sterndrive Engines	Aggregate	120	Gasoline	2.850E-06	2.400E-05	1.390E-06	4.650E-04	4.240E-08	3.210E-08	4.980E-09	19.10	0.3	
					Emissions per Gallon	9.174E-07	3.491E-06	1.286E-07	1.816E-05	7.494E-08	5.659E-08	2.570E-10		Fleet Mix for Bin	17.89%
175 to 249 Horsepower															
San Joaquin	2027	Pleasure Craft - Vessels W/Outboard Engines	Aggregate	175	Gasoline	1.681E-01	8.114E-01	2.911E-02	3.923E+00	1.881E-02	1.422E-02	5.510E-05	215547.87	711.7	
San Joaquin	2027	Pleasure Craft - Vessels W/Sterndrive Engines	Aggregate	175	Gasoline	1.390E-02	1.549E-01	3.995E-02	2.687E+00	2.706E-04	2.045E-04	2.876E-05	111071.20	973.3	
					Emissions per Gallon	5.573E-07	2.959E-06	2.114E-07	2.024E-05	5.841E-08	4.415E-08	2.568E-10		Fleet Mix for Bin	12.66%
250 to 499 Horsepower															
San Joaquin	2027	Pleasure Craft - Vessels W/Inboard Engines	Aggregate	250	Gasoline	1.190E-04	3.150E-04	2.770E-05	7.610E-03	7.600E-07	5.740E-07	8.220E-08	317.70	1.6	
San Joaquin	2027	Pleasure Craft - Vessels W/Outboard Engines	Aggregate	250	Gasoline	1.599E-01	8.349E-01	5.055E-02	5.009E+00	3.567E-02	2.700E-02	6.545E-05	256366.54	633.7	
San Joaquin	2027	Pleasure Craft - Vessels W/Sterndrive Engines	Aggregate	250	Gasoline	6.950E-02	8.054E-01	6.153E-02	7.156E+00	7.140E-04	5.400E-04	8.320E-05	323055.27	2057.9	
					Emissions per Gallon	3.958E-07	2.830E-06	1.934E-07	2.100E-05	6.275E-08	4.751E-08	2.566E-10		Fleet Mix for Bin	20.23%
500 to 749 Horsepower															
San Joaquin	2027	Pleasure Craft - Vessels W/Inboard Engines	Aggregate	500	Gasoline	1.019E-01	1.143E+00	3.800E-02	1.312E+01	1.370E-03	1.030E-03	1.460E-04	569452.92	1905.6	
San Joaquin	2027	Pleasure Craft - Vessels W/Outboard Engines	Aggregate	500	Gasoline	6.886E-02	9.288E-01	3.200E-02	3.829E+00	8.633E-03	6.527E-03	5.240E-05	206105.00	411.5	
San Joaquin	2027	Pleasure Craft - Vessels W/Sterndrive Engines	Aggregate	500	Gasoline	8.882E-02	6.230E-01	3.330E-02	1.350E+01	1.405E-03	1.061E-03	1.408E-04	551382.76	2740.2	
					Emissions per Gallon	1.957E-07	2.030E-06	7.785E-08	2.294E-05	8.597E-09	6.495E-09	2.556E-10		Fleet Mix for Bin	37.99%
													Total Population	13311.8	

Boat Performance Data

From Honda Marine Performance Tests (https://marine.honda.com/outboards/performance)

50 to 119 Horsepower

Boat	Engine	No. engines	Total Horsepower	MPH @ 3000 RPM	Gal/hr @ 3000 RPM
Alumacraft 16MV	Honda BF50D	1	50	7.80	1.25
Dargel Boat Works 136 Sport	Honda BF50D	1	50	20.40	1.50
EastCape Canoes	Honda BF50D	1	50	19.00	2.90
Voyager Pontoons	Honda BF50D	1	50	6.50	1.90
Avalon VEN 1875 CR	Honda BF60	1	60	8.40	1.20
Premier Pontoons 210	Honda BFP60	1	60	7.90	1.10
Avalon LT1880	Honda BF60	1	60	7.00	1.10
Triumph Boatsv 1700 Skiff	Honda BF60	1	60	7.60	1.20
Alumacraft 165 Competitor SC	Honda BF75D	1	75	13.00	2.20
Alumaweld 17 Stryker	Honda BF75D	1	75	18.00	2.10
Premier 225 RE Legend	Honda BF75D	1	75	9.60	1.60
Raider Boats 192 Pro Sport	Honda BF75D	1	75	12.80	2.40
Action Craft 1720 CC	Honda BF90D	1	90	13.50	2.60
Aksano F16	Honda BF90D	1	90	21.30	2.70
Duckworth 175 Navigator Sport	Honda BF90D	1	90	14.40	2.70
Hewescraft 180 Sportsman	Honda BF90D	1	90	13.20	2.00
Alumacraft Voyageur 175	Honda BF100	1	100	15.30	1.90
Apex / Qwest LS818 Gen ll Tritoon	Honda BF100	1	100	9.60	2.20
Highfield Deluxe 540	Honda BF100	1	100	12.72	2.04
Key West 1720 Sportsman	Honda BF100	1	100	14.70	2.30
Avalon 2385	Honda BF115A	1	115	14.80	3.00
Capecraft 190 Bay	Honda BF115A	1	115	10.50	3.50
Clearwater 2000	Honda BF115A	1	115	11.00	4.30
Walker Bay Generation 525	Honda BF115A	1	115	15.60	5.47
Average				**12.57**	**2.16**

120 to 174 Horsepower

Boat	Engine	No. engines	Total Horsepower	MPH @ 3000 RPM	Gal/hr @ 3000 RPM
Alumacraft MV2072 Bay	Honda BF135A	1	135	12.4	4.13
Arima Sea Ranger 19	Honda BF135A	1	135	13.4	3
Blackshear 200	Honda BF135A	1	135	10	3.2
Smoker Craft 20 Phantom	Honda BF135A	1	135	23.7	3.2
Alumacraft Tournament Pro 185	Honda BF150A	1	150	16.7	2.5
Blackshear 200	Honda BF150A	1	150	10	4.4
Coach 210RF	Honda BF150A	1	150	9.8	3.25
Eastern Pilot	Honda BF150A	1	150	12	3.9
Average				**13.50**	**3.45**

Boat Performance Data

From Honda Marine Performance Tests (https://marine.honda.com/outboards/performance)

175 to 249 Horsepower

Boat	Engine	No. engines	Total Horsepower	MPH @ 3000 RPM	Gal/hr @ 3000 RPM
Sea Chaser 245 Bayrunner LX	Honda BF200A	1	200	26	5.45
Hewescraft 220 Ocean Pro	Honda BF200A	1	200	21.8	4.7
Duckworth 200 Pacific Navigator	Honda BF200A	1	200	22.1	4.4
Qwest 8522L RLS	Honda BF200D	1	200	16.5	4.5
Alumaweld 22 Intruder	Honda BF225A	1	225	25	4.3
Blackshear 220	Honda BF225A	1	225	23.3	5.2
Everglades 290 Pilot	Honda BF225A	1	225	20.5	6.2
Coach 230RL	Honda BF225A	1	225	19.3	4.6
Average				**21.81**	**4.92**

250 to 499 Horsepower

Boat	Engine	No. engines	Total Horsepower	MPH @ 3000 RPM	Gal/hr @ 3000 RPM
Avalon Catalina Platinum 2585 QL	Honda BF250A	1	250	18.1	5.1
Berkshire 233RFX-STS	Honda BF250A	1	250	17	4.2
Carolina Skiff 240 Ultra Elite	Honda BF250A	1	250	20.7	4.5
Hewescraft 260 PC	Honda BF250A	1	250	14.3	4.8
Bennington	Honda BF350	1	350	19.36	6
Hewescraft t 240 Ocean Pro ET HT	Honda BF350	1	350	29.38	8.55
North River SeaHawk 23 RTF	Honda BF350	1	350	32.72	3.78
Viaggio 26 Diamante UWA	Honda BF350	1	350	20.9	6.7
Everglades 290 Pilot	Honda BF225A	2	450	18	10.8
Munson Boats	Honda BF225A	2	450	19.6	7.9
World Cat 266 TE	Honda BF225A	2	450	27	12
World Cat 330 TE	Honda BF225A	2	450	21.8	10.2
Average				**21.57**	**7.04**

500 to 749 Horsepower

Boat	Engine	No. engines	Total Horsepower	MPH @ 3000 RPM	Gal/hr @ 3000 RPM
Everglades 295 CC	Honda BF250A	2	500	21.5	9.1
Munson 38 Chinook	Honda BF225A	3	675	15.8	13.6
Triton 2300 Walkaround	Honda BF225A	3	675	22	21.3
World Cat 270 SD	Honda BF225A	3	675	26.7	11.8
Avalon Catalina 2585 CRB	Honda BF350	2	700	31.5	14.8
HewesCraft 290 Adventure	Honda BF350	2	700	27.1	16.5
Sea Vee 320Z	Honda BF350	2	700	31.59	17.97
Tahoe Cascade 2585EL	Honda BF350	2	700	29.83	14.03
Average				**25.75**	**14.89**

Camp Gold Star Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Camp Gold Star
Construction Start Date	1/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	31.2
Location	38.026073865258695, -121.47555881578074
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2133
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Motel	25.0	Room	2.20	19,064	87,199	—	—	—

Recreational Swimming Pool	2.50	1000sqft	0.06	2,500	0.00	—	—	—
Other Asphalt Surfaces	39.4	1000sqft	0.90	0.00	0.00	—	—	—
Enclosed Parking Structure	1.44	1000sqft	0.03	1,440	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.33	11.3	15.0	0.03	0.43	98.8	99.3	0.39	9.87	10.3	3,273
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.01	30.9	31.2	0.06	1.29	246	247	1.19	24.6	25.2	6,511
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.21	7.93	10.2	0.02	0.30	67.0	67.3	0.28	6.82	7.10	2,193
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.22	1.45	1.87	< 0.005	0.06	12.2	12.3	0.05	1.24	1.29	363

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	1.33	11.3	15.0	0.03	0.43	98.8	99.3	0.39	9.87	10.3	3,273
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	7.01	30.9	31.2	0.06	1.29	246	247	1.19	24.6	25.2	6,511
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2026	1.21	7.93	10.2	0.02	0.30	67.0	67.3	0.28	6.82	7.10	2,193
Annual	—	—	—	—	—	—	—	—	—	—	—
2026	0.22	1.45	1.87	< 0.005	0.06	12.2	12.3	0.05	1.24	1.29	363

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	117	1.55	130	0.20	17.5	14.9	32.5	17.5	1.49	19.0	2,206
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	117	1.55	129	0.20	17.5	14.9	32.5	17.5	1.49	19.0	2,199
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.3	0.47	28.1	0.04	3.76	13.7	17.4	3.76	1.36	5.12	782
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.62	0.09	5.14	0.01	0.69	2.49	3.18	0.69	0.25	0.93	129

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.17	< 0.005	< 0.005	14.9	14.9	< 0.005	1.49	1.49	46.7
Area	117	1.32	129	0.20	17.5	—	17.5	17.5	—	17.5	1,770
Energy	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	265
Water	—	—	—	—	—	—	—	—	—	—	9.07
Waste	—	—	—	—	—	—	—	—	—	—	52.7
Refrig.	—	—	—	—	—	—	—	—	—	—	29.8
Stationary	0.50	0.05	1.29	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	33.4
Total	117	1.55	130	0.20	17.5	14.9	32.5	17.5	1.49	19.0	2,206
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.14	< 0.005	< 0.005	14.9	14.9	< 0.005	1.49	1.49	43.3
Area	116	1.32	128	0.20	17.5	—	17.5	17.5	—	17.5	1,767
Energy	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	265
Water	—	—	—	—	—	—	—	—	—	—	9.07
Waste	—	—	—	—	—	—	—	—	—	—	52.7
Refrig.	—	—	—	—	—	—	—	—	—	—	29.8
Stationary	0.50	0.05	1.29	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	33.4
Total	117	1.55	129	0.20	17.5	14.9	32.5	17.5	1.49	19.0	2,199
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.15	< 0.005	< 0.005	13.7	13.7	< 0.005	1.36	1.36	44.1
Area	25.3	0.28	27.8	0.04	3.74	—	3.74	3.74	—	3.74	379
Energy	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	265
Water	—	—	—	—	—	—	—	—	—	—	9.07
Waste	—	—	—	—	—	—	—	—	—	—	52.7
Refrig.	—	—	—	—	—	—	—	—	—	—	29.8
Stationary	0.03	< 0.005	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.20
Total	25.3	0.47	28.1	0.04	3.76	13.7	17.4	3.76	1.36	5.12	782

Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	0.03	< 0.005	< 0.005	2.49	2.49	< 0.005	0.25	0.25	7.30
Area	4.61	0.05	5.07	0.01	0.68	—	0.68	0.68	—	0.68	62.8
Energy	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	43.8
Water	—	—	—	—	—	—	—	—	—	—	1.50
Waste	—	—	—	—	—	—	—	—	—	—	8.72
Refrig.	—	—	—	—	—	—	—	—	—	—	4.94
Stationary	0.01	< 0.005	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.36
Total	4.62	0.09	5.14	0.01	0.69	2.49	3.18	0.69	0.25	0.93	129

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.37	30.4	30.3	0.06	1.29	—	1.29	1.18	—	1.18	5,985
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.83	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	164

Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	27.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.76	0.00	0.00	147	147	0.00	14.7	14.7	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.43	0.10	< 0.005	0.01	36.9	36.9	0.01	3.69	3.70	360
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	3.69	3.69	0.00	0.37	0.37	4.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.92	0.92	< 0.005	0.09	0.09	9.86
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	0.67	0.67	0.00	0.07	0.07	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	0.02	0.02	1.63

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.87	16.2	18.9	0.03	0.69	—	0.69	0.64	—	0.64	3,639
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.49	0.57	< 0.005	0.02	—	0.02	0.02	—	0.02	110
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	18.2
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.67	0.00	0.00	129	129	0.00	12.9	12.9	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	3.55	3.55	0.00	0.35	0.35	4.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	0.65	0.65	0.00	0.06	0.06	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	11.1	14.5	0.03	0.42	—	0.42	0.39	—	0.39	3,074
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.29	11.1	14.5	0.03	0.42	—	0.42	0.39	—	0.39	3,074
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	5.98	7.76	0.02	0.23	—	0.23	0.21	—	0.21	1,651
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.09	1.42	< 0.005	0.04	—	0.04	0.04	—	0.04	273

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.47	0.00	0.00	71.1	71.1	0.00	7.10	7.10	88.8
Vendor	< 0.005	0.13	0.04	< 0.005	< 0.005	27.8	27.8	< 0.005	2.78	2.78	110
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.37	0.00	0.00	71.1	71.1	0.00	7.10	7.10	80.2
Vendor	< 0.005	0.14	0.04	< 0.005	< 0.005	27.8	27.8	< 0.005	2.78	2.78	110
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.20	0.00	0.00	34.9	34.9	0.00	3.49	3.49	44.2
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	13.6	13.6	< 0.005	1.36	1.36	58.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	6.37	6.37	0.00	0.64	0.64	7.31
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	2.49	2.49	< 0.005	0.25	0.25	9.76
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	1,355
Paving	0.01	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.43	< 0.005	0.01	—	0.01	0.01	—	0.01	66.8
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	11.1
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.76	0.00	0.00	147	147	0.00	14.7	14.7	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	6.63	6.63	0.00	0.66	0.66	8.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	1.21	1.21	0.00	0.12	0.12	1.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	134
Architectural Coatings	5.55	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.61
Architectural Coatings	0.27	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.09
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	14.2	14.2	0.00	1.42	1.42	16.0

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	0.64	0.64	0.00	0.06	0.06	0.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	0.12	0.12	0.00	0.01	0.01	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Underground Utilities (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	3.13	4.41	0.01	0.10	—	0.10	0.10	—	0.10	1,103
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.17	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	60.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.29	0.00	0.00	55.2	55.2	0.00	5.51	5.51	62.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	2.76	2.76	0.00	0.28	0.28	3.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	0.50	0.50	0.00	0.05	0.05	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	0.02	0.02	0.17	< 0.005	< 0.005	14.9	14.9	< 0.005	1.49	1.49	46.7
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.02	0.17	< 0.005	< 0.005	14.9	14.9	< 0.005	1.49	1.49	46.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	0.02	0.02	0.14	< 0.005	< 0.005	14.9	14.9	< 0.005	1.49	1.49	43.3
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.02	0.14	< 0.005	< 0.005	14.9	14.9	< 0.005	1.49	1.49	43.3
Annual	—	—	—	—	—	—	—	—	—	—	—
Motel	< 0.005	< 0.005	0.03	< 0.005	< 0.005	2.49	2.49	< 0.005	0.25	0.25	7.30
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	< 0.005	0.03	< 0.005	< 0.005	2.49	2.49	< 0.005	0.25	0.25	7.30

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	65.9
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	2.85
Total	—	—	—	—	—	—	—	—	—	—	68.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	65.9
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	2.85
Total	—	—	—	—	—	—	—	—	—	—	68.8
Annual	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	10.9
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.47

Total	—	—	—	—	—	—	—	—	—	—	11.4

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	196
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	196
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	196
Annual	—	—	—	—	—	—	—	—	—	—	—
Motel	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	32.4

Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	32.4

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	116	1.32	128	0.20	17.5	—	17.5	17.5	—	17.5	1,767
Consumer Products	0.41	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.15	0.01	0.89	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.68
Total	117	1.32	129	0.20	17.5	—	17.5	17.5	—	17.5	1,770
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	116	1.32	128	0.20	17.5	—	17.5	17.5	—	17.5	1,767
Consumer Products	0.41	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—
Total	116	1.32	128	0.20	17.5	—	17.5	17.5	—	17.5	1,767

Annual	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.52	0.05	4.99	0.01	0.68	—	0.68	0.68	—	0.68	62.5
Consumer Products	0.08	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.30
Total	4.61	0.05	5.07	0.01	0.68	—	0.68	0.68	—	0.68	62.8

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	7.58
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	1.49
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	9.07
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	7.58
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	1.49

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	9.07
Annual	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	1.26
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	0.25
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.50

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	25.8
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	26.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	52.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	25.8
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	26.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	52.7
Annual	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	4.27
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	4.45
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	8.72

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	29.8

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	29.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	29.8
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	29.8
Annual	—	—	—	—	—	—	—	—	—	—	—
Motel	—	—	—	—	—	—	—	—	—	—	4.93
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	4.94

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.50	0.05	1.29	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	33.4
Total	0.50	0.05	1.29	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	33.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.50	0.05	1.29	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	33.4
Total	0.50	0.05	1.29	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	33.4
Annual	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	< 0.005	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.36
Total	0.01	< 0.005	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.36

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/2/2026	1/15/2026	5.00	10.0	—
Grading	Grading	1/16/2026	1/31/2026	5.00	11.0	—
Building Construction	Building Construction	3/1/2026	11/30/2026	5.00	196	—
Paving	Paving	10/10/2026	11/4/2026	5.00	18.0	—
Architectural Coating	Architectural Coating	11/5/2026	11/30/2026	5.00	18.0	—
Underground Utilities	Trenching	2/1/2026	2/28/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Back	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Underground Utilities	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Underground Utilities	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Underground Utilities	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	5.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	9.66	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	3.77	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.93	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Underground Utilities	—	—	—	—
Underground Utilities	Worker	7.50	11.9	LDA,LDT1,LDT2
Underground Utilities	Vendor	—	9.10	HHDT,MHDT
Underground Utilities	Hauling	0.00	20.0	HHDT
Underground Utilities	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	28,661	9,539	2,451

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	400	15.0	0.00	—
Grading	—	—	11.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.94

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Motel	0.00	0%
Recreational Swimming Pool	0.00	0%
Other Asphalt Surfaces	0.90	9%
Enclosed Parking Structure	0.03	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Motel	4.00	4.00	4.00	1,460	55.6	55.6	55.6	20,300
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Motel	—
Wood Fireplaces	27
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	28,661	9,539	2,451

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Motel	116,825	204	0.0330	0.0040	609,228
Recreational Swimming Pool	0.00	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00
Enclosed Parking Structure	5,042	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Motel	634,169	1,223,930
Recreational Swimming Pool	147,858	0.00
Other Asphalt Surfaces	0.00	0.00
Enclosed Parking Structure	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Motel	13.7	—
Recreational Swimming Pool	14.2	—
Other Asphalt Surfaces	0.00	—
Enclosed Parking Structure	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Motel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Motel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Motel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	CNG	1.00	0.25	6.00	226	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	22.9	annual days of extreme heat
Extreme Precipitation	1.45	annual days with precipitation above 20 mm
Sea Level Rise	1.06	meters of inundation depth
Wildfire	9.35	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	48.6
AQ-PM	46.2

AQ-DPM	25.0
Drinking Water	93.7
Lead Risk Housing	56.2
Pesticides	92.2
Toxic Releases	34.5
Traffic	7.53
Effect Indicators	—
CleanUp Sites	33.9
Groundwater	98.7
Haz Waste Facilities/Generators	72.6
Impaired Water Bodies	99.0
Solid Waste	63.7
Sensitive Population	—
Asthma	65.2
Cardio-vascular	48.2
Low Birth Weights	93.1
Socioeconomic Factor Indicators	—
Education	87.9
Housing	—
Linguistic	75.8
Poverty	88.6
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	19.45335558

Employed	55.33170794
Median HI	19.26087514
Education	—
Bachelor's or higher	18.02900038
High school enrollment	100
Preschool enrollment	69.84473245
Transportation	—
Auto Access	74.57975106
Active commuting	60.6698319
Social	—
2-parent households	85.48697549
Voting	74.16912614
Neighborhood	—
Alcohol availability	97.0101373
Park access	4.812010779
Retail density	0.115488259
Supermarket access	10.30411908
Tree canopy	60.24637495
Housing	—
Homeownership	30.01411523
Housing habitability	66.81637367
Low-inc homeowner severe housing cost burden	96.94597716
Low-inc renter severe housing cost burden	97.62607468
Uncrowded housing	30.36058001
Health Outcomes	—
Insured adults	11.85679456
Arthritis	0.0
Asthma ER Admissions	15.2

High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	15.5
Cognitively Disabled	15.9
Physically Disabled	41.1
Heart Attack ER Admissions	27.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	88.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	96.8
Elderly	20.7
English Speaking	7.7
Foreign-born	56.2
Outdoor Workers	0.8

Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.5
Traffic Density	4.4
Traffic Access	0.0
Other Indices	—
Hardship	67.6
Other Decision Support	—
2016 Voting	46.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	93.0
Healthy Places Index Score for Project Location (b)	41.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Land Use	Land uses and sizes per site plan and info needs responses.
Construction: Construction Phases	Schedule per project architect. Paving and architectural coating assumed to occur concurrently with building construction. Building construction assumed to include all structures and landscaping including the dock.
Construction: Off-Road Equipment	Off highway truck = water truck. Underground utilities assumed to require a backhoe and excavator.
Construction: Trips and VMT	Increased building construction worker trips from 10 to 20 based on size and number of structures.
Construction: On-Road Fugitive Dust	Last 5 miles of trips on unpaved surfaces.
Construction: Paving	Hardscape material quantities per project architect.
Operations: Vehicle Data	Trips based on maximum 16 employees per day, with 2 employees commuting by car. Assumes all guests and remaining employees will arrive by boat.
Operations: Road Dust	5 miles of each trip will be an unpaved surface.
Operations: Hearths	Firepit information provided by the project architect. Assumes 12.5 pounds of wood burned per hour per firepit.

Appendix C

Biological Assessment

Camp Gold Star

Section 7 Biological Assessment

September 2024 | 04569.00008.001

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this Biological Assessment (BA) is to review how the issuance of a federal permit under Section 10 of the Rivers and Harbors Act by the U.S. Army Corps of Engineers (USACE) for the Camp Gold Star Project (Project) may affect federally-listed species pursuant to the Federal Endangered Species Act (ESA). On behalf of Mid-Cal Construction (Agent), Frank Morgan, Camp Gold Star, LLC (Applicant) has submitted a permit application pursuant to Section 10 of the Rivers and Harbors Act for placement of a new private dock within a navigable water of the United States (U.S.), the San Joaquin River (Proposed Action). The Proposed Action is located in the San Joaquin River and along the southern bank at a private property and levee road on MacDonald Island, in Stockton, CA, at approximately -121.4766757, 38.0269280, NAD 1983 (Action Area). The Proposed Action is limited to the installation of a private dock with an associated gangway and landing. The purpose of the dock is to provide recreational access to the river for the guests of Camp Gold Star. The proposed dock and gangway will be manufactured off-site and delivered to the site by truck. Installation of the dock will require driving fifteen (15) 12-inch steel piles with a barge-mounted crane. Installation of the dock and the associated gangway and landing will result in the placement of the dock structure within a navigable water and will impact habitat that may support federally-listed species. The Proposed Action may also affect designated critical habitat and essential fish habitat.

In accordance with Section 7 of ESA, the USACE is required to consult with the U.S. Fish and Wildlife Service (Service) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries to ensure that issuance of a Section 10 permit for the Proposed Action would not jeopardize the continued existence of any federally-listed species or result in adverse modification to designated critical habitat. This BA has been prepared to facilitate the federal consultation process by providing the Service and NOAA Fisheries with the best available scientific information relevant to potential project-related effects to federally-listed and candidate plant and wildlife species.

1.2 SPECIES ADDRESSED IN THIS DOCUMENT

Before implementing fieldwork, a review of the most current biological information relevant to the Proposed Action was conducted. The California Natural Diversity Database (CNDDB) is a natural heritage database program maintained by the California Department of Fish and Wildlife (CDFW) Habitat Conservation Division that provides natural history and location information on rare, threatened, endangered, special-status species, and natural communities, including federally-listed and candidate species, to the public, other agencies, and conservation organizations.

The potential for occurrence of federally-listed species within the Action Area was assessed based on a review of the CNDDB, the Service's online Information for Planning and Consultation (IPaC) query (Appendix A), the NOAA Fisheries list (Appendix B), and taking into consideration site-specific habitat types and conditions that were assessed during the site visit conducted on August 13, 2024.

Following a review of species' range information and essential habitat requirements in conjunction with consulting the databases referenced above, it was determined that implementation of the Proposed Action could potentially affect six federally-listed species, including: steelhead trout (*Oncorhynchus mykiss*), California Central Valley Distinct Population Segment (DPS), delta smelt (*Hypomesus*

transpacificus), longfin smelt (*Spirinchus thaleichthys*) San Francisco Bay-Delta DPS, green sturgeon (*Acipenser medirostris*), southern DPS, giant garter snake (*Thamnophis gigas*), and northwestern pond turtle (*Actinemys marmorata*). This BA describes potential effects to these six species while taking into consideration conservation measures proposed by the Agent to avoid, minimize, and offset potential adverse project-related effects to these species.

1.3 SPECIES CONSIDERED BUT NOT ADDRESSED FURTHER

Seventeen federally-listed or candidate species were considered for analysis based on the CNDDB, NOAA, and IPaC queries, but they are not addressed further in this BA because these species are not expected to be affected by the Proposed Action. This conclusion was based on multiple factors including lack of suitable habitat for the species in the Action Area or the Action Area being located outside of the known range of the species in question. The federally-listed species identified in the queries that are not expected to be affected by the Proposed Action include: bocaccio (*Sebastes paucispinis*), Chinook salmon (*Oncorhynchus tshawytscha*), Sacramento River winter-run and Central Valley spring-run, chum salmon (*Oncorhynchus keta*), coho salmon (*Oncorhynchus kisutch*), eulachon (*Thaleichthys pacificus*), oceanic whitetip shark (*Carcharhinus longimanus*), scalloped hammerhead shark (*Sphyrna lewini*), sockeye salmon (*Oncorhynchus nerka*), yelloweye rockfish (*Sebastes ruberrimus*), riparian brush rabbit (*Sylvilagus bachmani riparius*), California tiger salamander (*Ambystoma californiense*), western spadefoot (*Spea hammondii*), Monarch butterfly (*Danaus plexippus*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and large-flowered fiddleneck (*Amsinckia grandiflora*). The rationale for excluding these species from the remainder of the BA is detailed below.

1.3.1 Bocaccio and Other Marine Species

The bocaccio is a large rockfish that occurs along the Pacific coast from Baja California to the Gulf of Alaska. The Puget Sound/Georgia Basin DPS of this species was federally-listed as endangered in 2010. The oceanic whitetip shark is found throughout the world in tropical and sub-tropical waters and was federally-listed as threatened in 2018. The scalloped hammerhead shark can be found in coastal warm temperate and tropical seas worldwide. Two distinct population segments of the scalloped hammerhead shark are listed as endangered and two are listed as threatened under the ESA. The yelloweye rockfish is among the longest lived of rockfishes and the Puget Sound/Georgia Basin DPS in Washington State was federally-listed as threatened in 2010 (NOAA 2024a).

These species are restricted to marine habitats and will not occur in the Action Area as the Action Area is within a freshwater environment of the San Joaquin River. Therefore, they will not be affected by the Proposed Action and are not addressed further in this BA.

1.3.2 Chinook Salmon

1.3.2.1 Sacramento River Winter-Run

The Sacramento River winter-run Chinook salmon was listed as a threatened species under emergency provisions of the Endangered Species Act (ESA) in August 1989 (54 FR 32085: August 4, 1989) and listed as a threatened species in a final rule in November 1990 (55 FR 46515; November 5, 1990). In June 1992, this species was proposed to be reclassified as an endangered species (57 FR 27416; June 19, 1992) and was re-classified as an endangered species on January 4, 1994 (59 FR 440).

The Sacramento River winter-run Chinook salmon Evolutionary Significant Unit (ESU) includes winter-run Chinook salmon spawning naturally in the Sacramento River and its tributaries, as well as winter-run Chinook salmon that are part of the conservation hatchery program at the Livingston Stone National Fish Hatchery. This ESU spawns during the summer and requires stream reaches with cold water sources that will protect embryos and juveniles from warm summer conditions. Winter-run Chinook salmon primarily spawn in the mainstem Sacramento River between Keswick Dam and the Red Bluff Diversion Dam. Fry and smolts emigrate downstream from July through March through the Sacramento River, reaching the Delta from September through June. They then emigrate to the ocean and begin ocean life in the Gulf of the Farallones and distribute north and south along the coast of California (NOAA 2014).

This species occurs in the Sacramento River and is not known to occur in the San Joaquin River within the Action Area. Therefore, this species is not expected to occur within the Action Area or be affected by the Proposed Action and is not addressed further in this BA.

1.3.2.2 Central Valley Spring-Run

The Central Valley spring-run Chinook salmon was federally-listed as threatened in 1999 (64 FR 50394). This species was historically abundant in the San Joaquin River before the construction of the Friant Dam; after dam construction, parts of the San Joaquin River became dry and disconnected salmon from their spawning habitats. Spring-run Chinook salmon have been absent from the San Joaquin River for over 60 years (NOAA 2024b). However, reintroduction efforts have been made in the San Joaquin River, and in 2013, NOAA Fisheries designated the Central Valley spring-run Chinook salmon reintroduced to the San Joaquin River as an experimental non-essential population in accordance with section 10(j) of the ESA (78 FR 79622). In 2019, the first spring-run Chinook salmon in over 65 years completed their life cycle, returning to the San Joaquin River after being released as juveniles through the reintroduction effort (NOAA 2024b). The only known streams that currently support self-sustaining populations of non-hybridized or introduced spring-run Chinook salmon in California are Mill, Deer, and Butte creeks in Tehama County. These creeks are accessible by the Sacramento River.

Because this species is currently designated as an experimental population within the San Joaquin River, it holds no legal protection under the ESA. The only other known populations of this ESU that are self-sustaining/protected are located in stream reaches outside of the Action Area: Mill, Deer and Butte Creeks, in Tehama County. Because natural populations of this ESU do not occur within or near the Action Area, Central Valley spring-run Chinook salmon will not be affected by the Proposed Action, and it is not addressed further in this BA.

1.3.3 Chum Salmon

The Columbia River ESU and Hood Canal summer-run ESU chum salmon were federally-listed as threatened in 1999 (64 FR 14508). The Columbia River ESU includes naturally spawned chum salmon originating from the Columbia River and its tributaries in Washington and Oregon, as well as chum salmon from the Grays River Program, the Washougal River Hatchery/Duncan Creek Program, and the Big Creek Hatchery Program. The Hood Canal summer-run ESU includes naturally spawned summer-run chum salmon originating from Hood Canal and its tributaries, as well as from Olympic Peninsula rivers between Hood Canal and Dungeness Bay, as well as summer-run chum salmon from Lilliwaup Creek Fish Hatchery and the Tahuya River Program (NOAA 2024a). Chum salmon are not known to spawn in the Sacramento or San Joaquin rivers and generally do not occur in these systems. One female chum salmon was captured in the San Joaquin River in 2013 but was considered a stray (CDFW 2015).

The protected ESUs of this species do not occur in California. Therefore, this species is not expected to occur within the Action Area or be affected by the Proposed Action and is not addressed further in this BA.

1.3.4 Coho Salmon

The Central California Coast ESU coho salmon was federally-listed as threatened in 1996 and was reclassified as endangered in 2005. The Lower Columbia River ESU, the Oregon Coast ESU, and the Southern Oregon and Northern California coasts ESU are all federally-listed as threatened. Coho salmon have a relatively complex life history that includes spawning and juvenile rearing in rivers for at least one summer followed by migrating to saltwater to feed, grow, and mature before returning to freshwater to spawn (NOAA 2024a). The Central California Coast ESU includes naturally spawned coho salmon originating from rivers south of Punta Gorda to Aptos Creek, and from tributaries to the San Fransico Bay. The remaining ESUs do not occur in the vicinity of the Action Area.

Coho salmon do not occur in the San Joaquin River or the adjacent Delta. Therefore, this species is not expected to occur within the Action Area or be affected by the Proposed Action and is not addressed further in this BA.

1.3.5 Eulachon

The eulachon Southern DPS was federally-listed as threatened in 2010. This DPS of eulachon can be found in the northeastern Pacific Ocean from the Mad River in northern California to the Nass River in British Columbia. This species is anadromous and spends the first year of life in the open ocean before migrating to rivers to spawn. Newly hatched larvae are carried by the river to estuaries and juveniles disperse onto the marine continental shelf (NOAA 2024a).

The eulachon Southern DPS does not occur in the San Joaquin River or the adjacent Delta. Therefore, this species is not expected to occur within the Action Area or be affected by the Proposed Action and is not addressed further in this BA.

1.3.6 Sockeye Salmon

The Snake River ESU sockeye salmon was federally-listed as endangered in 1991 and the Ozette Lake ESU sockeye salmon was federally-listed as threatened in 1999. The Snake River ESU includes all naturally spawned anadromous and residual sockeye salmon originating from the Snake River basin, and also sockeye salmon from the Redfish Lake Captive Broodstock Program and the Snake River Sockeye Salmon Hatchery Program. The Ozette Lake ESU includes naturally spawned sockeye salmon originating from the Ozette River and Ozette Lake and its tributaries. This ESU also includes sockeye salmon from the Umbrella Creek/Big River Hatchery Program (NOAA 2024a).

Anadromous sockeye salmon do not occur in California. However, landlocked sockeye salmon do occur in California (referred to as kokanee) and are not a protected species. Therefore, this species is not expected to occur within the Action Area or be affected by the Proposed Action and is not addressed further in this BA.

1.3.7 Riparian Brush Rabbit

The riparian brush rabbit was federally-listed as endangered in 2000. This species occurs in riparian habitats with thick, brushy vegetation. The only known populations of this species are located at Caswell Memorial State Park and the Oxbow Preserve, as well as in the South Delta and at the San Joaquin River National Wildlife Refuge (USFWS 2024a).

The closest known occurrence of this species is approximately 15.65 miles from the Action Area (CDFW 2024a). Known populations of this species are not located in or near the Action Area. In addition, the Action Area is located along a riprap levee road with minimal vegetation, and suitable habitat for this species is not present within the Action Area. Therefore, this species is not expected to occur within the Action Area or be affected by the Proposed Action and is not addressed further in this BA.

1.3.8 California Tiger Salamander

The California tiger salamander (CTS) was federally-listed as threatened throughout its range in the Central Valley on August 4, 2004, and federally-listed as endangered throughout its range in Sonoma and Santa Barbara counties on July 22, 2002, and January 12, 2000 (USFWS 2004a). This species occurs near Petaluma, in Sonoma County, east through the Central Valley to Yolo and Sacramento counties, south to Tulare County, and from the vicinity of San Francisco Bay south to Santa Barbara County. One isolated population is also known to exist at the Gray Lodge Wildlife Management Area in Butte County. The CTS is a lowland species restricted to grasslands and low foothill regions where nearby aquatic habitat occurs. Breeding occurs in vernal pools, ponds, and other seasonal aquatic pools, typically from November to February. At least 12 weeks are required for the development from egg to free-swimming larva, and to metamorphosed juvenile. As the breeding pool dries out in late spring to early summer, juvenile CTS migrate at night to small-mammal burrows to over-summer. CTS remain in underground burrows for the majority of the year and become sexually mature after two years of age. This salamander may not reproduce during years of low rainfall.

The closest documented occurrence of this species is approximately 14.68 miles from the Action Area (CDFW 2024a). This species does not occur in riverine habitats and suitable upland, and aquatic habitats were not observed in or around the Action Area. Therefore, this species is not expected to occur or be affected by the Proposed Action and is not addressed further in this BA.

1.3.9 Western Spadefoot

The western spadefoot was federally proposed for threatened status under the ESA on December 5, 2023. Two DPSs' are proposed for listing; the northern DPS is found from Shasta County through the Central Valley, and down the coast from Santa Clara County to Santa Barbara County, and the southern DPS is found from Los Angeles County to northwestern Baja California, Mexico (USFWS 2023). This species occurs in open areas with sandy or gravelly soil, generally in grassland, mixed woodland, chaparral, coastal sage scrub, and floodplain habitats. This species spends the majority of its life in underground burrows, and emerges to breed typically from October to May, depending on the rainfall. Breeding occurs in vernal pools, wetlands, and other ephemeral pools, and pools must remain inundated for at least 30 days for larvae to mature. Newly metamorphosed spadefoots disperse into the surrounding area, where they will find a burrow or crevice until the following rain season.

The closest documented occurrence of this species is approximately 25.85 miles from the Action Area (CDFW 2024a). The Action Area does not contain suitable aquatic or upland habitat for western spadefoot. Therefore, this species is not expected to occur or be affected by the Proposed Action and is not addressed further in this BA.

1.3.10 Monarch Butterfly

The monarch butterfly was proposed as a candidate species under the ESA on December 15, 2020. In winter, western monarchs aggregate in clusters at forested groves scattered along 620 miles of the Pacific coast from Mendocino County to Baja California, Mexico. Small aggregations have also been reported in Inyo and Kern counties. In February and March, the surviving monarchs breed at the overwintering site before dispersing. During the spring and summer, an adult monarch spends its two to five-week lifespan mating and foraging, with females searching for milkweed (*Asclepias* spp.) upon which to lay their eggs. Multiple generations are produced during this time, with the final fall generation migrating to overwintering sites and living for six to nine months. Adult females lay eggs singly on milkweed plants, but occasionally on other closely related species as well, including *Gomphocarpus* spp. and *Calotropis* spp., which are critical for the successful development of the caterpillar into an adult butterfly (Western Monarch Milkweed Mapper 2024).

The closest documented occurrence of this species is in Marin County (CDFW 2024a). Milkweed and other critical plant species for the monarch butterfly were not observed in the Action Area, and the Action Area is not located near a known wintering location. Therefore, this species is not expected to occur or be affected by the Proposed Action and is not addressed further in this BA.

1.3.11 Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) was federally-listed as threatened on August 8, 1980. This species depends on elderberry (*Sambucus* spp.) shrubs for its entire life cycle and is known to occur from southern Shasta County to Fresno County. The female lays its eggs on the leaves and stems of the elderberry shrub, and the larvae emerge and burrow into the elderberry stem, where they feed until pupation. The larval stage may last two years, and the stem of the elderberry shrub needs to be at least one inch in diameter to be suitable for larvae and pupa. When the host shrub begins flowering, the pupa emerge from the stem as an adult, creating visible exit holes on the stem. Adults are most active from March to June. VELB are most often found on elderberry shrubs within riparian plant communities, and some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle while isolated elderberry shrubs are less likely to support beetle populations (USFWS 2017).

The closest documented occurrence of this species is approximately 11.29 miles from the Action Area (CDFW 2024a). No elderberry shrubs were observed within or adjacent to the Action Area. Therefore, this species is not expected to occur or be affected by the Proposed Action and is not addressed further in this BA.

1.3.12 Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

The vernal pool fairy shrimp was federally-listed as threatened in September 1994 (USFWS 2005). This species is known to occur in the Central Valley from Shasta County to Tulare County. It most often occurs in vernal pools but has also been observed within seasonal drainages, stock ponds, swales, and

other ephemeral aquatic habitats. Alkalinity, total dissolved solids, and pH are contributing factors known to influence suitable habitat (Eriksen and Belk 1999).

The vernal pool tadpole shrimp was federally-listed as endangered on September 19, 1996. The species is endemic to the California Central Valley, with most individuals being found in the Sacramento Valley. The vernal pool tadpole shrimp occurs in a variety of ephemeral aquatic habitats such as vernal pools, alkaline pools, seasonal ditches, and wetlands. They are typically found in habitats with a depth greater than five inches and that retain water for 15 to 30 days (Helm 1998).

The closest documented occurrence of vernal pool fairy shrimp to the Action Area is approximately 17.73 miles and the closest documented occurrence of vernal pool tadpole shrimp is approximately 8.66 miles from the Action Area (CDFW 2024a). Vernal pools or other suitable aquatic habitats for these species are not present within or adjacent to the Action Area. Therefore, vernal pool fairy shrimp and vernal pool tadpole shrimp are not expected to occur or be affected by the Proposed Action and are not addressed further in this BA.

1.3.13 Large-Flowered Fiddleneck

The large-flowered fiddleneck was federally-listed as endangered on May 8, 1985. This plant produces bright orange, trumpet-shaped flowers that grow on a fiddleneck-shaped stem. A mature plant can grow up to 36 inches in height and have hundreds of flowers during its blooming period from March to May. It occurs in grassland habitats, particularly on steep, north-facing slopes that are in shaded terrain and remain moist for longer into the day than in surrounding areas. Historically, this species was found from northern Contra Costa County at the San Joaquin River Delta to Corral Hollow and adjacent areas in San Joaquin County. Currently, large-flowered fiddleneck is only known in twelve sites across Contra Costa, San Joaquin, and Alameda counties (USFWS 2021).

The closest documented occurrence of this species is approximately 19.35 miles from the Action Area (CDFW 2024a). Suitable grassland habitat for this species is not present within or adjacent to the Action Area and the Action Area is outside of the known range of this species. Therefore, this species is not expected to occur or be affected by the Proposed Action and is not addressed further in this BA.

1.4 CONSULTATION TO DATE

The CDFW, USFWS, and NOAA databases were all queried before conducting fieldwork on August 13, 2024, as detailed above.

No additional agency coordination has occurred to date on this Project.

1.5 CRITICAL HABITAT

Critical habitat is a specific geographic area containing features essential for the conservation of a threatened or endangered species. The Service's determination and designation of critical habitat is based on species-specific physical and biological features required for life processes and successful reproduction.

The Action Area contains designated critical habitat within the San Joaquin River for delta smelt and green sturgeon (southern DPS) in the area of potential direct effects (dock/gangway footprint), and

designated critical habitat for steelhead (Central Valley DPS) in areas of potential indirect effects. Permanent effects to designated critical habitat may occur as a result of shading effects from the construction of the dock. Temporary effects to designated critical habitat may occur from pile driving activities. These potential effects are discussed in more detail in Section 5.0 of this BA.

1.6 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act of 1997 (MSA) governs the conservation and management of commercially harvested ocean fisheries. The purpose of the Act is to take immediate action to conserve, protect, and manage U.S. coastal fishery resources, anadromous species, and Essential Fish Habitat (EFH). EFH is the aquatic habitat (water and substrate) that is necessary for fish to spawn, breed, feed, or mature, and that allows production levels needed to: (1) support a long-term, sustainable commercial fishery, and (2) contribute to a healthy ecosystem (NMFS 1997). EFH was designated as part of the 1996 revisions to the Magnuson-Stevens Act, which refined the focus of fish management by emphasizing the need to protect fish habitat.

Pile driving, as described in the Proposed Action, can generate underwater sound pressure waves that may adversely affect the ecological function of EFH by modifying the water column such that fish and prey species are killed, harmed, or injured. Therefore, the Proposed Action may temporarily affect EFH during pile-driving activities. Permanent effects to EFH may occur as a result of the shading of aquatic habitat associated with the dock. These potential effects are discussed in more detail in Section 5.0. Conservation Measures described in Section 2.5 of this BA include applicable measures from the Programmatic Consultation between the USACE and National Marine Fisheries Service (NMFS) for regularly permitted activities, including the construction of new private boat docks such as described under the Proposed Action (NOAA 2013).

2.0 PROJECT DESCRIPTION

2.1 LOCATION

The Action Area is located in the San Joaquin River and along the southern bank at a private property and levee road on MacDonald Island, in Stockton, CA. The Action Area is within Assessor's Parcel Number (APN) 129-080-54. The Action Area is bordered by agricultural land, the Delta Yacht Club, and the SJC Delta Power Squadron boat club. Surrounding land uses include agriculture, a PG&E substation, and recreation along the San Joaquin River.

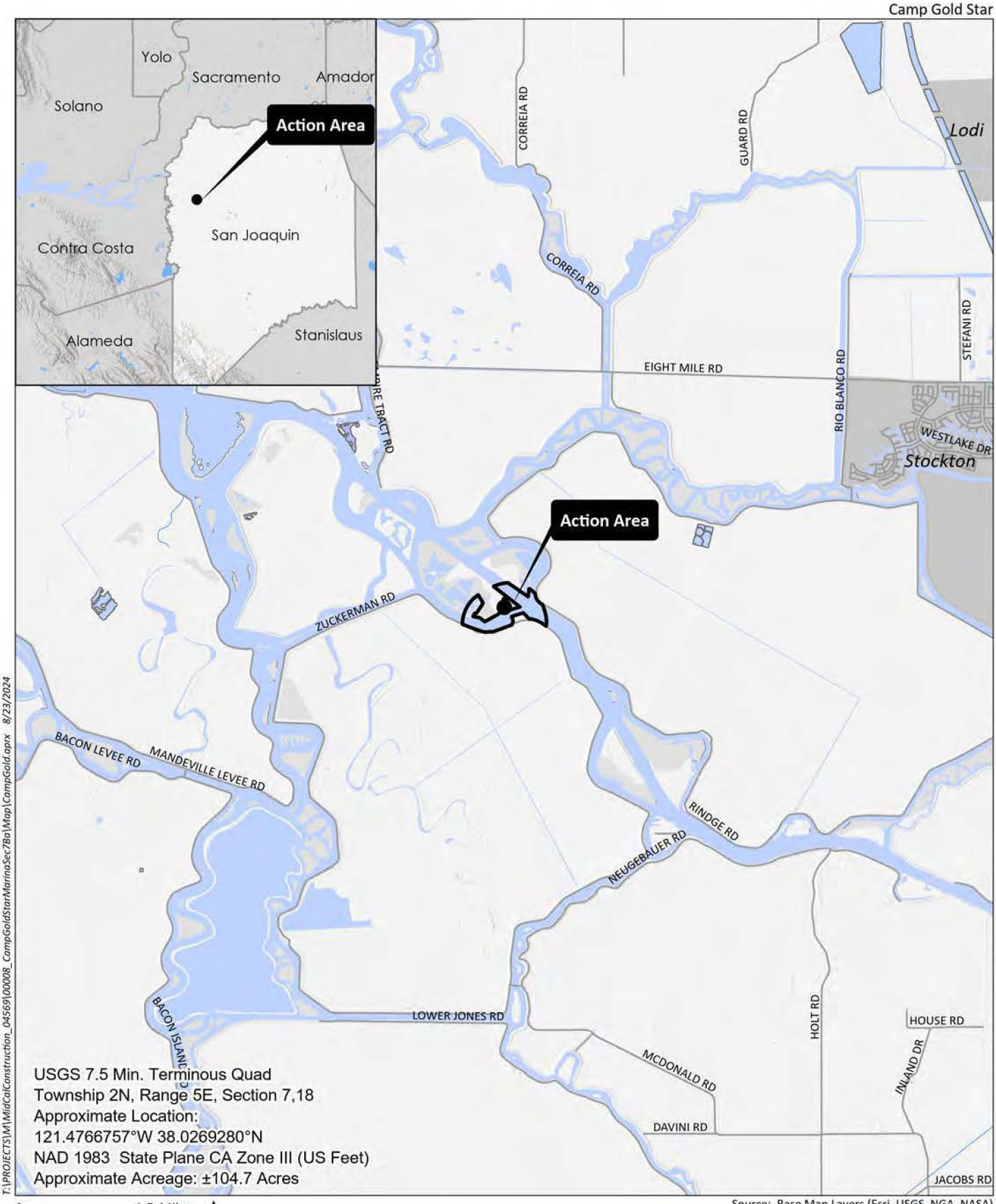
The Action Area is located on the *Terminous, California* USGS 7.5-minute quadrangle map. The approximate center of the Action Area is -121.4766757, 38.0269280 (Figure 1, *Site and Vicinity Map*).

2.2 ACTION AREA

The Action Area includes all areas in which federally-listed species would be potentially directly and/or indirectly affected by the Proposed Action as described below. The purpose of identifying the Action Area is to define the boundaries of the area(s) that will be affected by the Proposed Action.

The area of potential direct and indirect effects is approximately ±117.1 acres, including the ±0.15-acre (6,692 square feet) area of permanent impacts associated with the placement of the dock and gangway

Camp Gold Star



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USGS 7.5 Min. Terminous Quad
Township 2N, Range 5E, Section 7,18
Approximate Location:
121.4766757°W 38.0269280°N
NAD 1983 State Plane CA Zone III (US Feet)
Approximate Acreage: ±104.7 Acres

0 1.5 Miles

Source: Base Map Layers (Esri, USGS, NGA, NASA)

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Site and Vicinity Map

Figure 1

within and along the San Joaquin River (Figure 2, *Action Area Map*). The remaining acreage within the Action Area may experience temporary acoustic effects to federally-listed species during pile-driving activities, as modelled in Appendix C.

2.3 PROPOSED ACTION

The Proposed Action includes the installation of a private dock with an associated gangway and landing. The proposed dock and gangway will be manufactured off-site and delivered to the site in sections by truck. A crane will offload the dock sections from the truck and place them into the river. The dock sections will then be towed into position with a small boat and assembled together with hand tools. Installation of the dock will require pile driving of fifteen 12" steel piles with a barge-mounted crane. Pile driving will be completed within one week. The dock is an "L" shape with 8'x650', 8'x120', and 10'x20' sections. The dock is proposed to be made with concrete encapsulated floats, HDG steel thru-rods, and PTDf whalers. The piles are steel, and the gangway will be made from marine-grade aluminum. The gangway will be a 4'x80'ADA-compatible ramp with AridDek decking and will be delivered to the site along with the dock sections. The area of the gangway within the ordinary high-water mark (OHWM) is approximately 236 square feet. A 4'x3' concrete landing will be installed to anchor the gangway to the shore. Twenty-two utility pedestals with 30 and 50 AMP on each side, a water hose bib, night lights on power pedestals, and firefighting hose cabinets/extinguishers with spacing per code will also be installed on the dock. Details of the Proposed Action are included in Appendix C. The Proposed Action would not remove any trees, and, therefore, the Proposed Action does not have any tree impacts.

2.4 CONSTRUCTION TIMING

Project development will commence upon receipt of approvals, authorizations, and certifications of all necessary permits, entitlements, and environmental documents. Dock installation is proposed to take 30-60 days to complete and would occur between June 1 and October 31 in the year of authorization. In-water work is proposed to take no more than seven days.

2.5 CONSERVATION MEASURES

Development of the Proposed Action is anticipated to directly affect 6,596 square feet (±0.15 acre) of the San Joaquin River (portion of dock and gangway over the OHWM), with a total impact area of 6,692 square feet (±0.15 acre). These anticipated effects are further discussed in Section 5.0 of this BA. Conservation measures have been proposed by the Agent and incorporated into the project design to avoid and minimize potential effects to federally-listed species, designated critical habitat, and essential fish habitat as described below and in Appendix C.

2.5.1 Dock Construction Best Management Practices

The dock will be pre-manufactured off-site to reduce the amount of installation time on the water and to minimize potential effects on water quality. The materials used for construction will consist of hand tools. No dewatering is necessary for construction. The dock design will allow for removal for maintenance or flood conditions. The following dock design measures will be incorporated:

- The dock will be placed in sufficiently deep water to minimize or preclude dredging, avoid groundings, and avoid displacement of submerged aquatic vegetation.

- Overwater structures will use the fewest number of piles as practicable (15) for necessary support of the structure to minimize pile shading, substrate impacts, and impacts to water circulation.

- Pilings will be spaced at least 10 feet apart at the center to minimize shading.

- If cutting, boring, or touch-up preservation applications must be performed over the water, then tarps, barriers, plastic tubs, or similar devices will be used to capture debris, spills, or drips.

2.5.2 Pile Driving Best Management Practices

- The drop hammer will be 3,000 pounds or less.

- No single strike will exceed 191 decibels (dB) for an estimated distance of 10 meters.

- The minimum number of piles will be used (15) to safely support the dock structure while minimizing the duration of the acoustic effects associated with pile driving.

- Pile driving will utilize curtains to mitigate negative impacts to water quality.

- Pile driving will utilize wooden cushion blocks to minimize acoustic impacts.

- Pile driving will occur only during daylight hours and initially will occur at low energy levels and reduced impact frequency. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved.

2.5.3 Work Schedule

Work will occur for a seven-day period sometime within the June 1 and October 31 work window during daylight hours (one hour after sunrise to no later than sunset) to help minimize the potential impact to federally-listed species and nesting birds. The nesting bird season is generally from February 1 to August 31 and could be avoided by timing construction to begin after September 1. The time required to complete on-site pile driving will not exceed seven days.

2.5.4 Wildlife Protection and Prevention

- If rare or special-status wildlife species are encountered during the project, work will be suspended until guidance from a professional Biologist. This action will result from the construction supervisor immediately contacting the Biologist so that they can determine appropriate action to prevent harassment and/or mortality for any encounters of rare or special-status wildlife species. Until the encountered wildlife species is/are determined safe by the Biologist's actions, the Project will cease.

- Disturbance and removal of all vegetation on the site will not exceed the minimum necessary to complete the installation.

- No live or dead trees will be removed for the Proposed Action.



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0 650 Feet

Source: Aerial (DigitalGlobe, 09/05/2022)

HELIX Environmental Planning

Action Area Map

Figure 2

- When the gangway and dock are added, the noise will be limited to 191dB or less at an estimated distance of 10 meters. A minimum number of piles will be used to support the dock structure. When piles are driven into the substrate, curtains will be added to reduce negative impacts to water quality. Pile driving will occur only during daylight hours.

- At the end of each workday, all trenches and holes greater than one foot deep will be covered to prevent wildlife from entering. When trenches cannot be fully covered, an escape ramp will be placed at each end of any constructed open trench to allow wildlife that may have become entrapped in the trench to climb out overnight.

    - The escape ramp will be constructed with wood planking or other suitable material that is placed at an angle not greater than 30 degrees. Daily before construction begins, all construction pipes or similar structures greater than two inches in diameter stored nightly at the site shall be inspected for wildlife before the pipe or similar structure is buried, capped, used, or moved.

- All project-related equipment and tools will be inspected daily in the morning before construction begins for the potential presence of common or special-status wildlife species.

- To ensure the site does not attract additional wildlife, all loose plant material cut as a result of the Proposed Action will be removed daily by workers.

- Prevention of soil sediment runoff will include the placement of straw wattles throughout areas at the site where the potential for runoff could occur during Project activities or if rain events occur.

Additional measures pertaining to special-status wildlife species recommended by HELIX Environmental Planning, Inc. include the following:

- All construction-related vehicles and equipment shall drive no faster than 15 miles per hour in the Action Area.

- Hazardous materials such as fuels, oils, solvents, etc., shall be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitat. All fueling and maintenance of vehicles and other equipment will occur at least 200 feet from any aquatic habitat.

- The Proposed Action will prohibit the use of erosion control materials potentially harmful to wildlife species such as mono-filament netting or similar material. Tightly woven fiber netting or similar material will be used to ensure wildlife do not get trapped or entangled.

- After completion of construction activities, the contractor shall remove all stockpiled material and construction debris and, wherever feasible, restore disturbed areas to pre-project conditions.

- A USFWS-approved Qualified Biologist shall conduct a preconstruction survey for giant garter snake (GGS) and northwestern pond turtle within 24 hours before the commencement of pile-driving activities, and gangway landing construction, preferably the morning that construction is

expected to begin. The Qualified Biologist shall provide a field report of the survey results that shall be made available to the USFWS within one week of the completion of the survey.

- If GGS, northwestern pond turtle, or suitable GGS burrows are observed within the construction area during the pre-construction survey, the USFWS-approved biologist shall monitor all ground-disturbing activity within the suitable habitat area.

- A Qualified Biologist shall conduct an environmental awareness training for all construction personnel. The training shall include identification of special-status species, required practices before the start of construction, general measures that are being implemented to conserve the species as they relate to the Proposed Action, penalties for non-compliance, and boundaries of work and of the permitted disturbance zones. Supporting materials containing training information shall be prepared and distributed. Upon completion of training, all construction personnel shall sign a form stating that they have attended the training and understand all the measures. Proof of this instruction shall be kept on file with the Project Agent. The Project Agent shall provide the USFWS and CDFW with a copy of the training materials and copies of the signed forms indicating that training has been completed. If new construction personnel are added to the site, the crew foreman shall ensure that the personnel receive the mandatory training before starting work. Copies of signed forms shall be submitted monthly as additional training occurs for new employees. The crew foreman is responsible for ensuring that construction personnel adhere to the guidelines and restrictions.

2.5.5 Material Handling, Debris, and Waste

- Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted.

- All workers shall not dump any litter or construction debris within the river or where it may pass into the river.

- All debris and waste will be picked up daily.

- Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter the river or placed in locations that may be subjected to high storm flows.

- Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the Project-related activities shall be prevented from contaminating the soil and/or entering the river.

2.5.6 Spills and Emergencies

- If cutting, boring, or touch-up preservation applications must be performed over the water, then tarps, barriers, plastic tubs, or similar devices will be used to capture debris, spills, or drips.

- Absorbent materials designated for spill containment and cleanup activities will be onsite for use in an accidental spill. Before entering the work site, all field personnel shall know the location of spill kits and trained in their appropriate use.

- In the event of a hazardous materials spill into the river, the California Office of Emergency Services State Warning Center shall immediately notified by calling 1-800-852-7550 and immediately provide written notification to CDFW by email at R31600Program@wildlife.ca.gov. All reasonable measures shall be taken to document the extent of the impacts and affected areas, including photographic documentation of affected areas, or any injured fish or wildlife.

3.0 DESCRIPTION OF AFFECTED SPECIES AND THEIR HABITATS

3.1 STEELHEAD – CALIFORNIA CENTRAL VALLEY DPS

3.1.1 Listing Status and Critical Habitat Designation

The steelhead trout – California Central Valley DPS was listed as federally threatened in 1998. A proposed rule was entered into the Federal Register on February 5, 1999, for critical habitat for nine ESUs of steelhead in Washington, Oregon, Idaho, and California. On February 16, 2000, a Final Rule was submitted to the Federal Register by NOAA and NMFS to designate critical habitat for 19 ESUs of salmon and steelhead in Washington, Oregon, Idaho, and California. Additional critical habitat was designated, and a Final Rule was entered into the Federal Register on September 2, 2005, for seven ESUs of Pacific salmon and steelhead in California (NOAA 2016b).

3.1.2 Life History and Habitat Requirements

Steelhead trout are typically dark-olive in color, shading to silvery-white on the underside with a heavily speckled body and a pink to red stripe running along their sides. They are a unique species; individuals develop differently depending on their environment. While all wild steelhead hatch in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams, some stay in freshwater all their lives. These fish are called rainbow trout. The steelhead that migrate to the ocean develop a slimmer profile, become more silver in color, and typically grow much larger than the rainbow trout that remain in freshwater (NOAA 2005).

Young feed primarily on zooplankton and adults feed on aquatic and terrestrial insects, mollusks, crustaceans, fish eggs, minnows, and other small fishes (including other trout).

Males mature generally at two years and females at three years. Juvenile steelhead may spend up to seven years in freshwater before migrating to estuarine areas as smolts and then into the ocean to feed and mature. They can then remain at sea for up to three years before returning to freshwater to spawn. Some populations actually return to freshwater after their first season in the ocean, but do not spawn, and then return to the sea after one winter season in freshwater. Timing of return to the ocean can vary, and even within a stream system, there can be different seasonal runs.

Central Valley steelhead enter freshwater from August through April. They hold until flows are high enough in tributaries to enter for spawning. Steelhead adults typically spawn from December through

April, with peaks from January through March in small streams and tributaries where cool, well-oxygenated water is available year-round. Juvenile steelhead emigrate to the ocean during spring and summer, with peak migration through the Delta in March and April (NOAA 2014).

Steelhead are capable of surviving in a wide range of temperature conditions. They do best where dissolved oxygen concentration is at least seven parts per million. In streams, deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates free of excessive silt (NOAA 2016).

3.1.3 Population Dynamics, Dispersal and Detectability

Steelhead can be divided into two basic reproductive types based on the state of sexual maturity at the time of river entry and duration of spawning migration: stream-maturing and ocean-maturing.

The stream-maturing type (summer-run steelhead in the Pacific Northwest and northern California) enter freshwater in a sexually immature condition between May and October and require several months to mature and spawn.

The ocean-maturing type (winter-run steelhead in the Pacific Northwest and northern California) enter freshwater between November and April, with well-developed gonads, and spawn shortly thereafter. Coastal streams are dominated by winter-run steelhead, whereas inland steelhead of the Columbia River basin are almost exclusively summer-run steelhead. Currently, Central Valley steelhead are considered "ocean-maturing" steelhead, although summer steelhead may have been present before construction of large dams (Moyle 2002).

Adult female steelhead will prepare a redd in a stream area with suitable gravel type composition, water depth, and velocity. The adult female may deposit eggs in four to five "nesting pockets" within a single redd. The eggs hatch in three to four weeks.

3.1.4 Rangewide and Local Distribution

In the U.S., steelhead trout are found along the entire Pacific Coast. Worldwide, steelhead are naturally found in the Western Pacific south through the Kamchatka peninsula. They have been introduced worldwide.

Critical habitat for ten West Coast steelhead DPSs' was designated on September 2, 2005, and includes several rivers, creeks, and streams in the local region, including the San Joaquin River within the Action Area. Critical habitat for steelhead occurs outside of the area of direct effects related to the Proposed Action but overlaps with areas of potential indirect effects.

3.1.5 Status in the Action Area

Central Valley steelhead were thought to be extirpated from the San Joaquin River until recent monitoring detected small populations of steelhead in the Stanislaus, Mokelumne, and Calaveras Rivers, and other streams previously thought to be devoid of steelhead. It is unknown if the steelhead in those rivers are predominantly resident or anadromous, but both are presumably present (NOAA 2014). This species is documented to occur within the Action Area. California Central Valley DPS steelhead are not known to spawn in the San Joaquin River but may use it as a migration corridor to and from spawning grounds (CDFW 2024a). This species may pass through the Action Area from August through April when

entering spawning grounds, and juveniles may emigrate through the Action Area during that same period, peaking in March and April (NOAA 2014).

3.1.6 Critical Habitat and Essential Fish Habitat in the Action Area

The Action Area overlaps with designated critical habitat for steelhead (California Central Valley DPS). Critical habitat is not located in the proposed dock location, but is present to the west in Middle River and to the east in the main arm of the San Joaquin River. There is no essential fish habitat for steelhead in the Action Area (NOAA 2024c).

3.2 DELTA SMELT

3.2.1 Listing Status and Critical Habitat Designation

The delta smelt was listed as threatened on March 5, 1993, (58 FR 12854), and designated critical habitat for this species was issued on December 19, 1994 (59 FR 65256). The delta smelt is endemic to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) in California and is restricted to the area from San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties (Moyle 2002).

3.2.2 Life History and Habitat Requirements

Delta smelt inhabit open surface waters of the Bay-Delta and Suisun Bay. Delta smelt are euryhaline species (tolerate a wide range of salinities) that generally occur in water with less than 10 to 12ppt salinity. Delta smelt tend to be concentrated near the zone where outflowing freshwater and incoming saltwater mix (mixing zone) except during spawning times. Spawning occurs in shallow freshwater habitats in the Delta and river systems immediately upstream of the Delta. Before spawning, adult smelt migrate upstream from brackish water habitat associated with the mixing zone to disperse into river channels and tidally influenced backwater sloughs. The spawning season varies from year to year and occurs between late winter (December) to early summer (July).

3.2.3 Population Dynamics, Dispersal and Detectability

Delta smelt abundance varies dramatically from year to year in response to a variety of factors including freshwater outflows into the Delta. Estimated numbers of fish have been negatively affected by water storage projects upstream of the Delta, loss of individuals associated with entrainment within State and federal water projects, periodic high outflow events, changes in food webs, exotic predator species within the watershed, and introduction of toxic materials associated with agricultural activities and development (USFWS 1995).

3.2.4 Rangewide and Local Distribution

The delta smelt's range extends from San Pablo Bay upstream to Verona on the Sacramento River and Mossdale on the San Joaquin River. Delta smelt migrate upstream from low salinity rearing habitat into freshwater spawning habitat typically between December and early summer (July) depending on water salinity conditions in any given year.

3.2.5 Status in the Action Area

This species is documented within the Action Area (CDFW 2024a). Delta smelt could potentially be present within the Action Area during spawning season between December and July (USFWS 1995).

3.2.1 Critical Habitat and Essential Fish Habitat in the Action Area

The Action Area is located within the designated Central Zone of delta smelt habitat (USFWS 2004b) and is within designated critical habitat (CDFW 2024a). There is no essential fish habitat for delta smelt in the Action Area.

3.3 LONGFIN SMELT

3.3.1 Listing Status and Critical Habitat Designation

The longfin smelt (San Francisco Bay-Delta DPS) was federally-listed as endangered on July 29, 2024. There currently is no designated critical habitat for this species.

3.3.2 Life History and Habitat Requirements

The longfin smelt is found in California bay, estuary, and nearshore coastal environments. The range of the longfin smelt extends along the Pacific coast of North America from Monterey, California, to the Gulf of Alaska. Because of its distinctive physical characteristics, the San Francisco Bay-Delta population of longfin smelt was once described as a species separate from more northern populations, which were formerly identified as *Spirinchus dilates.* In 2012, the San Francisco Bay-Delta population of the longfin smelt was determined to be a valid DPS, due to discreteness and significance (USFWS 2024b). Longfin smelt are generally adapted to cold water habitats and can tolerate a wide range of salinities. This species is considered facultatively anadromous, and migration to the ocean is not required to complete the lifecycle. Adults reproduce in low-salinity to freshwater habitats beginning in early winter and extending into the spring. Spawning behavior is relatively unknown, but it has been hypothesized that they make short runs upstream into freshwater and low-salinity habitats at night. They spawn negatively buoyant (demersal), adhesive eggs that are about 1 mm in diameter and the spawning substrate of this DPS is unknown. The larvae then develop during the spring in locations near where they were spawned, and as temperatures warm, they move seaward and into the ocean (USFWS 2024b).

3.3.3 Population Dynamics, Dispersal and Detectability

The longfin smelt life cycle is at least two years in duration and is believed that spawning is semelparous (occurring only once). In the San Francisco Estuary, longfin smelt larvae typically hatch between December and May, peaking in February and March. Two dominant ideas of how longfin smelt use hydrodynamics to facilitate the transport and retention of larvae in the low-salinity zone exist. An older hypothesis suggests that once hatched from spawning areas largely upstream of the low-salinity zone, longfin smelt larvae are predominantly surface-oriented and are dispersed by river flows and tidal currents, particularly when Delta outflow is high. A newer hypothesis is that most eggs are spawned in low-salinity areas and larvae hatch directly into suitable rearing habitats. Larval retention is then due to a combination of swimming and the mixing of fresh and brackish waters. Both hypotheses show support for the importance of the low-salinity zone as a critical rearing habitat for the early life stages of longfin smelt (USFWS 2024b).

3.3.4 Rangewide and Local Distribution

The San Francisco Bay-Delta DPS of longfin smelt has been collected throughout the Bay-Delta and occasionally upstream of the Delta in some of its tributary river systems. This species has been observed in their winter and spring spawning period as far upstream as Colusa State Park in the Sacramento River, the City of Lathrop in the San Joaquin River system, Hog Slough off the South-Fork Mokelumne River, and in the South Delta near Old River south of Indian Slough. They have been detected as far upstream on the San Joaquin River as the confluence with the Tuolumne River and also in the Napa and Petaluma Rivers, especially during wet winters. This species migrates out into the ocean at least as far as the Gulf of the Farallones and has been observed as far south as Monterey Bay (USFWS 2024b).

3.3.5 Status in the Action Area

The closest documented occurrence of this species is approximately 0.60 mile from the Action Area. The San Joaquin River south of Medford Island is considered a key spawning area for longfin smelt (CDFW 2024a). This species could be present in the Action Area during spawning season and larvae development/emigration from winter through spring.

3.3.6 Critical Habitat and Essential Fish Habitat in the Action Area

No critical habitat or EFH has been designated for this species.

3.4 GREEN STURGEON – SOUTHERN DPS

3.4.1 Listing Status and Critical Habitat Designation

The green sturgeon southern DPS was listed as threatened by NMFS on April 7, 2006 (71 FR 17757). Critical habitat for this species was designated on October 9, 2009 (74 FR 52300). A 5-year status review was completed in October 2012 and reaffirmed the need to keep green sturgeon as a federally threatened species.

3.4.2 Life History and Habitat Requirements

Green sturgeon are anadromous, long-lived, and a slow-growing species, similar to other sturgeons (Adams et al. 2002). Along the Pacific Coast, green sturgeon have been documented from Mexico to Alaska and are found in freshwater rivers from Sacramento to British Columbia (Moyle 2002). Two DPS of green sturgeon have been identified along the western coast of North America, but only the southern DPS is listed as a threatened species. The southern DPS is designated as a population originating from coastal watersheds south of the Eel River, where the only known spawning population is in the Sacramento River. Age at first reproduction is approximately 15 years old, after the fish have grown to about 150 cm in length. Green sturgeon can live to 60 years old and grow to approximately 256 to 270 cm, with females growing larger than males. The species is anadromous, migrating in March through June from seawater into the freshwater reaches of larger coastal rivers to spawn (CDFW 2024b)

The life cycle of the southern DPS green sturgeon is based on the developmental stage and habitat use: larvae and post-larvae less than 10 months of age; juveniles less than or equal to three or four years of age; coastal migrant females between three or four and thirteen; males between three or four and

nine years of age; adult females greater than or equal to thirteen years of age; and males greater than or equal to nine years of age (Nakamoto et al. 1995).

Spawning activity in the California Central Valley has been confirmed to occur in the Sacramento River and the Feather River. To reach the spawn grounds, adults enter San Francisco Bay in late winter through early spring, and travel upstream to cool sections in the main stem of these rivers from April through early July, depending on water flow cues and water temperatures. The current known spawning areas in the Sacramento River occur north of the Glenn-Colusa Irrigation District oxbow to approximately Bend Bridge, and near the Thermalito Afterbay Outlet near Gridley in the Feather River (NMFS 2017).

3.4.3 Population Dynamics, Dispersal and Detectability

Green sturgeon typically migrate long distances upstream to reach spawning habitat. Once mature, southern DPS individuals typically spawn every three to four years, with a range of two to six years. They exhibit spawning site fidelity to their natal streams, which may explain the lack of green sturgeon spawning activity observed outside of the Sacramento River basin. Typically, after spawning, adults move out quickly (2 to 10 days) or may hold for several months before leaving the estuary (NMFS 2017). The early life stages of green sturgeon are still not well understood. Current evidence suggests that dispersed, fertilized eggs settle to the bottom and stick in the spaces between gravel. Eggs hatch into the larval stage after about 12 days, and after larvae use up their yolk supply, they start feeding on zooplankton before shifting mostly to benthic macroinvertebrates. Juveniles grow rapidly and migrate downriver after about a year, and then reside in the freshwater region of the estuary. The sub-adult stage starts when the fish first enter the Pacific Ocean and continues until they reach maturity and are able to reproduce (CDFW 2024b).

Preliminary results of adult population surveys suggest the southern DPS may be increasing in number, but the estimates of adults in the Sacramento River indicate the southern DPS may only be half as abundant compared to the northern DPS. Currently, the overall known southern DPS spawning adult abundance is estimated at 1,990 with a 95 percent confidence interval range of 1,172 to 2,808 adult individuals in the upper Sacramento; however, this estimate does not include green sturgeon adults that may be in the Feather River. Another estimate, which includes subadults in the estimate figures, 10,450 individuals in the entire southern DPS (95 percent CI: 6,155-14,745) (NMFS 2017).

3.4.4 Rangewide and Local Distribution

Southern DPS green sturgeon are found in the Sacramento and San Joaquin rivers and Delta. They primarily spawn in the upper mainstem of the Sacramento River, although some spawning activity has recently been documented in the Feather and Yuba Rivers. The extent to which this species uses the San Joaquin River is unclear at this time, although one adult fish was recently found in the Stanislaus River, and one adult was found in the mainstem of the San Joaquin River (CDFW 2020). Spawning has never been observed or documented in the San Joaquin River.

3.4.5 Status in the Action Area

This species is known to occur in the Action Area (CDFW 2024). Green sturgeon are not known to spawn in the San Joaquin River or its tributaries; however, adult and juvenile green sturgeon have been

detected in the San Joaquin River. The San Joaquin River is thought to be important juvenile rearing and feeding habitat, especially near the Delta.

3.4.6 Critical Habitat and Essential Fish Habitat in the Action Area

The Action Area contains designated critical habitat and EFH for green sturgeon within the San Joaquin River.

3.5 GIANT GARTER SNAKE

3.5.1 Listing Status and Critical Habitat Designation

The GGS was federally-listed as threatened on October 20, 1993 (USFWS 1993). No critical habitat has been designated for this species.

3.5.2 Life History and Habitat Requirements

GGS inhabit marshes, sloughs, ponds, small lakes, low-gradient streams, agricultural wetlands such as irrigation and drainage canals, rice fields, and adjacent uplands. Essential habitat components include adequate water during the snake's active period (early spring through mid-fall) to provide a prey base and cover; emergent, herbaceous wetland vegetation such as cattails (*Typha* spp.) and bulrushes (*Scirpus* spp.) for cover and foraging habitat; upland habitat for basking, cover, and retreat sites; and higher elevation uplands for cover and refuge from flood waters. This species forages primarily at the interface between open water and emergent aquatic vegetation and is most often found in habitats with slow-flowing or standing water, permanent summer water, mud bottoms, earthen banks, and an abundance of prey such as small fish, frogs, and tadpoles. GGS use upland habitat with open grassy or shrubby banks for basking and thermoregulation. They also use upland small mammal burrows and soil or rock crevices as nighttime refugia, daytime escape cover, and winter aestivation sites.

Because of the loss of high-quality wetland habitat throughout California, most extant GGS populations are now associated with rice agriculture in the Sacramento Valley, where the network of canals, drains, and rice fields provide marsh-like habitat during the GGS active season (Halstead *et al*. 2010). The life cycle of GGS coincides well with the human-made ecosystem of rice fields and associated water conveyance systems because the spring and summer flooding and fall dry-down of rice production corresponds with the biological needs of GGS. GGS typically emerge from winter retreats from late March to early April and can remain active through October. The timing of their annual activities is subject to varying seasonal weather conditions. While this species is strongly associated with aquatic habitats, individuals have been noted using burrows as much as 50 meters (164 feet) away from the marsh edge (Wylie *et al.* 1997).

3.5.3 Population Dynamics, Dispersal and Detectability

Because of their secretive nature, estimating abundance of GGS populations and understanding GGS population ecology requires intensive field study and sophisticated analytical methods (Halstead *et al.* 2021). Long-term capture-mark-recapture studies provide valuable information on demographic vital rates and their contribution to population growth. These studies have shown that GGS annual survival rates increase with higher emergent vegetation cover at a site and higher precipitation the previous year (Rose *et al*. 2018), and with individual size. Hansen *et al*. (2015) found a linear increase in annual survival

with snout-vent length, and Rose *et al*. (2018) found survival increased with snout-vent length up to a peak for individuals near 800 mm snout-vent length, followed by a plateau or slight decrease for even larger individuals (Halstead *et al.* 2021). Female fecundity also appears to increase with size, and the greater reproductive value of large adult females indicates that the survival of this life stage has the greatest influence on population growth rates (Rose *et al*. 2018).

3.5.4 Rangewide and Local Distribution

Historically, this species was known from Butte County to Buena Vista Lake and was probably always absent from the northern San Joaquin Valley where the floodplain of the San Joaquin River narrows. The length of this 62-mile floodplain constriction is presumed to have historically separated the GGS populations in Merced County from those of the eastern Sacramento/San Joaquin River Delta in San Joaquin County (Hansen and Brode 1980). The eastern and western range of this species is bound by the Coast Range and Sierra Nevada Range, respectively. This species is presumed extant in eleven counties and the largest extant occurrences include the Sacramento and Colusa National Wildlife Refuges in the Colusa Basin, Gilsizer Slough in the Sutter Basin, the Badger Creek area of the Cosumnes River Preserve, the Badger Creek/Willow Creek area, and the American River Basin. Only a few isolated populations remain in the San Joaquin Valley and Sacramento-San Joaquin Delta today (Halstead *et al.* 2021).

3.5.5 Status in the Action Area

The closest documented occurrence of this species is approximately 0.88 mile from the Action Area (CDFW 2024). The majority of the Action Area, including the area of the dock footprint, is comprised of open water which is unsuitable for this species. However, some emergent aquatic vegetation is present on the southern bank of the Action Area and riprap along the levee road could provide temporary refuge habitat for this species. This species would be expected to be present in these areas of the Action Area during the active season from March through October.

3.5.6 Critical Habitat in the Action Area

No critical habitat has been designated for this species.

3.6 NORTHWESTERN POND TURTLE

3.6.1 Listing Status and Critical Habitat Designation

The northwestern pond turtle was proposed as a threatened species on October 3, 2023. Proposed species for listing under the ESA are species that were found to warrant listing as either threatened or endangered, after completion of a status review and consideration of other protective conservation measures. No formal listing of this species has currently been made and there is no designated critical habitat.

3.6.2 Life History and Habitat Requirements

This species occurs in a variety of aquatic habitats such as ponds, creeks, rivers, lakes, and marshes. Areas with abundant vegetation and rocky or muddy substrate are preferred; and exposed banks or other basking areas, such as logs or cattail mats, are required. Northwestern pond turtles prefer to overwinter in areas with moderate woody vegetation and leaf litter and are unlikely to use annual

grasslands (Reese and Hartwell 1997, Pilliod *et al.* 2013, and Rathbun *et al.* 2002). Eggs are generally laid between May and August and hatch in approximately 80 days. Hatchlings often stay in or around the nest through the winter. Nests are generally found within 30 meters (100 feet) of water in areas with little vegetative cover and good sun exposure (Rathbun *et al*. 2002). Little is known about the dispersal patterns of western pond turtles, but genetic analysis shows most movement is along drainages (Riensche *et al.* 2013). This species is active year-round in warm climates and hibernates during winter in cold climates. Red-eared sliders (*Trachemys scripta elegans*) have been introduced throughout much of the northwestern pond turtle range and likely outcompete this species for habitat and resources.

3.6.3 Population Dynamics, Dispersal and Detectability

Most surveys for this species in central California have primarily focused on rivers, lakes, and protected wetlands. Little is known about northwestern pond turtle populations in agricultural lands across the Sacramento Valley and Sacramento-San Joaquin River Delta. One study found northwestern pond turtles and red-eared sliders typically do not cohabitate and red-eared sliders were primarily found in restored wetlands near major roads and the Sacramento metropolitan area, whereas northwestern pond turtles were more commonly found farther from urban areas in wider canals (Fulton *et. al*. 2022).

3.6.4 Rangewide and Local Distribution

The northwestern pond turtle occurs in Washington, Oregon, Nevada, and throughout much of northern and central California. The southwestern pond turtle occurs in southern California from Monterey County south to Los Angeles, Riverside, and San Diego counties into northern Baja California, Mexico. This species was once widespread in the Sacramento Valley and the Sacramento-San Joaquin River Delta but much of its range has been converted to agricultural land and it is now sporadically distributed in this area.

3.6.5 Status in the Action Area

The closest documented occurrence of this species is approximately 2.41 miles from the Action Area (CDFW 2024). The majority of the Action Area, including the area of the dock footprint, is comprised of open water which is generally unsuitable for this species. However, some emergent aquatic vegetation is present on the southern bank of the Action Area, and riprap along the levee road could provide basking habitat for this species. Because of the typically warm Mediterranean climate of the Action Area, this species is likely active year-round and could be present in the Action Area, especially near emergent aquatic vegetation and the levee road, throughout the year.

3.6.6 Critical Habitat in the Action Area

No critical habitat has been designated for this species.

4.0 ENVIRONMENTAL BASELINE

4.1 LAND USE

The Action Area is comprised of the San Joaquin River and a small portion of the southern bank and levee, which consists of ruderal/disturbed habitat. The Action Area is bordered by agricultural land, the

Delta Yacht Club, and the SJC Delta Power Squadron boat club. Surrounding lands include agriculture, a PG&E substation, and recreation along the San Joaquin River.

4.2 SOILS

The Natural Resource Conservation Service (NRCS) has identified and mapped two soil units occurring within the Action Area: Kingile-Ryde complex, partially drained, 0 to 2 percent slopes, MLRA 16, and Ryde clay loam, partially drained, 0 to 2 percent slopes, MLRA 16. The general characteristics and properties associated with these soils are described below.

Kingile-Ryde complex, partially drained, 0 to 2 percent slopes, MLRA 16: this soil unit is comprised of herbaceous organic material over alluvium derived from igneous, metamorphic, and sedimentary rock. It is typical of floodplains. A general soil profile is muck from 0 to 17 inches, silty clay from 17 to 25 inches, silty clay loam from 25 to 36 inches, and silty clay from 36 to 61 inches. It is very poorly drained, has a rare frequency of flooding, and no frequency of ponding. This soil unit is considered hydric (USDA, NRCS 2017).

Ryde clay loam, partially drained, 0 to 2 percent slopes, MLRA 16: this soil unit is comprised of herbaceous organic material derived from reeds and tules, and fine-loamy alluvium derived from mixed rock sources. It is typical of floodplains and deltas. A general soil profile is clay loam from 0 to 24 inches, mucky clay loam from 24 to 32 inches, and stratified muck to silty clay loam from 32 to 79 inches. It is very poorly drained, has a rare frequency of flooding, and no frequency of ponding. This soil unit is considered hydric (USDA, NRCS 2017).

4.3 TOPOGRAPHY, DRAINAGE AND HYDROLOGY

4.3.1 Regional Hydrology

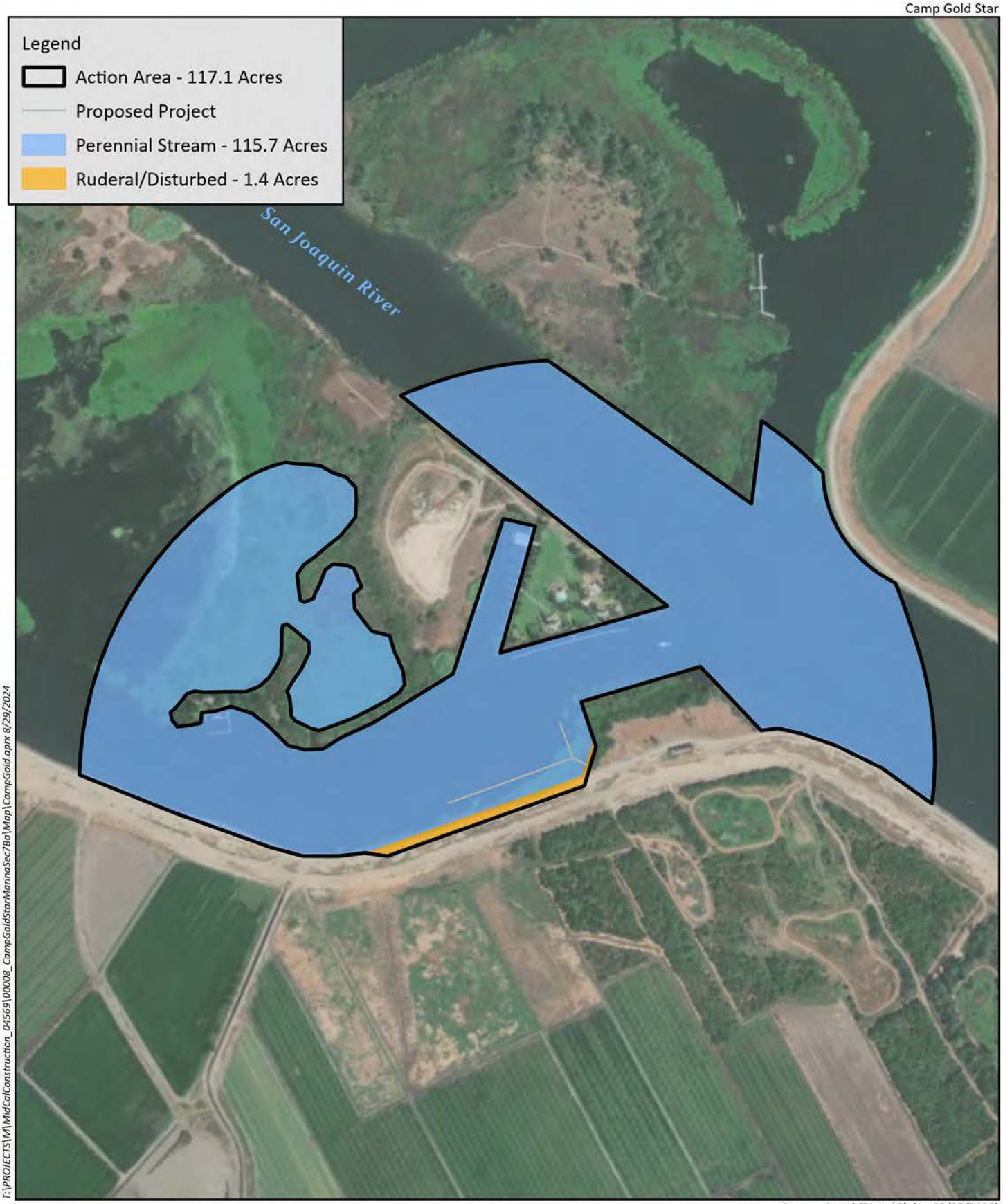
The Action Area is located in the San Joaquin Delta watershed (HUC8 18040003).

4.3.2 Site-Specific Topography, Drainage, and Hydrology

The Action Area includes a portion of the San Joaquin River and the adjacent southern levee bank of MacDonald Island. The elevation of the top of the levee is approximately six feet above mean sea level (MSL), and the OHWM occurs at approximately four feet above MSL. All drainage would be expected to flow into the San Joaquin River.

4.4 BIOTIC COMMUNITIES

Two biological communities occur within the Action Area: perennial stream (San Joaquin River) and ruderal/disturbed (Figure 3, *Biological Communities*). These biological communities provide habitat for a number of common species, as well as potential habitat for special-status species. The biological communities, including associated common plant and wildlife species observed or that are expected to occur within these communities, are described below.



T:\PROJECTS\M\MidCalConstruction_04569\00008_CampGoldStarMarinaSec7Ba\Map\CampGold.aprx 8/29/2024

0 325 650 Feet

Source: Aerial (DigitalGlobe, 09/05/2022)

HELIX Environmental Planning

Biological Communities

Figure 3

4.4.1 Ruderal/Disturbed

Ruderal/disturbed habitat is characterized by an assemblage of plant species that are often the first to colonize disturbed landscapes. Abandoned agricultural fields, construction sites, vacant lots, and road shoulders are just a few of the settings that can create favorable conditions for ruderal plant species. Ruderal habitat is typically associated with invasive and noxious weeds, and often features areas of bare ground.

Evidence of past disturbance, likely associated with levee road construction, is visible in this habitat type within the Action Area. The southern bank is a leveled dirt road with riprap along the bank slope. Very little vegetation was observed in this habitat type during the field survey on August 13, 2024. Plant species observed include Spanish lotus (*Acmispon americanus* var. *americanus*), field bindweed (*Convolvulus arvensis*), and narrowleaf cattail (*Typha angustifolia*) along the bottom of the bank. No wildlife species were observed during the field survey.

Approximately 1.4 acres of ruderal/disturbed habitat occur within the Action Area (Figure 3).

4.4.2 Perennial Stream (San Joaquin River)

Perennial streams are features that may not meet the three-parameter wetland criteria for vegetation, hydrology, and soils but do convey water and exhibit an OHWM. These features convey water flows throughout the entire year. Perennial streams typically consist of a channel, bed, and bank and are often devoid of wetland vegetation due to the scouring effect of flowing water. Perennial streams are often bordered by wetland and riparian communities of various compositions and cover depending on flow rates, duration of flows, and soil types.

Approximately 115.7 acres of the San Joaquin River occur within the Action Area. The portion of the San Joaquin River where the dock will be placed appears to be fairly shallow and is setback from the main river channel. Additional portions of the river within the Action Area are subject to existing disturbance from boaters; the Delta Yacht Club is on the opposite bank of the proposed dock location and several fishing boats were observed throughout the river during the field survey. Vegetation observed within the San Joaquin River in the Action Area includes narrowleaf cattail, California bulrush (*Schoenoplectus californicus*), and water hyacinth (*Eichhornia crassipes*).

The San Joaquin River is a traditional navigable water and is considered a water of the U.S. This river flows into Suisun Bay, through the Carquinez Straight, into San Pablo Bay, and eventually to the Pacific Ocean.

5.0 EFFECTS OF THE PROPOSED ACTION

Approximately 115.7 acres of the San Joaquin River fall within the Action Area due to the temporary modelled area of hydroacoustic effects during pile-driving activities (Appendix C). The Action Area also includes the ±0.15-acre (6,692 square feet) area of permanent impacts associated with the placement of the dock and gangway within and along the San Joaquin River. Effects of the Proposed Action on federally listed species, designated critical habitat, and EFH include short-term construction-related effects and permanent long-term effects associated with the placement of the dock within shallow water habitat. Short-term effects are generally mitigated through the use of construction BMPs and

limitations on construction windows. Long-term effects typically last months or years, and generally involve permanent physical alteration of habitat within the Action Area.

5.1 PILE-DRIVING ACTIVITIES

Pile driving produces underwater noise and sound pressure that could potentially affect wildlife species present within the Action Area during work. The size and type of pile and duration of pile driving affect the sound generated by pile-driving activities. Sound generated by impact pile driving has the potential to affect listed fish in several ways, including behavior alteration, physical injury, and mortality depending on the intensity and characteristics of the sound, the distance, and location of fish in the water column relative to the sound source, the size and mass of fish present, and the anatomical characteristics of the fish present (Caltrans 2020). These effects could also presumably be applied to semi-aquatic species, including GGS and northwestern pond turtle.

The current modelled interim thresholds for the onset of injury from impact pile driving for fish are as follows (Caltrans 2020):

- 206 dB PEAK – the onset of injury is expected in all fish exposed to sound pressure level peak noise levels at or above 206 dB.

- 187 dB accumulative Sound Exposure Level (cSEL) for fish greater than 2 grams in weight – fish greater than 2 grams will experience the onset of injury after a cSEL at or above 187 dB over the accumulation period. In the case of the Proposed Action, the accumulation period is the one day over which the piles will be driven.

- 183 dB accumulative cSEL for fish less than or equal to 2 grams – fish less than or equal to 2 grams in weight will experience the onset of injury after a cSEL at or above 183 dB over the accumulation period.

- 150 dB effective quiet (RMS) assumed background levels for disturbance-related effects.

For purposes of estimating the peak dB and accumulative SEL, the Proposed Action will require the placement of up to fifteen 12” steel piles with a barge-mounted pile driver. Pile driving will be completed in seven days.

The predicted sound pressure level peak, cumulative SELs, and RMS anticipated for placing the fifteen required piles for the Proposed Action were estimated using the NMFS model (Appendix C). All were estimated at 10 meters. The estimated peak is 191 dB, the estimated cumulative SEL is 162 dB, and the estimated RMS is 176 dB (Appendix C). There is a modeled 10-meter acoustic impact area immediately surrounding the work area where adverse injury to small fish less than or equal to 2 grams, such as delta smelt and longfin smelt, may occur. This area could presumably be temporarily avoided by small fish during construction as the modelled potential injury area does not encompass the entire channel of the San Joaquin River, so there are potential areas for small fish to escape physical injury during pile driving activities. A modeled five-meter acoustic impact area immediately surrounding the work area could pose adverse injury to larger fish greater than or equal to 2 grams, such as salmonoids and sturgeon, if they are present during construction. The potential effects associated with this area are largely avoided by conducting pile-driving activities outside of the time period when sensitive species would be expected to be present within the Action Area.

All pile-driving activities will occur in a seven-day window sometime between June 1 and October 31 to minimize noise impacts to special-status fish species by avoiding migration periods of sensitive fish species to the greatest extent feasible. Pile-driving BMPs are also proposed including minimizing the number of piles to the extent feasible and conducting all pile-driving activities during daylight hours and with gradual increased frequency. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved.

5.2 CENTRAL VALLEY STEELHEAD

5.2.1 Short-Term Construction-Related Effects

5.2.1.1 Adult Migration

Central Valley steelhead are not known to spawn in the San Joaquin River but small populations have been observed in the Stanislaus, Mokelumne, and Calaveras Rivers, and other streams previously thought to be devoid of steelhead that are tributary to the San Joaquin River. It is unknown if the steelhead in those rivers are predominantly resident or anadromous, but both are presumably present (NOAA 2014). Adult steelhead that may migrate through the San Joaquin River to reach these systems could be present in the Action Area from August through April.

If present, adults would likely avoid the Action Area during pile driving activities and the modelled hydroacoustic impact area for fishes greater than two grams such as salmonids is restricted to the immediate work area which allows any salmonids in the area to utilize deeper waters of the river that are not acoustically impacted by pile driving activities (Appendix C). Steelhead may also avoid the Action Area completely by traveling through Middle River and Empire Cut to reach the main stem of the San Joaquin River.

Acoustic impacts associated with pile driving activities could potentially injure or kill individual fish if they were present within the area where acoustic effects to these species may occur (Appendix C). Temporary increases in suspended sediment during pile driving activities could temporarily bury substrates that support benthic macroinvertebrates, which are a food source for salmonids. However, due to the limited duration and extent of these project actions, effects on salmonid feeding are expected to be minimal both in extent and duration.

In addition, spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to adult steelhead in the vicinity of the Action Area during construction. However, the effects due to spills should be minimal, if any, with the implementation of BMPs to avoid or minimize spills as outlined in Section 2.5 of this BA.

Restricting in-water activities to the seven-day period within the June 1 through October 31 work window and implementing the avoidance and minimization measures described in Section 2.5 will minimize, but not completely avoid, potential construction-related effects on migrating adult steelhead if present.

5.2.1.2 Spawning

The Action Area does not support spawning habitat for steelhead. In addition, steelhead spawn in late winter through late spring outside of the proposed June 1 through October 31 construction window for

the Proposed Action. Therefore, construction-related effects on steelhead spawning and spawning habitat are not expected to occur.

5.2.1.3 Juvenile Rearing and Migration

Temporary effects to migrating juvenile steelhead, if present, would be expected to be similar to those described above for adult steelhead.

5.2.2 Long-Term Effects

Placement of the dock and piles may provide additional habitat for predatory fish species and perching locations for predatory bird species that would potentially negatively affect steelhead populations within the Action Area. Aquatic vegetation that supports refugia habitat for juvenile steelhead may also be marginally reduced from additional shading effects of the dock after construction is completed (±0.15 acre/6,692 square feet). Upon final construction of the dock, individual fish may avoid areas under the dock, resulting in a potential permanent increased risk of predation through this avoidance behavior (Ono *et al*. 2010).

5.3 DELTA SMELT

According to the 2004 Programmatic Biological Opinion, covered activities such as the construction of boat docks as the Proposed Action "could detrimentally affect delta smelt by increasing turbidity, increasing noise, reducing water quality, creating predator habitat, restricting channels, and changing water velocities" (USFWS 2004b). In addition, resuspended sediments from pile driving activities may contain toxic substances that may affect the development of young delta smelt. The Proposed Action may also remove or reduce the extent of aquatic vegetation that delta smelt utilize for egg attachment and refugia from predators. Placement of the dock structure in shallow water habitat will result in a minor reduction of shallow water habitat, which could reduce the amount of feeding, breeding, and sheltering habitat available for delta smelt (USFWS 2004b). Short-term and long-term permanent effects are discussed in more detail below.

5.3.1 Short Term Construction-Related Effects

5.3.1.1 Adult Migration

Adult delta smelt migrate upstream between December and January and spawn between December and July (Moyle 2002). Potential construction-related effects on migrating adult delta smelt will largely be avoided by restricting in-water construction activities within the Action Area to the June 1 through October 31 work window as specified in the Programmatic Biological Opinion for projects expected to have relatively small effects on delta smelt (USFWS 2004b). Therefore, migrating adults would not be expected to be affected by construction activities.

5.3.1.2 Spawning

Potential spawning habitat for delta smelt includes shallow channel edge waters in the Delta and shallow water habitat in the Sacramento River. Construction will occur during a seven-day period sometime between June 1 and October 31 to avoid the spawning season, preferably after August. Therefore, effects on spawning delta smelt during construction are not expected to occur. However, the

Proposed Action will result in a small permanent reduction of shallow water habitat due to the dock footprint, as described in Section 5.3.2 below.

5.3.1.3 Juvenile Rearing and Migration

Juvenile delta smelt may be subject to disturbance or displacement caused by construction activities that increase noise, turbidity, and suspended sediment. Larvae may be disrupted during summer months as they migrate downstream if they are present upstream of the Action Area. Incidental take of delta smelt may occur from direct mortality or injury during construction activity, or by the impairment of essential behavior patterns (i.e., feeding, escape from predators). In addition, injury could be caused by toxic substances (i.e., gasoline, lubricants, oil) entering the water. Construction-related effects on juvenile delta smelt will be minimized by restricting in-water construction activities to the seven-day period sometime within the June 1 through October 31 work window. The Proposed Action would greatly reduce these potential short-term effects by timing construction to periods when delta smelt eggs, larvae, and juveniles are absent from the Action Area, and adults would be expected to be absent or present only in low numbers (August 1 through October 31).

5.3.2 Long-Term Effects

Placement of the dock and piles within the San Joaquin River could result in long-term effects on delta smelt. Potential long-term effects may include increased turbidity, increased noise associated with use of the dock, reduction of water quality associated with use of the dock, and providing a potential source of additional habitat for predatory fish species and perching locations for predatory bird species. Aquatic vegetation that is used by delta smelt for egg attachment and refugia from predators may be silted over or removed because of the placement of the dock in shallow water habitat that supports suitable aquatic vegetation for this species. In addition, individual fish may avoid areas under the dock, resulting in a potential permanent increased risk of predation through this avoidance behavior (Ono *et al*. 2010).

5.4 LONGFIN SMELT

5.4.1 Short-Term Construction-Related Effects

5.4.1.1 Adult Migration

Adult longfin smelt migrate through freshwater habitats in winter to reach spawning grounds. Potential construction-related effects on migrating adult longfin smelt will be avoided by restricting in-water construction activities within the Action Area to the June 1 through October 31 work window.

5.4.1.2 Spawning

Spawning behavior for this species is relatively unknown; however, longfin smelt larvae typically hatch between December and May, peaking in February and March**.** They then develop in the spring in locations near where they were spawned, and as temperatures warm, they move seaward and into the ocean (USFWS 2024b). Potential construction-related effects on spawning longfin smelt will be avoided

by restricting in-water construction activities within the Action Area to the June 1 through October 31 work window.

5.4.1.3 Juvenile Rearing and Migration

Longfin smelt larvae develop in the spring and may be present in the Action Area as they migrate to the ocean if present upstream of the Action Area. Potential short-term effects on juvenile longfin smelt, if present, would be expected to be similar to those described above for delta smelt in Section 5.3.1.3. The Proposed Action would greatly reduce these potential short-term effects by timing construction to periods when longfin smelt eggs, larvae, and juveniles are likely absent from the Action Area, and adults would be expected to be absent or present only in low numbers (August 1 through October 31).

5.4.2 Long-Term Effects

Potential long-term effects on longfin smelt, if present, would be expected to be similar to those described above for delta smelt in Section 5.3.2.

5.5 GREEN STURGEON

5.5.1 Short-Term Construction-Related Effects

5.5.1.1 Adult Migration

Adult green sturgeon are not known to migrate through the San Joaquin River to reach spawning grounds. This species has been detected in the San Joaquin River, but the extent to which this species uses the San Joaquin River is unclear at this time (CDFW 2020). Adult green sturgeon are unlikely to be present in the Action Area during construction; however, if present, they are expected to be located along the thalweg of the river outside of the Action Area. Therefore, construction-related effects on migrating adult green sturgeon are not expected to occur.

5.5.1.2 Spawning

Green sturgeon primarily spawn in the upper mainstem of the Sacramento River, and some spawning activity has recently been documented in the Feather and Yuba rivers. This species is not known to spawn in the San Joaquin River or its tributaries. Therefore, the Proposed Action will not affect spawning green sturgeon or spawning habitat.

5.5.1.3 Juvenile Rearing and Migration

Although green sturgeon are not known to spawn in the San Joaquin River, juvenile green sturgeon have been observed in this river. The San Joaquin River is thought to be an important juvenile rearing and feeding habitat, especially near the Delta.

If juveniles were present during construction activities, proposed actions associated with placement of support piles may temporarily increase sediment, silt, and pollutants, which could adversely affect rearing habitat or reduce food production, such as aquatic invertebrates, for juvenile green sturgeon. Pile-driving activities are expected to be completed within seven days, so these effects are expected to be minimal and of limited duration. If juvenile green sturgeon use nearshore areas of the river as foraging habitat or refuge from predators, they would be expected to move to deep water habitat

during temporary pile driving activities. However, this species primarily uses deep water habitats and not shallow water, such as in the area of the dock footprint.

Spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to juvenile sturgeon in the vicinity of the Action Area during construction. However, the effects due to spills should be minimal, if any, with the implementation of BMPs to avoid or minimize spills as outlined in Section 2.5 of this BA.

Restricting in-water activities to the seven-day period within the June 1 through October 31 work window and implementing the avoidance and minimization measures described in Section 2.5 will minimize, but not completely avoid, potential construction-related effects on juvenile green sturgeon if present.

5.5.2 Long-Term Effects

Minor long-term changes in nearshore habitat associated with the Proposed Action are expected to have negligible effects on green sturgeon because this species uses deep, mid-channel habitat that will not be affected by the Proposed Action.

The Proposed Action would minimize these potential short-term and long-term effects to listed fish by the inclusion of conservation measures including minimizing construction time within the river channel and seasonal avoidance of fish migration times. The Proposed Action will also adhere to protective measures outlined in any associated permits.

5.6 GIANT GARTERSNAKE

5.6.1 Short-Term Construction-Related Effects

The Proposed Action is largely located in open water which is generally unsuitable for this species. However, the construction of the gangway landing is located in upland ruderal habitat and some emergent vegetation is present along the levee road; both areas could provide suitable habitat for this species. Because construction is proposed to occur during this species' active season, GGS that may be present during construction would be expected to move away from the disturbance and avoid the area.

The modelled hydroacoustic impact area for fishes greater than two grams can also be applied to GGS and is restricted to the immediate work area which allows any GGS in the area to utilize other portions of the river that are not acoustically impacted by pile driving activities (Appendix C). Vibration from pile driving may also temporarily affect the levee road adjacent to the dock which contains riprap GGS could potentially be present in. However, these vibrations are expected to be minimal on land and no adverse effects to GGS are anticipated as a result of upland vibration.

Spills or leakage of gasoline, lubricants, or other petroleum products from construction equipment could result in injury or mortality to GGS in the vicinity of the Action Area during construction. However, the effects due to spills should be minimal, if any, with the implementation of BMPs to avoid or minimize spills as outlined in Section 2.5 of this BA.

5.6.2 Long-Term Effects

Permanent, long-term effects could occur through ground disturbance or vehicle/equipment injury or death to individuals during construction. Individual GGS that may be on the roadway could be struck by vehicles or equipment. However, vehicle/equipment use on the levee road would not be expected to be more impactful than current vehicle use on the levee road. Vehicles and equipment delivering dock materials would be expected to drive slowly and park to deliver the material and would not be driving fast through the Action Area. With the implementation of the avoidance and minimization measures outlined in Section 2.5 of this BA, long-term effects on GGS are expected to be minimal, if any.

Minor long-term changes in nearshore habitat associated with the Proposed Action are expected to have negligible effects on GGS because this species does not generally utilize open water habitat that will be affected by the Proposed Action. Construction of the gangway landing is proposed to occur in upland ruderal habitat that did not contain any burrows or other suitable upland habitat characteristics for GGS.

Placement of the dock in nearshore habitat has the potential to increase foraging opportunities for GGS by providing habitat where frogs, small fish, and other prey species may congregate.

5.7 NORTHWESTERN POND TURTLE

5.7.1 Short-Term Construction-Related Effects

Short-term construction-related effects on northwestern pond turtle are expected to be similar to what is described for GGS above.

5.7.2 Long-Term Effects

Long-term construction-related effects on northwestern pond turtle are expected to be similar to what is described for GGS above.

5.8 INDIRECT EFFECTS ON FEDERALLY-LISTED SPECIES

Construction within the San Joaquin River could potentially result in indirect impacts to federally-listed species. Shading effects associated with the overwater structure may potentially result in indirect effects, such as incrementally reducing the amount of foraging capacity for fish in the area surrounding the dock, and reducing the amount of existing refugia from predatory species over time. This loss of refugia habitat for fish can occur through the reduction of the amount of light availability under the dock, resulting in a subsequent reduction in aquatic vegetation within the riverbank over time (Ono *et al*. 2010). The dock, cover, and gangway will result in the creation of approximately ±0.15-acre (6,596 square feet) of shaded area over the San Joaquin River.

On the contrary, placement of the dock in nearshore aquatic habitat may increase the foraging potential for GGS and northwestern pond turtle by providing an area where prey species may congregate. The dock could also provide basking habitat for these species.

The Proposed Action, in addition to implementing proposed avoidance and minimization measures (Section 2.5), will adhere to protective measures outlined in any associated permits.

5.9 EFFECTS ON DESIGNATED CRITICAL HABITAT

The San Joaquin River within the Action Area is designated critical habitat for delta smelt and green sturgeon (southern DPS) in the area of potential direct effects (dock/gangway footprint), and designated critical habitat for steelhead (Central Valley DPS) in areas of potential indirect effects.

5.9.1 Temporary Effects to Critical Habitat

Pile driving, as described in the Proposed Action, can generate underwater sound pressure waves that may temporarily affect the ecological function of critical habitat by modifying the water column such that fish and prey species are killed, harmed, or injured; or result in temporary avoidance of areas in the vicinity of pile driving activities (NOAA 2013). Therefore, the Proposed Action may temporarily affect critical habitat during construction activities.

5.9.2 Permanent Effects to Critical Habitat

Minor permanent effects to designated critical habitat for delta smelt and green sturgeon will occur as a result of a small amount of permanent shading of aquatic habitat (±0.15 acre/ 6,596 square feet) associated with the installation of a new dock and gangway within designated critical habitat. Reduction in available light from shading may also result in a subsequent reduction in aquatic vegetation over time (Ono *et al*. 2010).

Minor effects to existing water circulation and wave energy patterns may also occur as a result of pile placement. Changes to existing wave energy and water circulation patterns can adversely affect size, distribution, and abundance of substrate and detrital materials, which may have a minor effect on the habitat elements of designated critical habitat within the Action Area (NOAA 2013). Placement of piles within designated critical habitat will also result in minor replacement of soft bottom habitat within the San Joaquin River.

In addition to implementing proposed avoidance and minimization measures, the Proposed Action will adhere to protective measures outlined in any associated permits to avoid and minimize these potential effects on designated critical habitat.

5.10 EFFECTS ON ESSENTIAL FISH HABITAT

The San Joaquin River within the Action Area is EFH for groundfish and Chinook salmon.

5.10.1 Temporary Effects to EFH

Temporary effects to EFH are expected to be similar to temporary effects to critical habitat, as described above.

5.10.2 Permanent Effects to EFH

Permanent effects to EFH are expected to be similar to permanent effects to critical habitat, as described above.

5.11 INTERRELATED AND INTERDEPENDENT PROJECTS

The Proposed Action includes the installation of a prefabricated floating dock, prefabricated gangway, a gangway landing on shore, and fifteen steel piles. There are no anticipated interrelated or interdependent projects associated with the Proposed Action. Therefore, all effects to federally listed species resulting from the development of the Proposed Action are considered in this BA.

5.12 CUMULATIVE EFFECTS

Cumulative effects as defined under the ESA include the effects of future State, local, or private actions that are reasonably certain to occur in the Action Area. Federal actions are not considered in the ESA cumulative effects analysis.

Any proposed development projects within the vicinity of the Action Area that are expected to affect the San Joaquin River in the future are likely to involve the USACE issuance of a Section 10 permit since the San Joaquin River is a navigable waterway subject to USACE jurisdiction. Therefore, these projects would likely involve federal actions with separate Section 7 consultations and would not be considered a cumulative effect under Section 7 of the ESA. However, an undetermined number of future projects near the Action Area that could alter the habitat for federally listed species could go forward without a Section 10 permit because impacts could be limited to upland habitat outside of the USACE jurisdiction. In the absence of a Section 10 or Section 404 permit or other federal action, projects would still require ESA take permits if the future Proposed Actions would result in take of any federally listed species.

Types of project activities that could potentially affect the San Joaquin River in the Action Area include but are not limited to: development activities adjacent to the San Joaquin River channel, flood control projects, and roadway and utility projects; additionally, regular application of herbicides/pesticides or vegetation management associated with levee repair and maintenance, as well as chemical runoff from adjacent land uses such as agriculture could also potentially affect the San Joaquin River. Herbicide or pesticide application could affect water quality within the Action Area and may negatively affect reproductive success or result in the mortality of species within the Action Area. Suitable spawning habitat may also be lost if excessive herbicide application results in loss of aquatic vegetation within shallow water habitat.

Other activities that may result in a cumulative effect to federally listed species include water diversions, introduction of exotic invasive aquatic species into suitable habitat, and increased wave action from boating activities, which degrade riparian and wetland habitats that are utilized by federally listed fish species.

6.0 CONCLUSIONS AND DETERMINATION OF EFFECT

The Proposed Action will result in the placement of a permanent structure within the San Joaquin River, which is designated as a navigable water, and the installation of an associated gangway and landing on the southern bank of the San Joaquin River. The dock and gangway will result in 6,596 square feet over the OHWM of the San Joaquin River, with a total footprint of 6,692 square feet. The Proposed Action will result in temporary and permanent effects on federally listed species and their habitat, as described

in Section 5.0. Proposed conservation and avoidance and minimization measures, as described in Section 2.5 of this BA, are expected to offset potential project-related adverse effects to EFH and designated critical habitat, and to avoid or minimize effects to federally listed species that may occur within the Action Area.

6.1 DETERMINATION OF EFFECT

6.1.1 Steelhead (California Central Valley DPS), Longfin smelt (San Francisco Bay-Delta DPS), and Green Sturgeon (Southern DPS)

The Proposed Action **may affect but is not likely to adversely affect** steelhead (California Central Valley DPS), longfin smelt (San Francisco Bay-Delta DPS), and green sturgeon (Southern DPS).

The Proposed Action is not likely to adversely affect, modify, or destroy designated critical habitat (if present) for these species within the Action Area. These species do not spawn in or near the Action Area and/or the June 1 through October 31 construction window will avoid the spawning season for these species. The Proposed Action will not adversely affect, modify, or destroy spawning habitat for these species. Adult or juvenile steelhead, longfin smelt, or green sturgeon may be present in the Action Area during construction. However, these species are expected to occur in deeper areas of the river or the main channel of the San Joaquin River outside of the Action Area and may avoid the Action Area entirely during pile driving activities if noise is sensed from a distance. Although it is not expected, if these species are present in the Action Area during pile driving, effects may occur if an individual fish is within the area of effect during pile driving. Due to the restriction of in-water construction activities to the June 1 through October 31 work window, minimizing the time spent in water, and implementing the avoidance and minimization measures described in Section 2.5, these effects are expected to be discountable. For all species, the Proposed Action is not expected to result in significant long-term effects to deep water habitat used by these species within the Action Area.

6.1.2 Giant Garter Snake and Northwestern Pond Turtle

The Proposed Action **may affect but is not likely to adversely affect** giant garter snake and northwestern pond turtle.

The Proposed Action is largely located in open water, which is generally unsuitable for these species. However, pile-driving activities, gangway landing construction, and vehicles/equipment associated with construction may affect individuals if they are present in the immediate area during construction, as described in Section 5.0. Due to the restriction of in-water construction activities to the June 1 through October 31 work window, minimizing the time spent in water, and implementing the avoidance and minimization measures described in Section 2.5, these effects are expected to be discountable.

6.1.3 Delta Smelt

Due to long-term shading effects associated with the placement of the new dock in shallow water habitat, the Proposed Action **may affect and is likely to adversely affect** delta smelt.

Some short-term effects to delta smelt would result during construction by potential acoustic effects during pile driving and a temporary increase in siltation during pile driving if delta smelt were present within the immediate area during these construction activities. However, individuals would be expected

to move away from the disturbance or avoid the area completely if noise is sensed from a distance. The Proposed Action would greatly reduce these potential short-term effects by timing construction to periods when delta smelt eggs, larvae, and juveniles are absent from the Action Area, and adults would be expected to be absent or present only in low numbers (August 1 through October 31).

Long-term effects on shallow water habitat may result from the placement of the new dock in shallow water habitat, which may negatively affect delta smelt through a reduction of aquatic vegetation under the dock due to shading effects and increased predation opportunities.

For all species, proposed avoidance and minimization measures will reduce the effects associated with the construction of the dock by avoiding important seasons for federally-listed fish that may occur within the Action Area, minimizing the duration of construction, and incorporating project design measures to minimize temporary and permanent direct effects to habitat through construction techniques, best management practices, and dock design. Temporary hydro-acoustic effects associated with pile driving are expected to be minimized by conducting this activity outside of the normal migration or spawning periods for listed fish species that may occur in the San Joaquin River, and by conducting this activity during the active season for GGS and northwestern pond turtle, and by minimizing the construction time and number of piles required to the minimum necessary for dock construction.

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Appendix A

USFWS Official Species List for the Action Area

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654

In Reply Refer To: 08/13/2024 21:56:56 UTC
Project Code: 2024-0130058
Project Name: Camp Gold Star

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

PROJECT SUMMARY

Project Code: 2024-0130058
Project Name: Camp Gold Star
Project Type: Boatlift/Boathouse/Dock/Pier/Piles - New Construction
Project Description: Private dock construction.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.02495775,-121.47705499399295,14z



Counties: San Joaquin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Riparian Brush Rabbit *Sylvilagus bachmani riparius* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6189	Endangered

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

FISHES

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Endangered
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Large-flowered Fiddleneck *Amsinckia grandiflora* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5558	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

IPAC USER CONTACT INFORMATION

Agency:	HELIX Environmental Planning Inc.
Name:	Christine Gonzalez
Address:	1677 Eureka Road Suite 100
Address Line 2:	Suite 100
City:	Roseville
State:	CA
Zip:	95661
Email	christineh@helixepi.com
Phone:	9164351202

Appendix B

NOAA Fisheries Species List for the Action Area

Species Directory

All Species | ESA Threatened & Endangered | Marine Mammals | Sustainable Seafood

ESA Threatened & Endangered

NOAA Fisheries has jurisdiction over 165 endangered and threatened marine species (80 endangered; 85 threatened), including 66 foreign species (40 endangered; 26 threatened).

Additional species are currently under review or have been proposed for Endangered Species Act listing: 1 petitioned species awaiting a 90-day finding, 9 candidate species for ESA listing, 11 proposed species for ESA listing.

In the table below, the Region column shows if the species can be found in a NOAA Fisheries region. If the species occurs only in areas beyond the U.S. exclusive economic zone and territorial waters, the region is labeled as Foreign.

Species Name

Species Category

Fish & Sharks

Protected Status

All

Region

West Coast

Display

25 Display All

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Bocaccio (Protected) *Sebastes paucispinis* **Also Known As** Bocaccio, Rock Salmon, Salmon Rockfish, Pacific Red Snapper, Pacific Snapper, Oregon Red Snapper, Oregon Snapper, Longjaw, Merou, Jack, Snapper, Rock Cod, Rockfish	**SPECIES CATEGORY** Fish - Groundfish - Protected Fish	Puget Sound/Georgia Basin DPS	ESA Endangered	2010	Final	FInal	Alaska West Coast
Chinook Salmon (Protected) *Oncorhynchus tshawytscha*	**SPECIES CATEGORY** Fish - Protected Fish	Sacramento River winter-run	ESA Endangered	1994	Final	Final	Alaska West Coast
		Upper Columbia River spring-run	ESA Endangered	1999	Final	Final	Alaska West Coast
		California coastal	ESA Threatened	1999	Final	Final	Alaska West Coast
		Central Valley spring-run	ESA Threatened	1999	Final	Final	Alaska West Coast
		Lower Columbia River	ESA Threatened	1999	Final	Final	Alaska West Coast
		Puget Sound	ESA Threatened	1999	Final	Final	Alaska West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
		Snake River fall-run	ESA Threatened	1992	Final	Final	Alaska West Coast
		Snake River spring/summer-run	ESA Threatened	1992	Final	Final	Alaska West Coast
		Upper Willamette River	ESA Threatened	2005	Final	Final	Alaska West Coast
		Central Valley spring-run in the San Joaquin River XN	ESA Experimental Population	---	---	---	Alaska West Coast
		Upper Columbia River spring-run in the Okanogan River subbasin XN	ESA Experimental Population	---	---	---	Alaska West Coast
		Central Valley spring-run XN Shasta	ESA Experimental Population	---	---	---	West Coast
		Sacramento winter-run XN Shasta	ESA Experimental Population	---	---	---	West Coast
		Central Valley spring-run XN Yuba	ESA Experimental Population	---	---	---	West Coast
		Upper Klamath-Trinity River	ESA Candidate	---	---	---	Alaska West Coast
		Oregon Coast	ESA Candidate	---	---	---	West Coast
		Southern Oregon and Northern	ESA Candidate	---	---	---	West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
		California Coastal					
Chum Salmon (Protected) *Oncorhynchus keta*	**SPECIES CATEGORY** Fish - Protected Fish	Columbia River ESU	ESA Threatened	1999	Final	Final	Alaska West Coast
		Hood Canal summer-run ESU	ESA Threatened	1999	Final	Final	Alaska West Coast
Coho Salmon (Protected) *Oncorhynchus kisutch*	**SPECIES CATEGORY** Fish - Protected Fish	Central California Coast ESU	ESA Endangered	2005; 1996 (original)	Final	Final	Alaska West Coast
		Lower Columbia River ESU	ESA Threatened	2005	Final	Final	Alaska West Coast
		Oregon coast ESU	ESA Threatened	2008	Final	Final	Alaska West Coast
		Southern Oregon & Northern California coasts ESU	ESA Threatened	1997	Final	Final	Alaska West Coast
Eulachon *Thaleichthys pacificus*	**SPECIES CATEGORY** Fish - Protected Fish	Southern DPS	ESA Threatened	2010	Final	Final	Alaska West Coast
Green Sturgeon *Acipenser medirostris*	**SPECIES CATEGORY** Fish - Protected Fish	Southern DPS	ESA Threatened	2006	Final	Final	Alaska West Coast
Oceanic Whitetip Shark *Carcharhinus longimanus*	**SPECIES CATEGORY** Fish - Highly Migratory Fish	Species	ESA Threatened	2018	Under Development	Not Prudent	New England/Mid-Atlantic Pacific Islands Southeast West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
	- Protected Fish - Sharks						
Scalloped Hammerhead Shark *Sphyrna lewini*	**SPECIES CATEGORY** Fish - Highly Migratory Fish - Protected Fish - Sharks	Eastern Pacific DPS	ESA Endangered	2014	---	No	West Coast
		Eastern Atlantic DPS	ESA Endangered - Foreign	2014	---	---	Foreign
		Central & Southwest Atlantic DPS	ESA Threatened	2014	---	No	Southeast
		Indo-West Pacific DPS	ESA Threatened	2014	---	No	Pacific Islands
Sockeye Salmon (Protected) *Oncorhynchus nerka*	**SPECIES CATEGORY** Fish - Protected Fish	Snake River ESU	ESA Endangered	1991	Final	Final	Alaska West Coast
		Ozette Lake ESU	ESA Threatened	1999	Final	Final	Alaska West Coast
Steelhead Trout *Oncorhynchus mykiss*	**SPECIES CATEGORY** Fish - Protected Fish	Southern California DPS	ESA Endangered	1997	Final	Final	Alaska West Coast
		California Central Valley DPS	ESA Threatened	1998	Final	Final	Alaska West Coast
		Central California Coast DPS	ESA Threatened	1997	Final	Final	Alaska West Coast
		Lower Columbia River DPS	ESA Threatened	1998	Final	Final	Alaska West Coast
		Middle Columbia River	ESA Threatened	1999	Final	Final	Alaska West Coast
		Northern California DPS	ESA Threatened	2000	Final	Final	Alaska West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
		Puget Sound DPS	ESA Threatened	2007	Final	Final	Alaska West Coast
		Snake River Basin DPS	ESA Threatened	2006	Final	Final	Alaska West Coast
		South-Central California Coast DPS	ESA Threatened	1997	Final	Final	Alaska West Coast
		Upper Columbia River DPS	ESA Threatened	2006; 1997 (original)	Final	Final	Alaska West Coast
		Upper Willamette River DPS	ESA Threatened	1999	Final	Final	Alaska West Coast
		Middle Columbia River XN	ESA Experimental Population	---	---	---	Alaska West Coast
		Olympic Peninsula DPS	ESA Candidate	---	---	---	West Coast
Yelloweye Rockfish *Sebastes ruberrimus*	**SPECIES CATEGORY** Fish - Protected Fish	Puget Sound/ Georgia Basin DPS	ESA Threatened	2010	Final	Final	Alaska West Coast

Appendix C

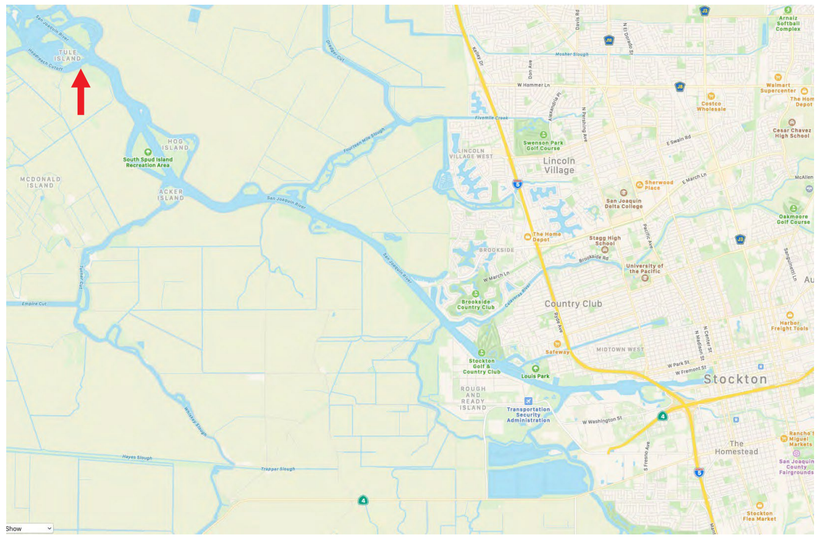
Proposed Action

CAMP GOLD STAR FLOATING DOCK INSTALLATION

4103 N ZUCKERMAN RD, STOCKTON, CA 95206

MACDONALD ISLAND

LOCATION MAP



4103 N ZUCKERMAN RD, STOCKTON, CA 95206

NOTES

SITE INFORMATION

Owner/Applicant
Project Name: Camp Gold Star Floating Dock Installation
Applicant Name: Frank Morgan, Camp Gold Star, LLC
Mailing Address: 1700 Riverlake Road., Discovery Bay, CA 94505
Phone: 925.787.0821
E-mail Address: deltagman@yahoo.com
Relationship of applicant to property: CEO/Owner - Camp Gold Star

Location
Site Address: 4103 N Zuckerman Rd, Stockton, CA 95206 (MacDonald Island)
Waterbody: San Joaquin River, Headreach Cutoff
County: San Joaquin
APN: 129-080-54
LAT/LONG: 38° 1'32.20"N, 121°28'30.09"W
USGS Quad: Terminous, CA
Township: Section 18, Township 2 North, Range 5 East
Meridian: Mount Diablo

Directions
From Sacramento, Follow US-5 S to Stockton. Take exit 441 onto CA-4 West toward Charter Way. Turn right onto W Charter Way toward Antioch. Turn right onto S Inland Dr. Turn left, crossing bridge. Turn right on to N Zuckerman Rd. Continue on levee road until reaching the north end of Macdonald island. Location is on the right.

Existing Site Conditions
The job site is on 10 acres of undeveloped land. There is currently no structure or dock on or adjacent to the property. The adjacent land is planned to be a resort and marina. The parcel map, drafted in 1978, notes the intended use of the property included a marina.

Elevations
The proposed landing would be built at approximately +10.5' EL. The proposed dock would be floating, and subject to tidal conditions. Under normal conditions, the dock would float below +4' EL.

Property Use
The site is zoned AG-80.

Vegetation
Sparse vegetation is located at the location for the landing. A pending Biological Assessment will detail vegetation.

PROPOSED ACTION

The Proposed Action is limited to the following items:

1.) Dock: Floating docks installed with sections at 8'x650', 8'x120', and 10'x20'. Docks include concrete floats with PTDF whalers and HDG steel thru-rods. The dock will be delivered in section by truck to the adjacent site. A crane will unload the dock sections from the truck drop them into the river. The dock sections will then be towed into position with a small boat. The dock sections will be assembled together with hand-tools.

2.) Gangway: Construction and installation of aluminum-framed ADA gangway at 4'x80' (320 sqft.), aluminum truss-style handrail, side railing with less than 4" spacing, grab-rail and aluminum AridDek decking. The proposed gangway will be manufactured off-site and delivered to the site, along with the dock sections.

3.) Pile Installation: Install (15) new piles. A barged mounted crane will be used to install the piles. The proposed piles are 12" diameter SCH 40. The piles will be used to anchor the floating dock.

4.) Landing: A 3'x4'x1.5' (12 sqft.) landing, made of concrete with rebar, will be installed to anchor the gangway to shore. There are no plants at the intended landing location. No plant or tree removal will be necessary.

5.) Utilities: (22) utility pedestals, with 30 & 50 AMP on each side, water hose bib, night lights on power pedestals. Fire fighting hose cabinets/fire extinguishers with spacing per code.

6.) Aluminum Railing: 30 LF of aluminum railing on landing dock. Includes 2x2 aluminum posts, 2x2 top-rail, 1/4" x 4" toe plate, 1/2" SCH. 40 guard rails with less than 4" spacing.

Type of Materials
The floating dock is made with a concrete encapsulated floats, HDG steel thru-rods, and PTDf whalers. The piles are steel. The gangway is made from marine grade aluminum.

Equipment and Machinery
The pile will be installed with barge mounted crane. The pile installation will utilize a drop hammer at 3,000 pounds or smaller, and will use a wood or plastic cushion block between hammer and pile. The intended barge size is 30'Wx80'L. The boom length is 85'. The Barge Mounted Crane will be onsite for 1 week. The barge is intended to be anchored in place at positions with +20' of water depth. The dock will be delivered in section by truck to the adjacent site. A crane will unload the dock sections from the truck drop them into the river. The dock sections will then be towed into position with a small boat. The dock sections will be assembled together with hand-tools.

Staging Area
The Applicant's adjacent property will serve as a staging area for equipment, work trucks and hand-tools.

Excavation and/or Dredging
No excavation or dredging is included in the proposed work scope.

Concrete
No wet concrete is being placed into the waters. The concrete floats are fabricated and cured before being placed into the water.

Lighting/Utilities
Utilities installed onto the dock will include (22) power pedestals, with 30 & 50 AMP on each side, water hose bib, night lights colored Red, White, and Blue. Fire fighting hose cabinets/fire extinguishers will be installed per code.

Septic System
No septic system work is included in the work scope. The adjacent resort/marina construction will include a septic system, but will pursue separate permits.

Drainage Plan
As the installation is built over water, no drainage plan is included.

Dewatering
No dewatering activities required.

Expected Life of the New Facilities
The expected life of the new facilities are 25-35 years.

Purpose of Proposed Project
The purpose for the dock is to provide recreational access to the water for the guests of Camp Gold Star. The Camp Gold Star plan is to develop a Resort with approximately 25 Hero rental cabins. Each of the 25 cabins will be individually sponsored by a fallen hero family (or foundation) and decorated inside by the Gold Star family (GSF) to honor their fallen hero. Decorations will include family pictures, hero awards, plaques, family welcome DVD, and other hero memorabilia. Each lodge will have a sign outside prominently displayed with the fallen hero's name and branch of service for all camp guests to see.

CGS will be entirely dedicated to honoring our nation's bravest fallen heroes. Those heroes will include the United States Military (Army, Navy, Marines, Air Force, Coast Guard, and Space Force), and First Responders (Law Enforcement and Fire Service).

Besides the dock, Other amenities at CGS will be a swimming pool with hot tub, club house with kitchen facilities, bocce ball courts, pickle ball court, kayak rentals, paddle board rentals, fire pits, BBQ's, small convince store, laundry room, showers and bathrooms for dock guests, nature lookout towers, shade trees, lots of open grass space, excursion opportunities, etc.

Since CGS is located on the waterside of McDonald Island and road access is limited by a dirt levee road, the dock will also provide use for a free water taxi service. The water taxi will provide transportation from a local marina to CGS (about an 8-minute boat ride) and back to their vehicle at the end of their stay.

CGS will be a private resort & marina and NOT open to the public to drop in. CGS guests will need a lodge or dock reservation in order to visit and stay. The resort type atmosphere will be professional, relaxing, therapeutic, and fun for all who visit.

Reasons for Discharge
Fill materials into the river include the floating dock, gangway and piles. The dock and piles will be placed into the waterbody permanently as part of the function/design. The gangway will be permanently cantilevered over the river. The floating dock is made with a concrete encapsulated floats and PTDf whalers. The only part of the floating dock that will have direct contact with the waterbody is the concrete encapsulated floats. The piles are steel.

Construction Timing
Dock installation will commence upon receipt of approvals, authorizations, and certifications of all necessary permits, entitlements, and environmental documents. Dock installation is proposed to take 30-60 days to complete and would occur sometime within a work window between June 1 and October 31. The install should take place sometime between 2025-2030, depending on approvals. The install will not occur in stages.

IMPACTS

Action Area
The area of direct effects is approximately .15 acres in size. This includes the placement of the dock sections and gangway.

Temporary Impacts
Temporary impacts could include temporary loss of bank stability during construction, restriction or increase in sediment transport, change in turbidity, disruption of nesting birds, reptiles and other wildlife, change in contour of gradient bed, channel or bank.

The piles will be installed with barge mounted crane, onsite for 1 week. The intended barge size is 30'Wx80'L (2400 sqft.). The barge is intended to be anchored in place at positions with +20' of water depth. A small 8'x20' motor boat to tow the dock sections into position

Permanent Impacts
The proposed dock and gangway will cause permanent shading to the aquatic habitat.

Dimensions of the Modifications

Proposed Docks:	Main Headfloat at 8'W x 650'L x 18"H, Secondary Headfloat, 8'W x 120'L x 18"H, Landing Float at 10'W x 20'L x 18"H, 6360 SQFT. over MHW
Proposed Gangway:	4'W x 80'L x 4'H, 236 SQFT. over MHW, 320 SQFT. total
Proposed Landing:	4'W x 3'L x 1'H, 12 SQFT. total
Proposed Piles:	15 at 40', 12" diameter
Total Project Area:	6596 SQFT. over OHWM, 6692 SQFT. total

Information on Fill
Amount of total fill: 6692 SQFT.
Amount of fill below the ordinary high water mark: 6596 SQFT. (.15 acres)
Area to be covered with solid fill: 0 SQFT.
Area to be covered with floating fill: 6360 SQFT.
Area to be covered with pile supported fill: 0 SQFT.
Area to be covered with cantilevered fill: 236 SQFT.
Type of fill: Permanent structures, floating dock, cantilevered gangway, piles.
Cubic yards of float materials into water: 235 cubic yards
Material source: Construction materials

Species List
Proposed Action could potentially affect four federally-listed species including: Chinook salmon (Onchorhynchus tshawytscha), Central Valley spring-run and Sacramento River winter-run, steelhead trout (Oncorhynchus mykiss), California Central Valley California Distinct Population Segment [DPS], delta smelt (Hypomesus transpacificus), and green sturgeon (Acipenser medirostris), southern DPS.

AVOIDANCE OF IMPACTS

The following section are Best Management Practices meant to mitigate impacts, categorized by installation, work period, wildlife protection, erosion, material handling, hazardous materials, and spills.

DATE
8/14/24

JOB # 220407

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JOSH PETERSON, MID-CAL CONSTRUCTION
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CAMP GOLD STAR FLOATING DOCK INSTALLATION
4103 N ZUCKERMAN RD, STOCKTON, CA 95206

SHEET
1

NOTES CONTINUED

Installation BMPs

Dock Installation
The dock will be pre-manufactured offsite to reduce the amount of installation time on the water and avoid effects to water quality. The materials used for construction will consist predominantly of hand tools. No dewatering is necessary for construction. The dock design will allow for removal for maintenance or flood conditions. The following dock design measures will be incorporated:

- Dock will be placed in sufficiently deep water to minimize or preclude dredging, avoid groundings, and avoid displacement of submerged aquatic vegetation.
- Overwater structures will use the fewest number of piles as practicable for necessary support of the structure to minimize pile shading, substrate impacts, and impacts to water circulation.
- Pilings will be spaced at least 10 feet apart on center to minimize shading.
- If cutting, boring or touch-up preservation applications must be performed over the water, then tarps, barriers, plastic tubs or similar devices will be used to capture debris, spills, or drips.

Pile Driving Installation

- The Drop Hammer will be 3,000 pounds or less.
- No single strike will exceed 191 decibels (dB) for an estimated distance of 10 meters.
- The minimum number of piles will be used to safely support the dock structure while minimizing the duration of the acoustic effects associated with pile driving.
- Pile driving will utilize curtains to mitigate negative impacts to water quality.
- Pile driving will utilize wooden cushion blocks to minimize acoustic impacts.
- Pile driving will occur only during daylight hours and initially will occur at low energy levels and reduced impact frequency. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved.

WILDLIFE PROTECTION AND PREVENTION

Rare, Special-Status Wildlife Species Encountered During Project Work
If rare, special-status wildlife species are encountered during the project work, it will be suspended until guidance from a professional Biologist results. This action will result from the construction supervisor immediately contacting the Biologist so that s/he can determine action to prevent harassment and/or mortality for any encounters rare, special-status wildlife species. Until the encountered wildlife species is/are determined safe by the Biologist's actions, the Project will cease

Habitat Protection
Disturbance and removal of all vegetation on the Site will not exceed the minimum necessary to complete the installation.

Tree Removal
No live or dead trees will be removed for the proposed action.

Project Work Period
Work will be restricted to daylight hours only (one hour after sunrise to no later than sunset).

Noise Reduction/Minimization
When the pier and dock are added, noise will be limited to 191 decibels (DB) or less at an estimated distance of 10 meters. A minimum number of piles will be used to support the dock structure. When pile are driven into the substrate, curtains will be added to reduce negative impacts to water quality. Pile driving will occur only during the daylight hours.

Wildlife Protection Actions
At the end of each work day, all trenches and holes greater than one-foot deep will be covered to prevent wildlife from entering. When trenches cannot be fully covered, an escape ramp will be placed at each end of any constructed open trench to allow wildlife that may have become entrapped in the trench to climb out overnight.

The ramp will be constructed with wood planking or other suitable material that is placed at an angle not greater than 30 degrees. Daily before construction begins, all construction pipes or similar structures greater than two inches in diameter stored nightly at the Site shall be inspected for wildlife before the pipe or similar structure is buried, capped, used, or moved.

Prevention Actions
All tools, boots, and other project related equipment will be inspected daily in the morning before construction begins for the potential presence of common and rare, special-status wildlife species.

To ensure the Site does not attract additional common and rare, special-status wildlife species during construction, all loose plant materials and wildlife remnants will be removed daily by workers before work begins at the Site.
In addition, all pipes, hoses, or similar structures fewer than 12 inches in diameter will be closed or covered at the end of each work day to prevent wildlife entry.

Erosion And Sediment Control
Other BMPs that will be employed during the Project will include those related to erosion and sediment control. For example, as an erosion control action, no soil runoff will be allowed to enter the river. Prevention of soil sediment runoff will include the placement of straw wattle throughout areas at the Site where potential for runoff could occur during Project activities or if rain events occur.
Dock Installation Method To Prevent Erosion Runoff Into The River

The dock sections will be pre-manufactured to reduce the amount of installation time on the river and avoid impacts to water quality. No dewatering will necessary for its construction, so no run-off will occur into river.

Project Work Period
Work will be restricted to daylight hours only (one hour after sunrise to no later than sunset).

Noise Reduction/Minimization
When the dock piles are added, noise will be limited to 191 decibels (DB) or less at an estimated distance of 10 meters. A minimum number of piles will be used to support the dock structure. When piles are driven into the substrate, curtains will be added to reduce negative impacts to water quality. Pile driving will occur only during the daylight hours.

MATERIAL HANDLING, DEBRIS, AND WASTE

Stockpiled Materials
Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or riparian vegetation. Stockpiles shall be covered when measurable rain is fore-casted.

No Dumping
All workers shall not dump any litter or construction debris within the stream, or where it may pass into the river.

Pick Up Debris
All debris and waste will be picked up daily.

Wash Water
Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a lake or flowing stream or placed in locations that may be subjected to high storm flows.

Hazardous Materials
Debris, soil, silt, bark, slash, sawdust, rubbish, creosote treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities shall be prevented from contaminating the soil and/or entering the Waters of the State. (none anticipated)

SPILLS AND EMERGENCIES

Spill Avoidance
If cutting, boring or touch-up preservation applications must be preformed over the water, then tarps, barriers, plastic tubs or similar devices will be used to capture debris, spills or drips.

Spill Kits
Absorbent materials designated for spill containment and cleanup activities will be on-site for use in an accidental spill. Prior to entering the work site, all field personnel shall know the location of spill kits and trained in their appropriate use.

Spill of Material Deleterious to Fish and Wildlife
In the event of a hazardous materials spill into a stream, the California Office of Emergency Services State Warning Center shall immediately notified by calling 1-800-852-7550 and immediately provide written notification to CDFW by email at R31600Program@wildlife.ca.gov. All reasonable measures shall be taken to document the extent of the impacts and affected areas including photographic documentation of affected areas, injured fish and wildlife.

CONSTRUCTION NOTES

- All construction shall comply with the 2022 CBC and all State and Local codes.
- All structural aluminum shapes to be type 6061-T6.
- All steel shall conform to ASTM A36 and hot dipped galvanized according to ASTM A123.
- All stainless steel shapes will conform to ASTM A276, type 316-A. All screws, bolts, washers and nuts to ASTM 193.
- Fabrication shall be in accordance with the AA specifications for aluminum structures, welding shall conform to the AWS using filler alloy 5356.
- Prefabricated welding procedures shall conform to current edition of ANSI/AWS D1.2 and ANSI/AWS D1.1.
- Direct contact between aluminum and dissimilar metals will be avoided by using 1/8" thick UHMW spacers.
- Ultra high molecular weight polyethylene (UHMW) will be required for spacers and gangway wheels.
- Contractor shall possess a class "A" license.

PHOTOS



FROM SITE, FACING NORTH

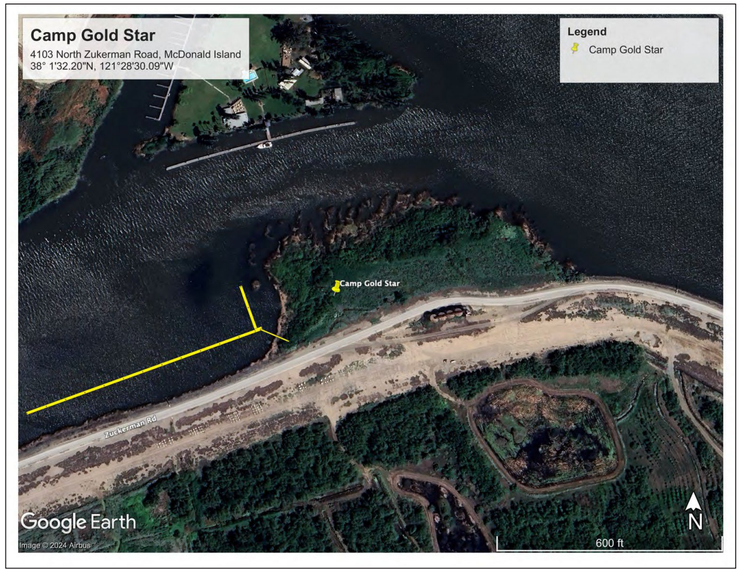


FROM SITE, FACING EAST

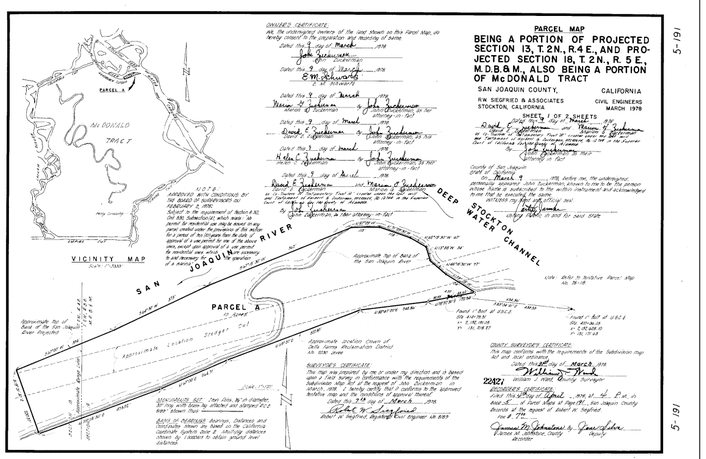


FROM SITE, FACING WEST

AERIAL SIMULATION



ASSESSORS MAP



DATE
8/14/24

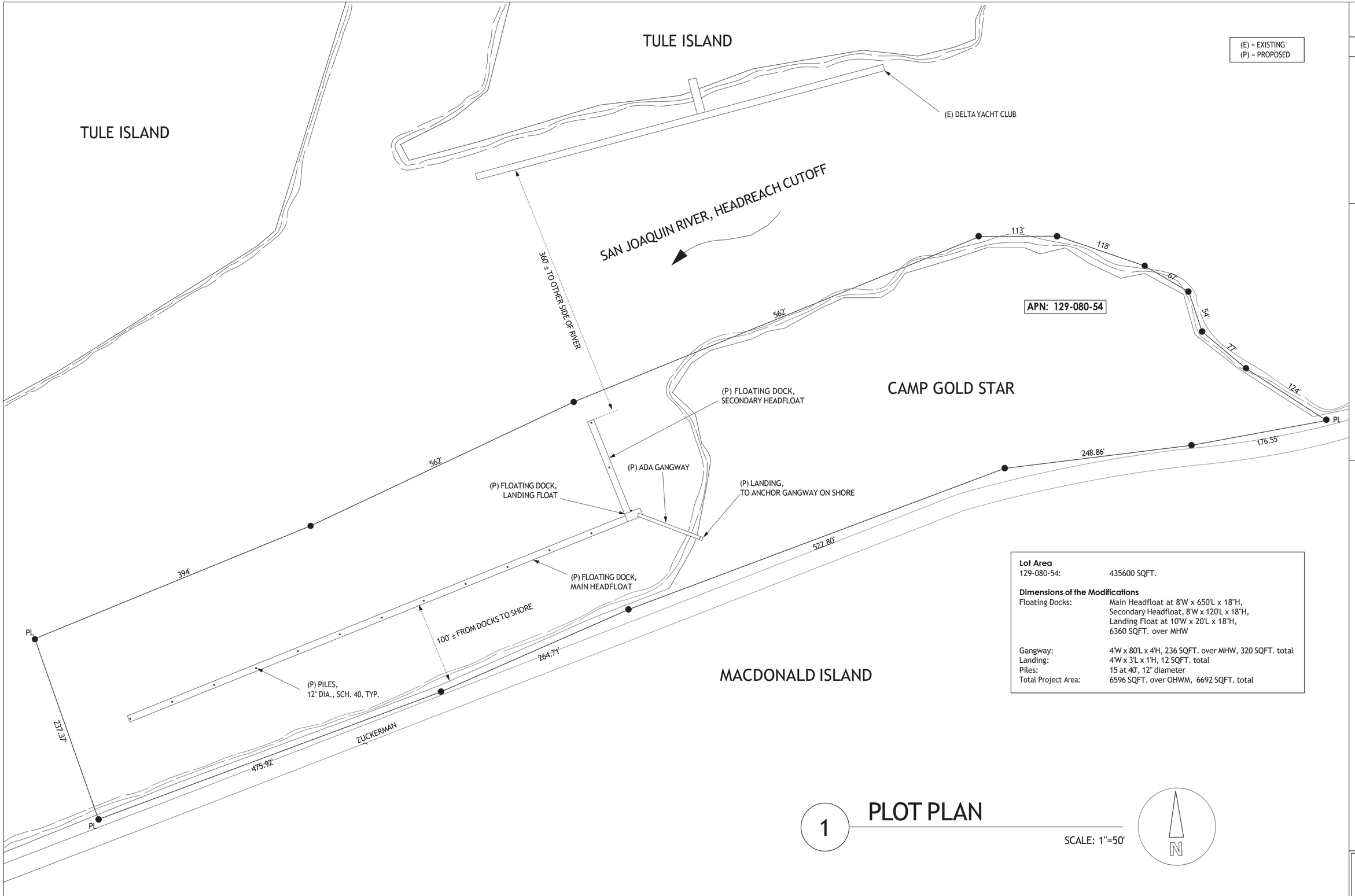
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CAMP GOLD STAR FLOATING DOCK INSTALLATION
4103 N ZUCKERMAN RD, STOCKTON, CA 95206

SHEET
2



Lot Area	
129-080-54:	435600 SQFT.
Dimensions of the Modifications	
Floating Docks:	Main Headfloat at 8'W x 650'L x 18"H, Secondary Headfloat, 8'W x 120'L x 18"H, Landing Float at 10'W x 20'L x 18"H, 6360 SQFT. over MHW
Gangway:	4'W x 80'L x 4'H, 236 SQFT. over MHW, 320 SQFT. total
Landing:	4'W x 3'L x 1'H, 12 SQFT. total
Piles:	15 at 40', 12" diameter
Total Project Area:	6596 SQFT. over OHWM, 6692 SQFT. total

1 PLOT PLAN

SCALE: 1"=50'

N

DATE
8/14/24

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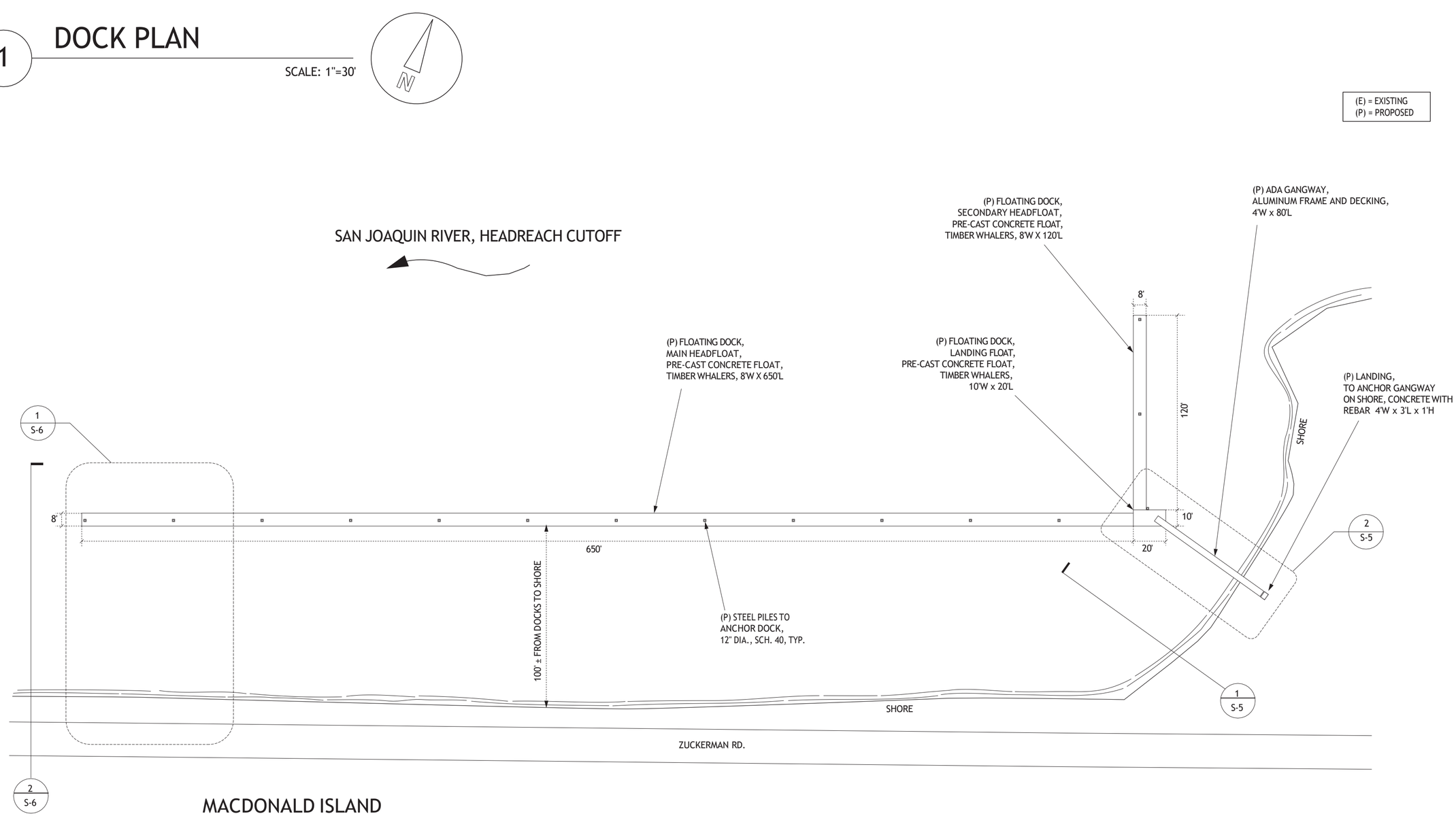
DRAWN BY
JOSH PETERSON, MID-CAL CONSTRUCTION
LIC. A 280277 • PH. 209-832-4400

CAMP GOLD STAR FLOATING DOCK INSTALLATION
4103 N ZUCKERMAN RD, STOCKTON, CA 95206

SHEET
3

1 DOCK PLAN

SCALE: 1"=30'



DATE
8/14/24

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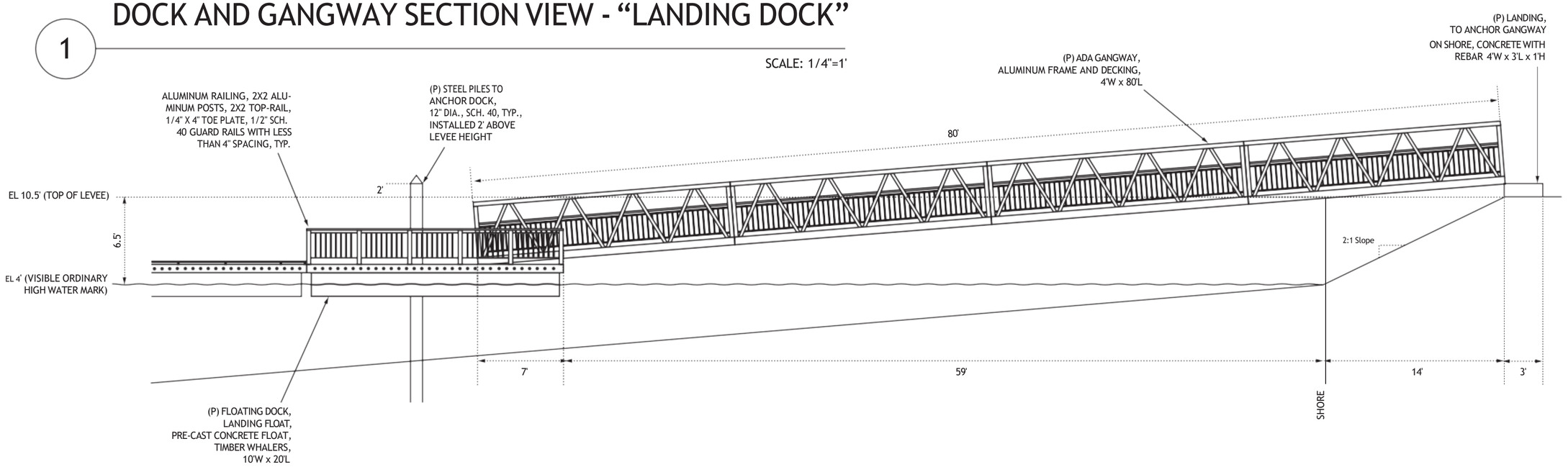
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CAMP GOLD STAR FLOATING DOCK INSTALLATION
4103 N ZUCKERMAN RD, STOCKTON, CA 95206

SHEET
4

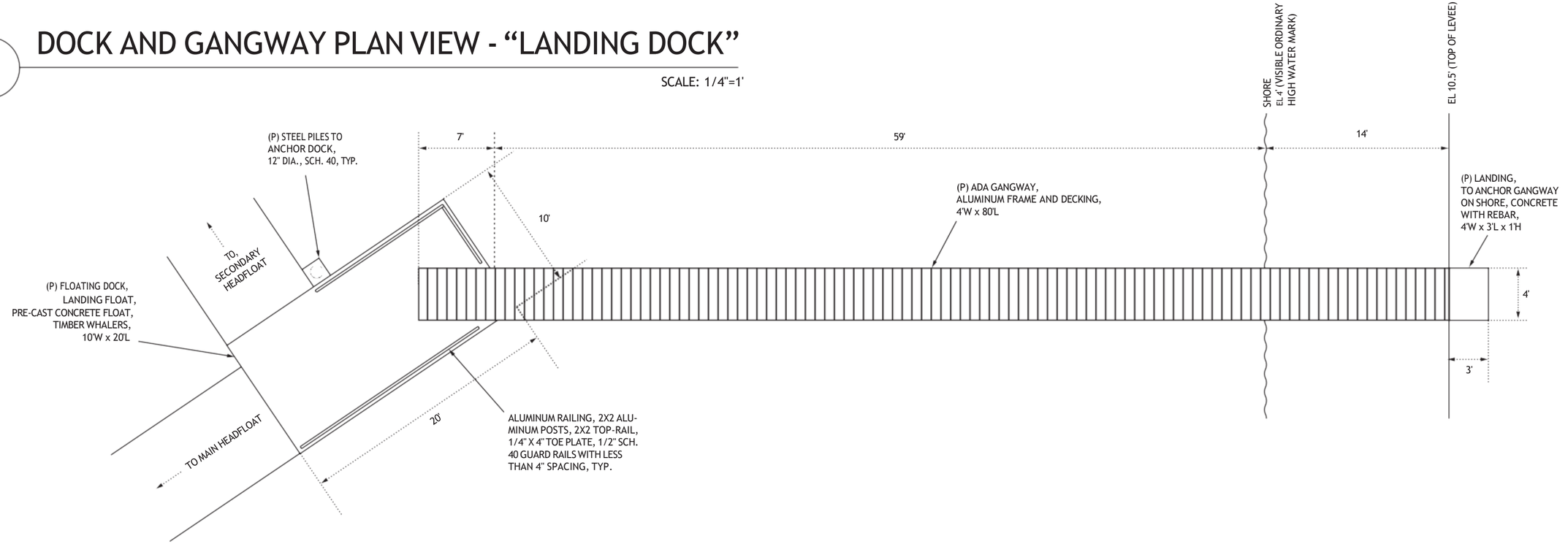
1 DOCK AND GANGWAY SECTION VIEW - “LANDING DOCK”

SCALE: 1/4"=1'



2 DOCK AND GANGWAY PLAN VIEW - “LANDING DOCK”

SCALE: 1/4"=1'



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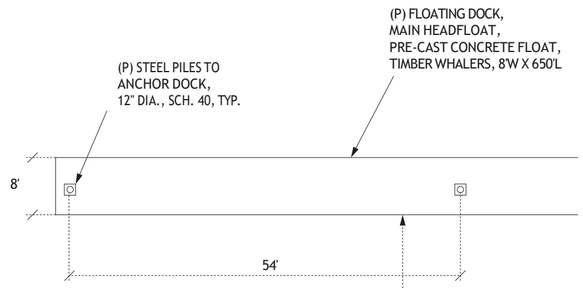
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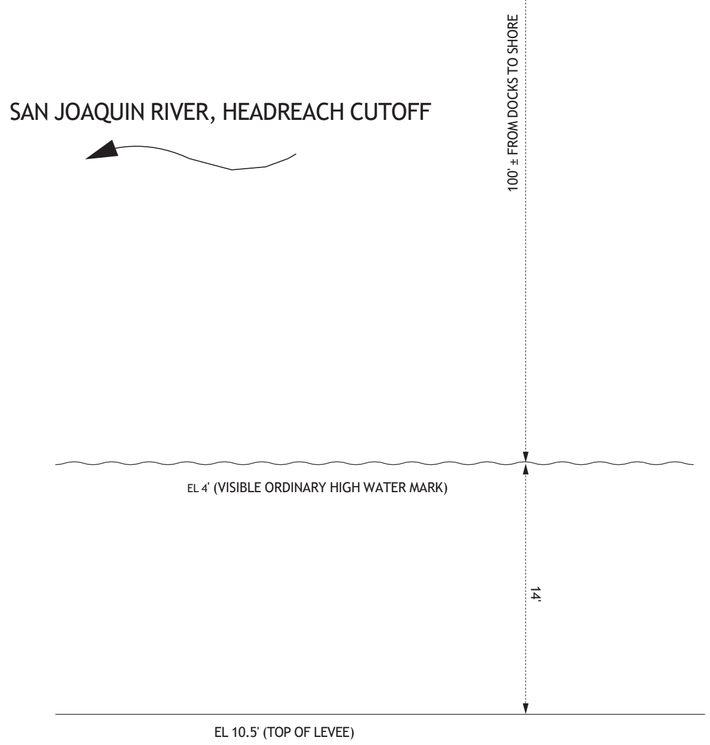
CAMP GOLD STAR FLOATING DOCK INSTALLATION
4103 N ZUCKERMAN RD, STOCKTON, CA 95206

SHEET
5

1 DOCK PLAN - “MAIN HEADFLOAT”

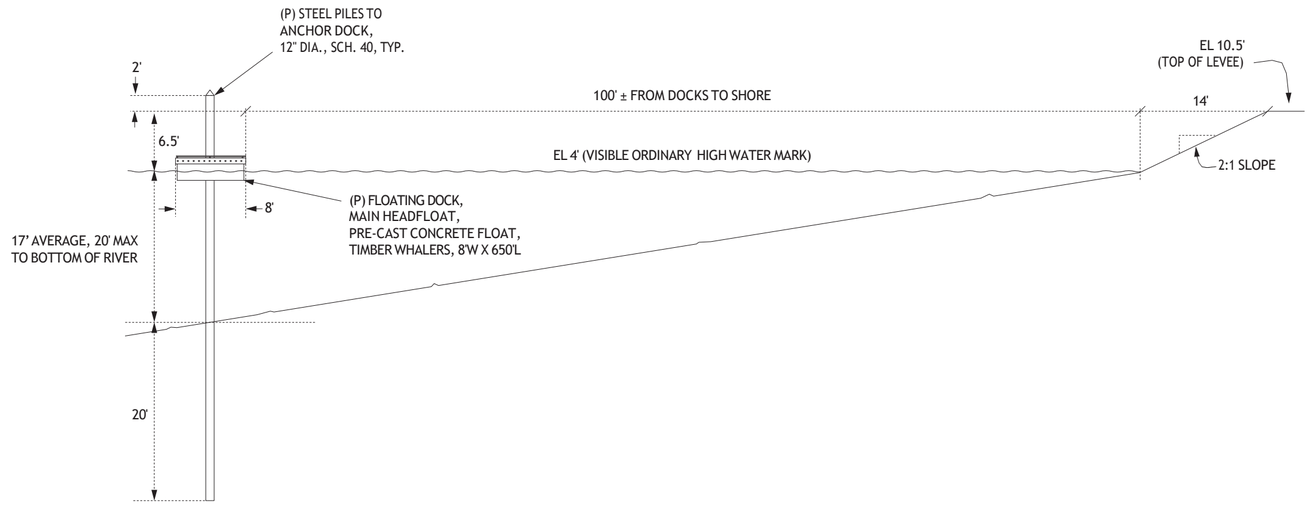
SCALE: 1"=10'





2 DOCK SECTION VIEW - “MAIN HEADFLOAT”

SCALE: 1/8"=1'



DATE
8/14/24

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CAMP GOLD STAR FLOATING DOCK INSTALLATION
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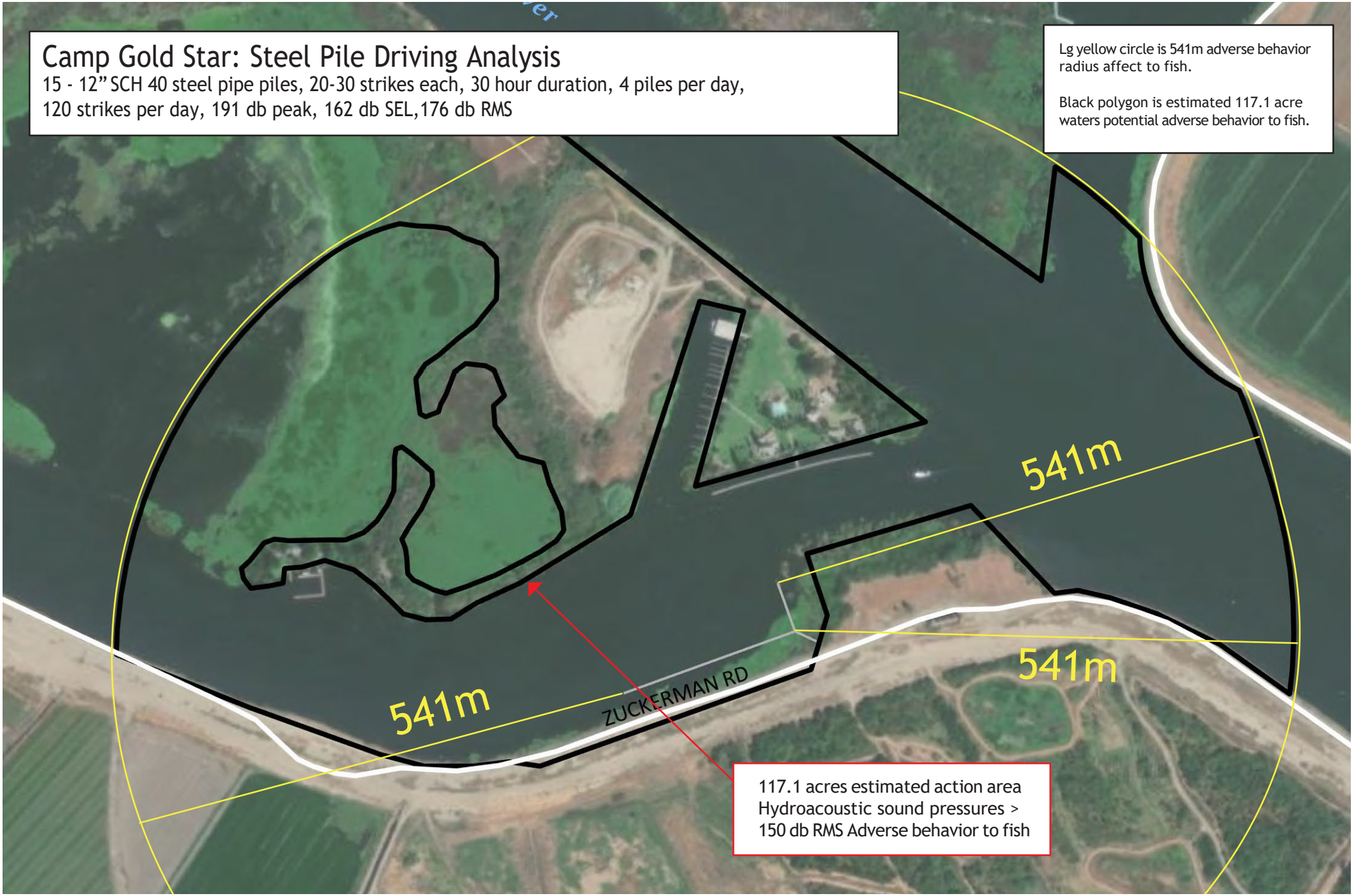
SHEET
6

Camp Gold Star: Steel Pile Driving Analysis

15 - 12" SCH 40 steel pipe piles, 20-30 strikes each, 30 hour duration, 4 piles per day, 120 strikes per day, 191 db peak, 162 db SEL,176 db RMS

Lg yellow circle is 541m adverse behavior radius affect to fish.

Black polygon is estimated 117.1 acre waters potential adverse behavior to fish.



Reference:

1. CA Dept. of Transportation. 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Memorandum. November 2015 Available at: http://www.dot.ca.gov/hq/env/bio/files/bio_tech_guidance_hydroacoustic_effects_110215.pdf

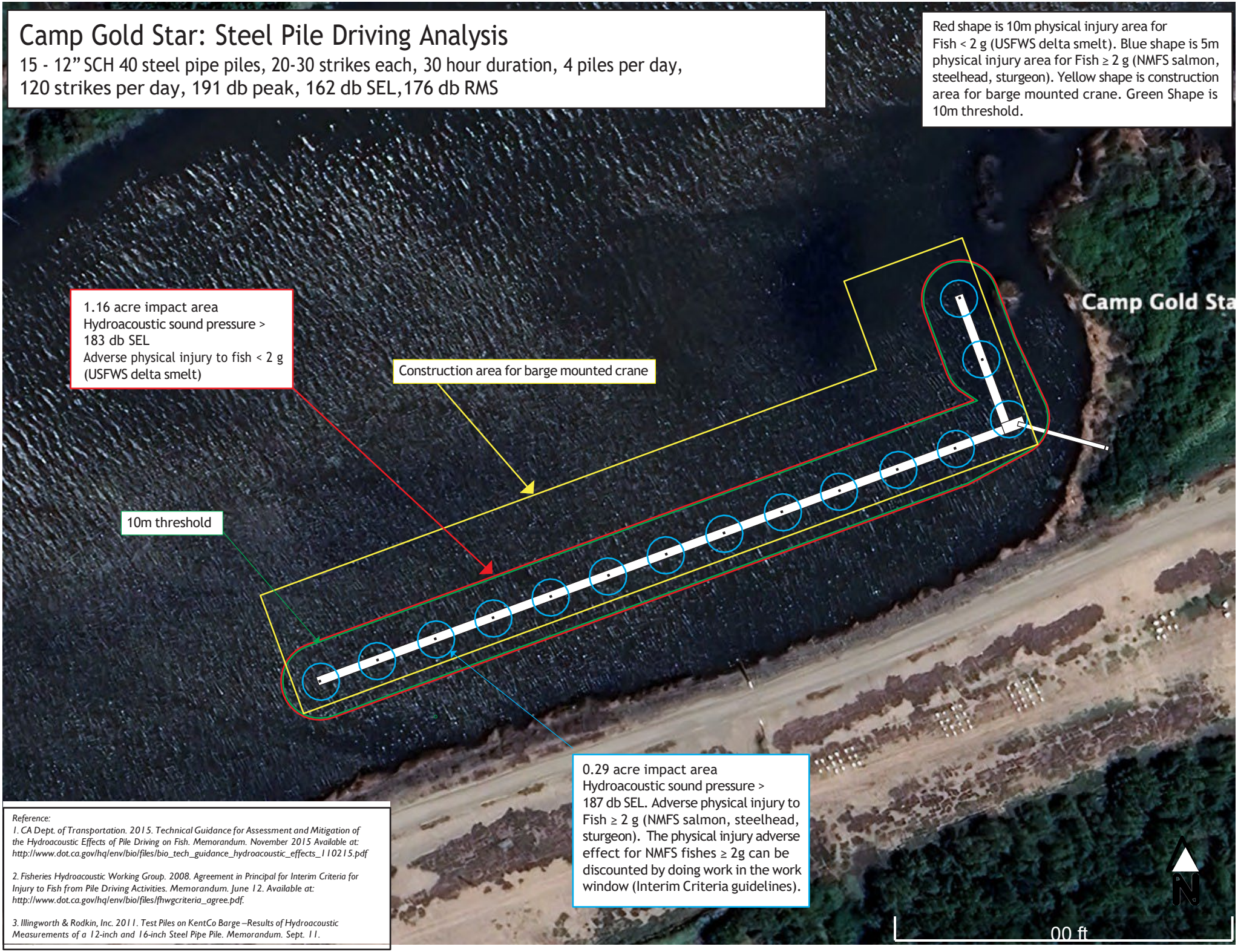
2. Fisheries Hydroacoustic Working Group. 2008. Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities. Memorandum. June 12. Available at: http://www.dot.ca.gov/hq/env/bio/files/fhwgcriteria_agree.pdf.

3. Illingworth & Rodkin, Inc. 2011. Test Piles on KentCo Barge –Results of Hydroacoustic Measurements of a 12-inch and 16-inch Steel Pipe Pile. Memorandum. Sept. 11.

Camp Gold Star: Steel Pile Driving Analysis

15 - 12" SCH 40 steel pipe piles, 20-30 strikes each, 30 hour duration, 4 piles per day, 120 strikes per day, 191 db peak, 162 db SEL,176 db RMS

Red shape is 10m physical injury area for Fish < 2 g (USFWS delta smelt). Blue shape is 5m physical injury area for Fish ≥ 2 g (NMFS salmon, steelhead, sturgeon). Yellow shape is construction area for barge mounted crane. Green Shape is 10m threshold.



Reference:

1. CA Dept. of Transportation. 2015. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Memorandum. November 2015 Available at: http://www.dot.ca.gov/hq/env/bio/files/bio_tech_guidance_hydroacoustic_effects_110215.pdf

2. Fisheries Hydroacoustic Working Group. 2008. Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities. Memorandum. June 12. Available at: http://www.dot.ca.gov/hq/env/bio/files/fhwgcriteria_agree.pdf.

3. Illingworth & Rodkin, Inc. 2011. Test Piles on KentCo Barge –Results of Hydroacoustic Measurements of a 12-inch and 16-inch Steel Pipe Pile. Memorandum. Sept. 11.

Camp Gold Star

15 steel piles (12" SCH 40 Steel Pipe Piles), 20-30 strikes each, 30 hour duration, 4 piles per day, 120 strikes each day

Fill in green cells: estimated sound levels and distances at which they were measured, estimated number of pile strikes per day, and transmision loss constant.

	Acoustic Metric			
	Peak	SEL	RMS	Effective Quiet
Measured single strike level (dB)	**191**	**162**	**176**	**150**
Distance (m)	**10**	**10**	**10**	
Estimated number of strikes (per day)	**120**			

Cumulative SEL at measured distance

183

	Distance (m) to threshold			
	Onset of Physical Injury			Behavior
	Peak	Cumulative SEL dB**		RMS
	dB	Fish ≥ 2 g	Fish < 2 g	dB
Transmission loss constant (15 if unknown)	206	187	183	150
15	**1**	**5**	**10**	**541**

** This calculation assumes that single strike SELs < 150 dB do not accumulate to cause injury (Effective Quiet)

Notes (source for estimates, etc.)

(This model was last updated January 26, 2009)

Appendix D

Aquatic Resources Delineation Report

Camp Gold Star Project

Aquatic Resource Delineation Report

April 2025 | 09559.00001.001

Prepared for:

Frank Morgan
Camp Gold Star, LLC
1700 Riverlake Road
Discovery Bay, CA 94505

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

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ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CWA	Clean Water Act
F	Fahrenheit
FAC	Facultative Plants
FACU	Facultative Upland Plants
FACW	Facultative wetland plants
HELIX	HELIX Environmental Planning, Inc.
HUC	Hydrologic Unit Code
MSL	mean sea level
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
Project	Camp Gold Star Project
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
UPL	Upland Plants
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

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EXECUTIVE SUMMARY

This report presents the results of a delineation of aquatic resources conducted for the ±10.00-acre Camp Gold Star Project (Study Area) located in Stockton, San Joaquin County, California. The potential presence of aquatic resources was assessed following the technical guidelines provided in the *Corps of Engineers Wetlands Delineation Manual* (USACE Manual) and the U.S. Army Corps of Engineers (USACE) *Arid West* Regional Supplement (Supplement). The Supplement presents wetland indicators, delineation guidance, and other information that is specific to the *Arid West* Region. The jurisdictional boundaries for other waters of the United States (waters of the U.S.) were determined in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*.

A total of 6.394 acres of aquatic resources have been delineated in the Study Area. Aquatic resources delineated within the Study Area consist of the San Joaquin River (6.394 acres and 1,495 linear feet). The San Joaquin River will qualify as waters of the U.S. and State and is subject to Section 10 of the Rivers and Harbors Act if impacted. Final determination will be decided by the U.S. Army Corps of Engineers.

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1.0 INTRODUCTION

On behalf of Camp Gold Star, LLC (Applicant), HELIX Environmental Planning, Inc. (HELIX) has prepared this aquatic resource delineation in support of the Camp Gold Star (Project) to delineate potential waters of the U.S. and State on a ±10.00-acre Study Area located in unincorporated San Joaquin County, California. The purpose of this aquatic resource delineation was to map any aquatic resources in the Study Area that potentially qualify as waters of the U.S. and/or waters of the State. Waters of the U.S. are subject to regulatory jurisdiction by the U.S. Army Corps of Engineers (USACE) as well as the applicable Regional Water Quality Control Board (RWQCB). Waters of the State are subject solely to the jurisdiction of the applicable RWQCB. Impacts (fill) to aquatic resources, if present, would potentially require obtaining regulatory permit authorizations from one or both agencies. The results presented in this document are preliminary and subject to verification by the USACE.

1.1 STUDY AREA LOCATION

The ±10.00-acre Study Area is located on North Zuckerman Road, a levee road along the southern and western banks of the San Joaquin River, in unincorporated San Joaquin County, California (Figure 1, *Site and Vicinity Map*). The Study Area is situated in Section 18 of Township 2 North and Range 5 East, Mount Diablo Meridian, and depicted on the U.S. Geological Survey (USGS) *Terminous, CA* 7.5-minute topographic quadrangle map (Figure 2, *USGS Topographic Map*). The approximate center of the Study Area is at latitude 38.025350° and longitude -121.475448°, NAD 83, and is located at an elevation between six and 12 feet above mean sea level (MSL). All figures are included in Appendix A.

1.2 DRIVING DIRECTIONS

From downtown Sacramento, travel south on Interstate 5 46 miles to Stockton. Take exit 471 to merge onto State Route 4 (CA-4) W/W Charter Way. Travel 5.5 miles on CA-4, turn right onto South Inland Drive, and head north and west. The road name changes to West McDonald Road after 2.2 miles and continue driving for 4.5 miles to North Zuckerman Road. Turn left on North Zuckerman Road to cross Zuckerman Bridge over the Turner Cut onto McDonald Island and then turn right to stay on North Zuckerman Road. Continue for 4.8 miles to the Study Area. The Study Area is accessible from North Zuckerman Road.

1.3 AGENT CONTACT INFORMATION

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Agent/Delineator:
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1677 Eureka Road, Suite 100
Roseville, CA 95661
Phone: (916) 435-1202
Email: ToddW@helixepi.com
Contact: Todd Wood

1.4 REGULATORY SETTING

1.4.1 Waters of the U.S.

On May 25, 2023, the United States Supreme Court issued a decision in the case of Sackett v. Environmental Protection Agency (Supreme Court of the United States, 2023), which has influenced how federal waters are defined. The May 25, 2023, Supreme Court decision in Sackett v. Environmental Protection Agency determined that "the Clean Water Act (CWA) extends to only those 'wetlands with a continuous surface connection to bodies that are "waters of the United States" in their own right,' so that they are 'indistinguishable' from those waters." After review, the U.S. Environmental Protection Agency (USEPA) and USACE issued a final rule to replace the 2023 rule that amends the "Revised Definition of "waters of the U.S." to conform key aspects of the regulatory text to the U.S. Supreme Court's May 25, 2023 decision in the case of *Sackett v. Environmental Protection Agency*.

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 United States Code [USC] 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

The Clean Water Act (33 USC 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The RWQCB administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 Code of Federal Regulations (CFR) Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

1.4.2 Waters of the State

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Clean Water Act. Although the Clean Water Act is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and

Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within waters of the U.S., and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the state;

III. Wetland delineation procedures; and,

IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "waters of the State" includes all "waters of the U.S."

More specifically, a wetland is defined as: "*An area is wetland if, 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*." The wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION DESCRIPTION

The Study Area is located along the southern shore of the San Joaquin River on private property and along a levee road on MacDonald Island, in Stockton, California. The San Joaquin River in the Study Area is located along the Stockton Deepwater Ship Channel, which is a maintained shipping channel to a depth of 35 feet. The Study Area is within Assessor's Parcel Number 129-080-54. The Study Area is bordered by agricultural land, the Delta Yacht Club, and the San Joaquin Delta Power Squadron boat club. Surrounding land uses include agriculture, a PG&E substation, shipping lanes for foreign and interstate commerce, and recreation along the San Joaquin River. The Study Area and surrounding land

appear to have changed little over the last 68 years based on a review of historic aerial imagery (Google Earth 2025; NETR 2025). A current aerial image of the Study Area is included in Figure 3, *Aerial Map*.

2.2 EXISTING CONDITIONS

Terrain in the Study Area is comprised of generally flat land along a levee with a levee road along the south bank of the San Joaquin River. The Study Area supports electrical utilities and a small shed. The Study Area occurs adjacent to existing facilities that were likely used historically for agricultural production, including a silo or processing plant. The upland, ruderal area of the Study Area is level with the top of the levee and there is no indication that the ruderal area experiences flooding from the San Joaquin River as evidenced by a lack of hydrology indicators on structures or landmarks in the Study Area. Structures, consisting of utility poles, lack any watermarks or racking, which is limited to areas below the bank of the San Joaquin River. If the Study Area were to flood, the levee and levee road would also breach and flood the interior of McDonald Island. Elevations within the Study Area range from six feet to 12 feet above MSL.

2.3 FIELD CONDITIONS

The weather during the site visit on March 26, 2025, was generally dry, sunny, and cool, with temperatures ranging between 55- and 65-degrees Fahrenheit (F) (www.weather.com).

2.4 INTERSTATE OR FOREIGN COMMERCE CONNECTION

The Study Area is located in San Joaquin Delta watershed (USGS Hydrologic Unit Code [HUC] 18040003). The San Joaquin River in the Study Area is a traditional navigable water of the U.S.; it is located along the Stockton Deepwater Ship Channel, which is a maintained shipping channel to a depth of 35 feet and is 41 miles long. The Stockton Deepwater Ship Channel provides access to approximately 30 cargo vessels per month to the Port of Stockton, which is the largest and fourth busiest port in California (USACE 2025a). The San Joaquin River and the Stockton Deepwater Ship Channel are used for interstate and foreign commerce that support agriculture for hundreds of farmers, water supply for cities and farms, shipping lanes for foreign and interstate trade, and access for the U.S. Navy. The Port of Stockton is a critical link for the agricultural industry in the Central Valley where it provides trade routes for 90 percent of the regions fertilizer and 50 percent of California's bagged rice to Japan (USACE 2025a). The San Joaquin River is also used for recreational boating, fishing, and wildlife viewing.

3.0 METHODS

3.1 DATA GATHERING

The following sources were used in preparation of this aquatic resource delineation:

- Aerial photography taken June 24, 2024, downloaded from Esri®;
- U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory online wetland mapper (USFWS 2025);
- Natural Resources Conservation Service (NRCS) web soil survey (NRCS 2025);

- Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987);
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: Arid West* Region (Version 2.0) (USACE 2008);
- National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Final Version (USACE 2025b);
- Rapid OHWM Field Identification Data Sheet (USACE 2024);
- Field Indicators of Hydric Soils in the United States (Version 9.0) (NRCS 2024); and
- USACE 2022 National Wetland Plant List for the Arid West Region (USACE 2023).

3.2 BOUNDARIES OF THE DELINEATION

The delineation area includes the estimated ±10.00-acre Study Area (Appendix B). Refer to the Aquatic Resources Delineation Map (Appendix B) for the limits of the delineation.

3.3 DETERMINATION PROCEDURES

3.3.1 Delineation Methods

Criteria for determining the presence of wetlands subject to USACE jurisdiction are presented in the USACE *Wetlands Delineation Manual* (Environmental Laboratory 1987) and in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

Key criteria for determining the presence of wetlands subject to USACE jurisdiction (Environmental Laboratory 1987) are:

a) The presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by ground water or surface water.

b) A prevalence of vegetation typically adapted for life in saturated soil conditions (hydrophytic vegetation).

To assess whether wetlands are present, the USACE requires that data be recorded on three environmental parameters: hydrology, soil, and vegetation. Positive wetland indicators for all three parameters are generally required for the USACE to assert jurisdiction.

HELIX Senior Scientist Patrick Martin conducted the fieldwork for the aquatic resource delineation on March 26, 2025. The fieldwork was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008). The National Ordinary High Water Mark Field Delineation Manual for Rivers and Stream (Version: Final: USACE 2025b) was also reviewed. Vegetation, soils, and hydrologic characteristics were visually assessed by conducting meandering transects through the entire Study Area to obtain 100 percent visual coverage.

Plant species identifiable at the time of the survey were recorded (refer to Appendix C for the list of plants observed with the wetland indicator status for each species). Plant species were identified and categorized as shown in Table 1, *Wetland Indicator Status Rating*.

Table 1
WETLAND INDICATOR STATUS RATING

Indicator Status	Characterization
Obligate (OBL)	Occur almost always under natural conditions in wetlands
Facultative Wetland (FACW)	Usually occur in wetlands but occasionally found in non-wetlands
Facultative (FAC)	Equally likely to occur in wetlands and non- wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands but occasionally found in wetlands
Upland (UPL)	Occur in wetlands in another region, but almost always occurs under natural conditions in non-wetlands in the region specified

Geographic coordinates of aquatic resources boundaries and locations of sample points were recorded in the field with an electronic tablet wirelessly connected to a Geode® (Global Navigation Satellite System) receiver unit with sub-meter accuracy. Aerial imagery was also used to assist with the development of the boundaries of some portions of the aquatic resources. These data were exported into ArcMap 10.7.1® and used to produce the Aquatic Resources Delineation Map included as Appendix B. Representative photographs are included as Appendix D.

The Munsell Color (Gretag Macbeth 2000) chart was used to determine moist soil colors and thus, hydric soils, if present. Data were taken at five representative sample points throughout the Study Area to classify the site's soils, vegetation, and hydrologic characteristics in addition to one sample point for the OHWM. Representative sample points collected are presented in Appendix E.

3.3.2 Plant/Habitat Nomenclature

Habitat nomenclature used for this report is generally derived from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Plant taxonomy nomenclature is taken from *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012).

4.0 RESULTS

4.1 VEGETATION COMMUNITIES/HABITAT TYPES

One upland vegetation community occurs within the Study Area: ruderal. Upland vegetation communities/habitat types are described in detail below. Aquatic resources are discussed below in Section 5.0.

4.1.1 Ruderal

Ruderal habitat is characterized by an assemblage of plant species that are often the first to colonize disturbed landscapes. Abandoned agricultural fields, construction sites, vacant lots, and road shoulders are just a few of the settings that can create favorable conditions for ruderal plant species. Ruderal habitat is typically associated with invasive and noxious weeds, and often features areas of bare ground.

Evidence of past disturbance associated with levee road construction is visible on aerial imagery which may have contributed to the ruderal habitat now present in the Study Area (Google Earth 2025 and NETR 2025). Ruderal areas in the Study Area appear to consist of imported soil that has been elevated above the tidal fluctuations of the San Joaquin River in addition to periods of high flows since before 1957 (NETR 2025). Ruderal areas previously consisted of developed areas with structures used for unknown purposes, which were removed between 1968 and 1984 (NETR 2025). Plant species observed in this habitat include poison hemlock (*Conium maculatum*) (FACW), jointed charlock (*Raphanus sativus*) (--), foxtail barley (*Hordeum murinum*) (FACU), and bur parsley (*Anthriscus caucalis*) (--).

4.2 CLIMATE

The climate of San Joaquin County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station is located in Stockton, California, east of the Study Area. Average daily maximum and minimum temperatures are 95° and 61° F in July, and 57° and 39° F in January (National Oceanic and Atmospheric Administration [NOAA] 2025). The mean annual precipitation is 12.86 inches, with 100 percent occurring as rain from October through September. The weather station received approximately 9.53 inches of rainfall for this rain season through March 25, 2025, starting in October 2024 (NOAA 2025), which is 85 percent of an average rain year through the end of March. In the previous year, the weather station received 14.40 inches, which is 111 percent of average (NOAA 2025).

4.3 SOILS

The NRCS has mapped one soil unit within the Study Area: Ryde clay loam, partially drained, 0 – 2%, MLRA 16 (Figure 4, *Soils Map*). The general characteristics and properties associated with this soil unit are described below (NRCS 2025).

Ryde clay loam, partially drained, 0 – 2%, MLRA 16, this soil unit is comprised of herbaceous organic material derived from reeds and tules, and fine-loamy alluvium derived from mixed rock sources. It is typical of floodplains and deltas. A general soil profile is clay loam from 0 to 24 inches, mucky clay loam from 24 to 32 inches, and stratified muck to silty clay loam from 32 to 79 inches. It is very poorly drained, has a rare frequency of flooding, and no frequency of ponding. This soil unit is considered hydric (NRCS 2025).

4.4 HYDROLOGY

Terrain in the Study Area is comprised of generally level land above the banks of the San Joaquin River. Ruderal areas in the Study Area are situated so they drain into the San Joaquin River. Elevations on the Study Area range from approximately six feet along the San Joaquin River to approximately 12 feet elevation along the levee road.

The Study Area is in the San Joaquin Delta watershed (USGS HUC 18040003), and consists of the San Joaquin River, a traditional navigable waters of the U.S.

4.5 USFWS NATIONAL WETLANDS INVENTORY

The USFWS National Wetlands Inventory (NWI) online database was queried to identify whether any wetlands or other waters of the U.S. mapped by the USFWS are present in the Study Area. The query

identified as riverine, freshwater forested/shrub wetland, and freshwater emergent wetland features mapped within the Study Area (Figure 5, *National Wetlands Inventory Map*). In the surrounding vicinity, other similar aquatic resources are mapped by the NWI.

5.0 AQUATIC RESOURCES

As depicted in Table 2, *Aquatic Resources in the Study Area*, a total of 6.394 acres of aquatic resources have been mapped within the Study Area. Only one aquatic feature was documented in the Study Area, the San Joaquin River which is classified as a perennial drainage (6.394 acre and 1,495 linear feet) (Appendix B).

Table 2
AQUATIC RESOURCES IN THE STUDY AREA

Feature	Latitude/Longitude	Cowardin Classification[1]	Area (acre)	Area (sq. feet)	Length (feet)	Avg. Width (feet)
Other Waters						
PD-1	38.025327/ -121.476277	R1UBT	6.394	278,522.64	1,495	--
		Other Waters Total	**6.394**	**278,522.64**	**1,495**	**--**
		Total Aquatic Resources	**6.394**	**278,522.64**	**1,495**	--

[1] Cowardin Codes for Wetlands: System (R = Riverine;) Subsystem (1 = Tidal 2); Class (UB = Unconsolidated Bottom); Water Regime (T = Semi-permanently Flooded-Tidal).

Perennial Drainage (San Joaquin River)

A total of 6.394-acre and 1,495 linear feet of perennial drainage (PD-1) was mapped within the Study Area, consisting entirely of the San Joaquin River. The perennial drainage in the Study Area has a well-defined bed and bank, with steeply incised banks. The perennial drainage supports hydrophytic vegetation dominated by fresh emergent wetland and exhibits an "OHWM." Deeper areas of the perennial drainage consist of open water and lack vegetation. Portions of the perennial drainage located along the levees with riprap support limited vegetation.

After the initial onset of rains, these features have persistent flows throughout and past the end of the rainy season, with reduced flow before the onset of precipitation in the fall. Typically, these features exhibit a defined bed and bank and show signs of scouring because of rapid flow events. The bed of the perennial drainage in the Study Area consists of silty sand in open water and organic material in the riparian portion of the river. Riparian sections of the San Joaquin River support species that consist of narrow-leaf willow (*Salix exigua*) (FACW), arroyo willow (*Salix lasiolepis*) (FACW), Pacific willow (*Salix lasiandra*) (FACW), blue elderberry (*Sambucus mexicanus*) (FACU), Fremont cottonwood (*Populus fremontii*) (FACW), Himalayan blackberry (*Rubus armeniacus*) (FAC), California bulrush (*Schoenoplectus californicus*) (OBL), yellowflag iris (*Iris pseudacorus*) (OBL), and red osier dogwood (*Cornus sericea (=alba)*) (FACW). The perennial drainage outside of the riparian areas supports California bulrush, bog rush (*Juncus effusus*) (FACW) and marsh purslane (*Ludwigia peploides*) (OBL). The bank of the perennial drainage was steeply incised with exposed roots extending into the stream channel. The banks of the perennial drainage were dominated by Fremont cottonwood stumps that were resprouting and recently mowed Himalayan blackberry.

5.1 POTENTIAL WATERS OF THE U.S.

A total of 6.394 acres of aquatic resources have been mapped within the Study Area. Aquatic resources in the Study Area consist entirely of the San Joaquin River, a perennial drainage. The San Joaquin River is a traditional navigable water that supports foreign and interstate commerce and provides access to the Stockton Deepwater Ship Channel and the Port of Stockton; therefore, a total of 6.394 acres of the San Joaquin River are waters of the U.S. within the Study Area.

5.2 POTENTIAL WATERS OF THE STATE

A total of 6.394 acres of aquatic resources have been mapped within the Study Area, consisting of the San Joaquin River. The San Joaquin River is a waters of the U.S., therefore it is a waters of the State.

5.3 SUMMARY

HELIX conducted an aquatic resources delineation of the ±10.00-acre Study Area for the Camp Gold Star Project located west the City of Stockton, in San Joaquin County, California. A total of 6.394 acres of aquatic resources have been delineated in the Study Area. Aquatic resources delineated within the Study Area consist of the San Joaquin River (6.394 acres and 1,495 linear feet). The San Joaquin River will qualify as waters of the U.S. and State and is subject to Section 10 of the Rivers and Harbors Act if impacted. This aquatic resource delineation represents a calculated estimation of the extent of aquatic resources within the Study Area and is subject to modification following USACE review and/or the verification process.

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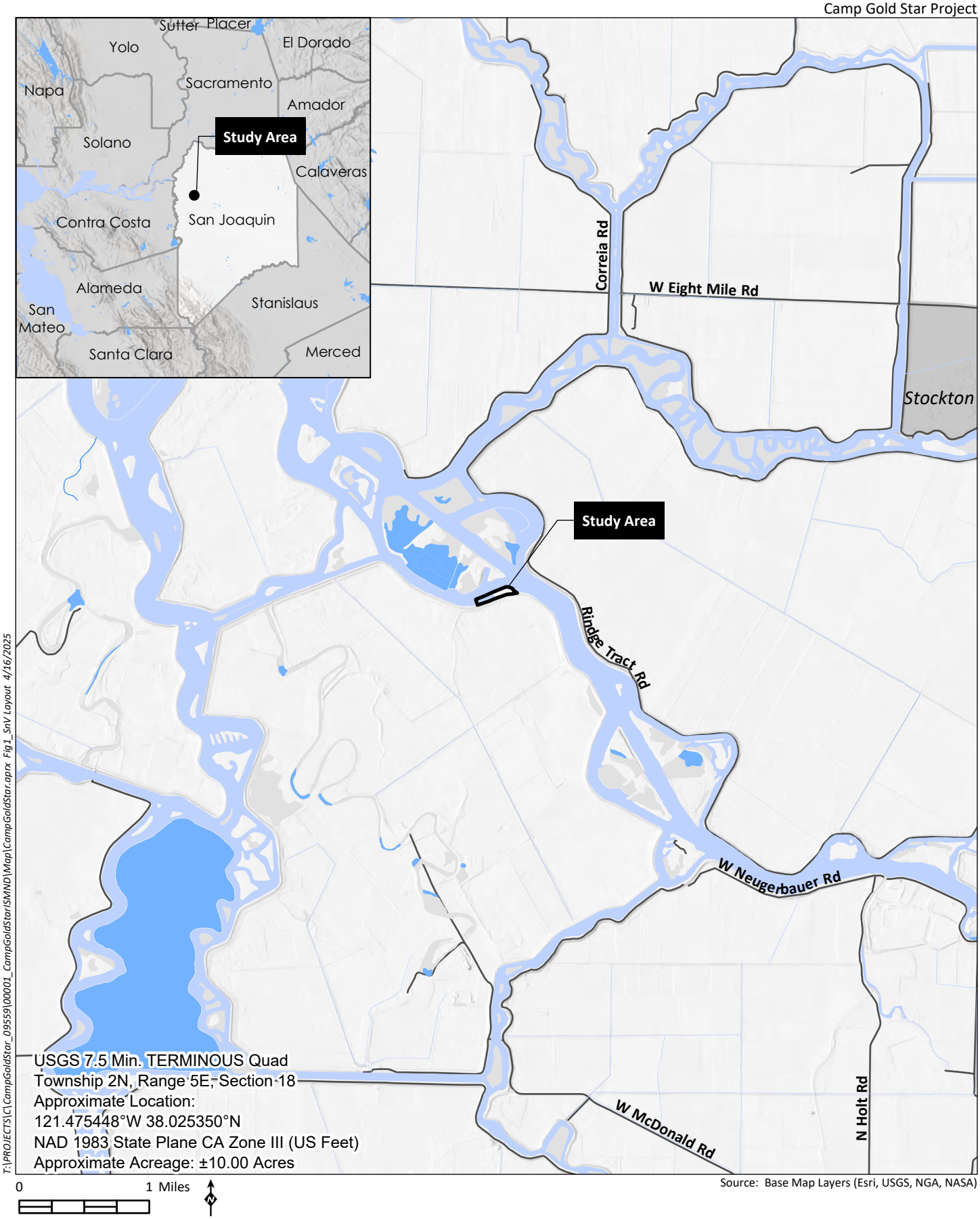
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Appendix A

Figures

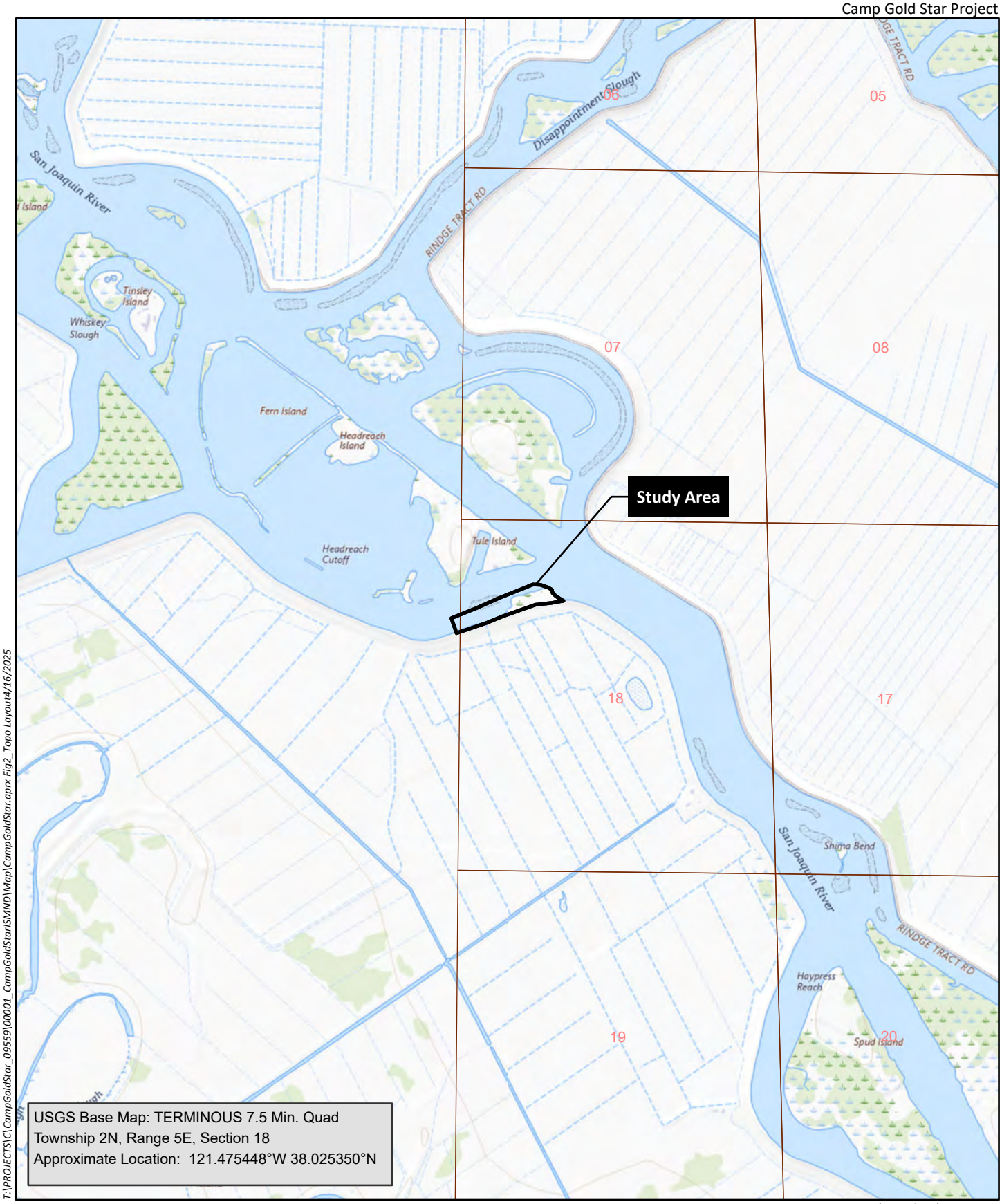


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HELIX Environmental Planning

Site and Vicinity Map

Figure 1



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Source: USGS, The National Map, 2025

HELIX Environmental Planning

USGS Topographic Map

Figure 2



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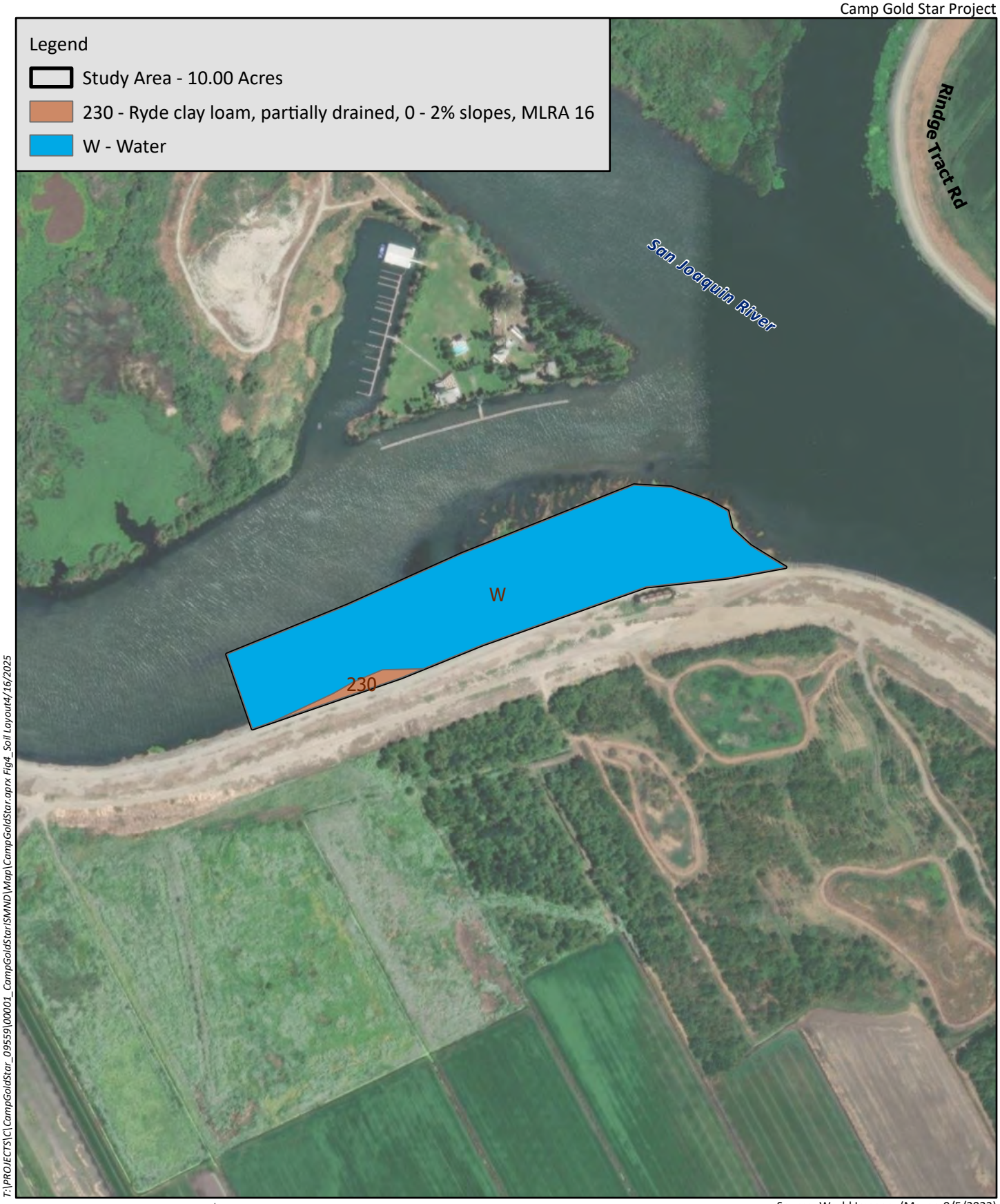
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Source: World Imagery (Maxar, 9/5/2022)

HELIX Environmental Planning

Aerial Map

Figure 3



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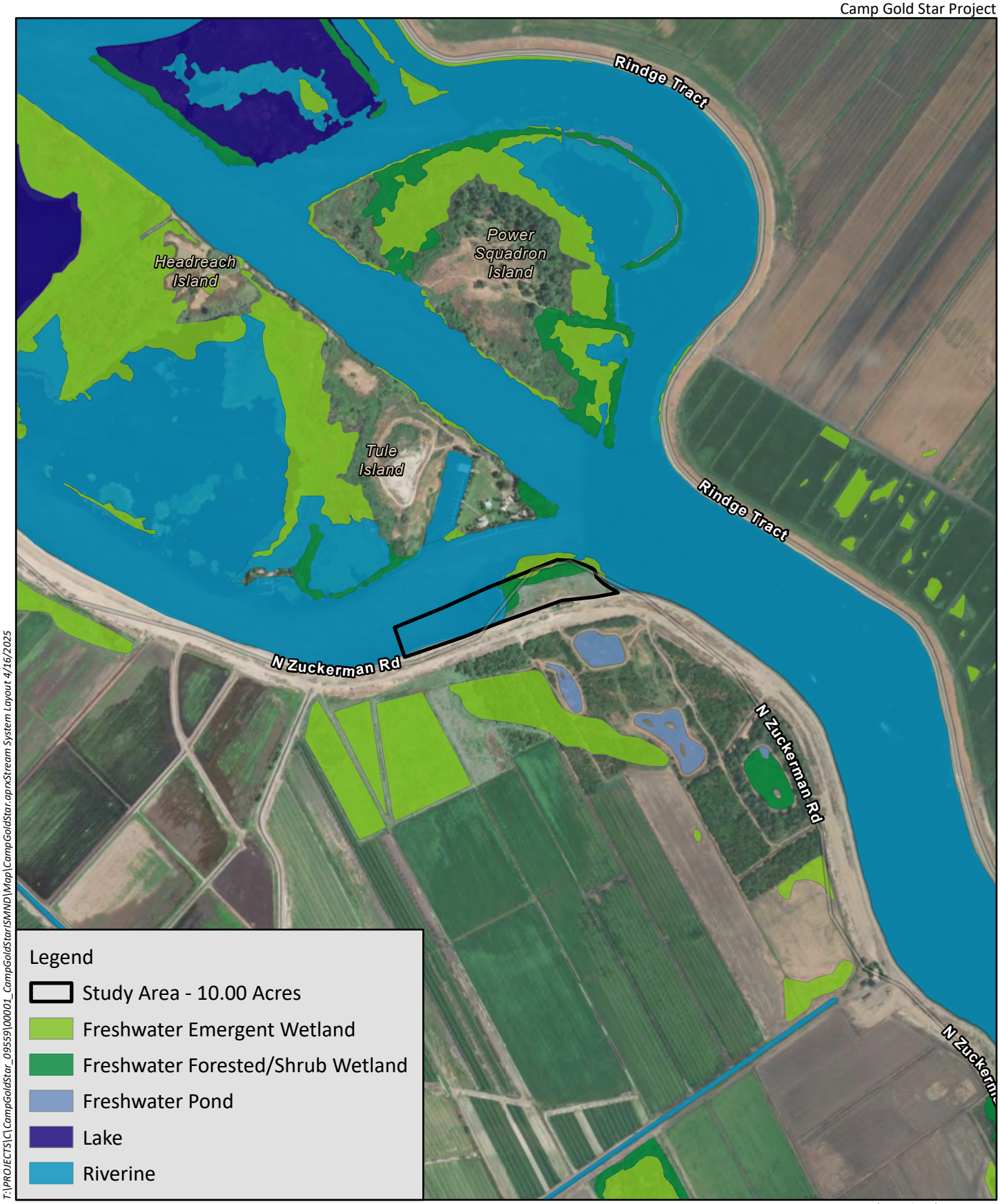
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Source: World Imagery (Maxar, 9/5/2022)

HELIX Environmental Planning

Soils Map

Figure 4



Source: USGS 2025, The National Map, 2025

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HELIX Environmental Planning

National Wetland Inventory Map

Figure 5

Appendix B

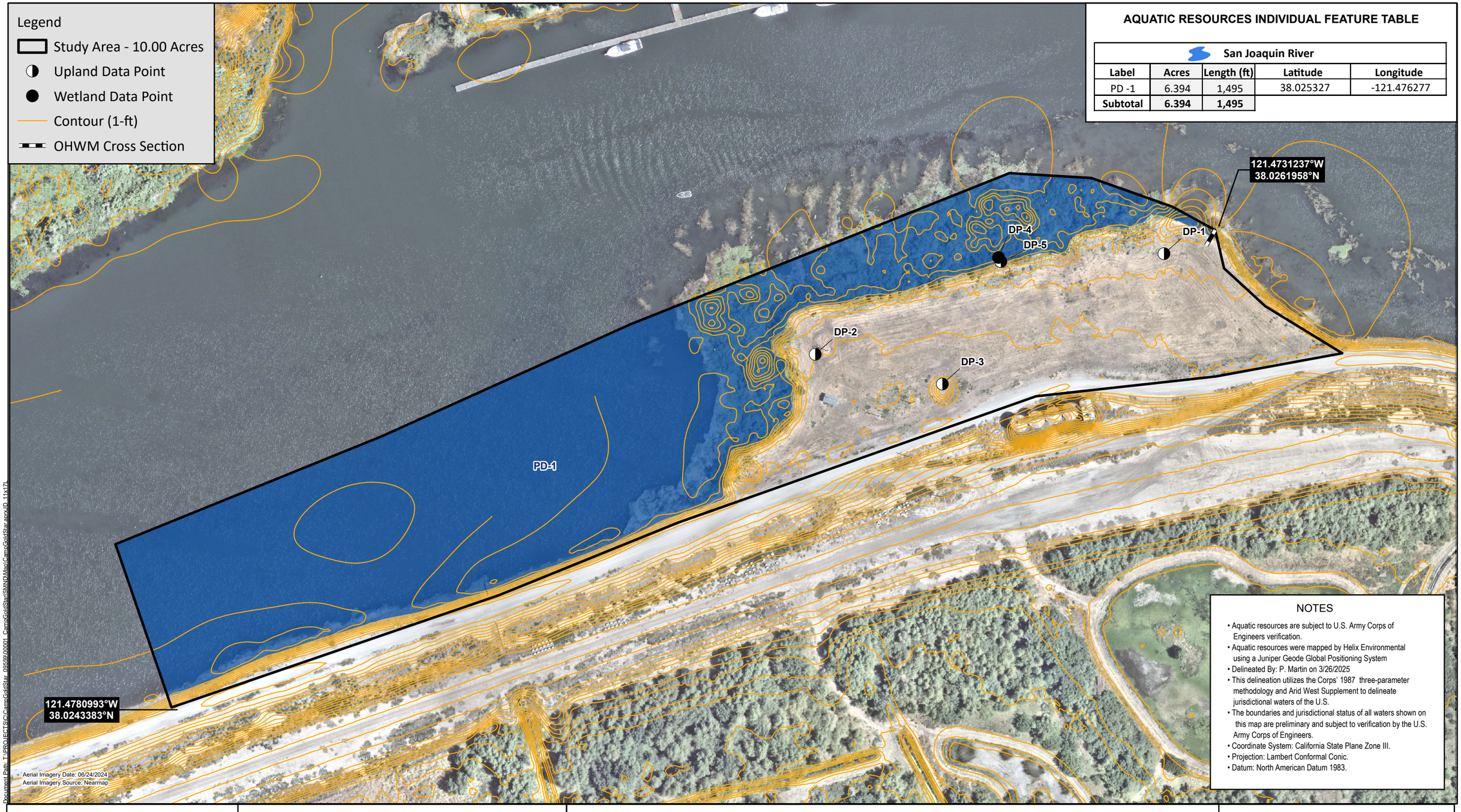
Aquatic Resources Delineation Map

Legend

- Study Area - 10.00 Acres
- Upland Data Point
- Wetland Data Point
- Contour (1-ft)
- OHWM Cross Section

AQUATIC RESOURCES INDIVIDUAL FEATURE TABLE

San Joaquin River				
Label	**Acres**	**Length (ft)**	**Latitude**	**Longitude**
PD -1	6.394	1,495	38.025327	-121.476277
Subtotal	**6.394**	**1,495**		



NOTES

- Aquatic resources are subject to U.S. Army Corps of Engineers verification.
- Aquatic resources were mapped by Helix Environmental using a Juniper Geode Global Positioning System
- Delineated By: P. Martin on 3/26/2025
- This delineation utilizes the Corps' 1987 three-parameter methodology and Arid West Supplement to delineate jurisdictional waters of the U.S.
- The boundaries and jurisdictional status of all waters shown on this map are preliminary and subject to verification by the U.S. Army Corps of Engineers.
- Coordinate System: California State Plane Zone III.
- Projection: Lambert Conformal Conic.
- Datum: North American Datum 1983.

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HELIX Environmental Planning

USACE REGULATORY FILE #:
VERIFIED BY: TBD
DATE OF VERIFICATION: TBD

REVISIONS

DATE	DESCRIPTION	BY

0 125 250
Feet
1 inch = 125 feet

N

AQUATIC RESOURCES DELINEATION MAP

Camp Gold Star

San Joaquin County, California

April 7, 2025

APPENDIX B

Appendix C

Plant Species Observed in the Study Area

Family	Species Name	Common Name	Rating*
Native			
Asteraceae	*Artemisia douglasiana*	California mugwort	FAC
Athyrium	*Athyrium filix-femina*	common ladyfern	--
Boraginaceae	*Amsinckia menziesii*	fiddleneck	--
Cornaceae	*Cornus sericea (=alba)*	red osier dogwood	FACW
Cyperaceae	*Cyperus eragrostis*	tall flatsedge	FACW
	Schoenoplectus californicus	California bulrush	OBL
Juncaceae	*Juncus effusus*	bog rush	FACW
Rosaceae	*Rubus ursinus*	California blackberry	FAC
Salicaceae	*Populus fremontii*	Fremont cottonwood	FACW
	Salix exigua	narrowleaf willow	FACW
	Salix lasiandra	Pacific willow	FACW
	Salix lasiolepis	arroyo willow	FACW
Saprindaceae	*Acer negundo*	box elder	FACW
Urticaceae	*Urtica dioica*	stinging nettle	FAC
Viburnaceae	*Sambucus mexicana (=nigra)*	blue elderberry	FACU
Non-native			
Apiaceae	*Anthriscus caucalis*	bur parsley	--
	Conium maculatum	poison hemlock	FACW
Asteraceae	*Silybum marianum*	milk thistle	--
Brassicaceae	*Brassica rapa*	field mustard	FACU
	Raphanus sativus	jointed charlock	--
Iridaceae	*Iris pseudacorus*	yellowflag iris	OBL
Onagraceae	*Ludwigia peploides*	marsh purslane	OBL
Poaceae	*Bromus diandrus*	common ripgut grass	--
	Bromus hordeaceus	soft brome	FACU
	Cortadeeria selloana	pampas grass	FACU
	Cynodon dactylon	bermuda grass	FACU
	Festuca perennis	Italian ryegrass	FAC
	Sorghum halepense	johnsongrass	FACU
	Hordeum murinum	foxtail barley	FACU
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	FAC

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U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2022 Regional Wetland Plant List* (USACE 2023)

* FAC – facultative, FACU – facultative upland, FACW – facultative wetland, OBL – obligate, -- Not Listed, considered to be upland.

Appendix D

Representative Site Photographs



Photograph 1: View of the location of Sample Point 1 in ruderal land on the eastern side of the Study Area. Photographer: Patrick Martin.
Date: March 26, 2025.



Photograph 2: View of the location of Sample Point 2 in ruderal land on the western side of the Study Area. Photographer: Patrick Martin.
Date: March 26, 2025.

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Photograph 3: View of the location of Sample Point 3 in ruderal land within the central area of the Study Area. Photographer: Patrick Martin. Date: March 26, 2025.



Photograph 4: View of the location of Sample Point 4 in the forested area of the San Joaquin RIver. Photographer: Patrick Martin. Date: March 26, 2025.

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Photograph 5: View of the location of Sample Point 5 along the upland banks of the San Joaquin River. Photographer: Patrick Martin. Date: March 26, 2025.



Photograph 6: View of the location of the Ordinary High Water Mark Sample Point 1 located along the southern shore of the San Joaquin River on the eastern side of the Study Area. Photographer: Patrick Martin. Date: March 26, 2025.

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Photograph 7: View of the San Joaquin River with watermarks and drift deposits present on a pipe and along the levee. Photographer: Patrick Martin. Date: March 26, 2025.



Photograph 8: View of a small structure in the ruderal area of the Study Area above the San Joaquin River. Photographer: Patrick Martin. Date: March 26, 2025.

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Appendix E

Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Camp Gold Star City/County: San Joaquin County Sampling Date: 3/26/2025

Applicant/Owner: Frank Morgan State: CA Sampling Point: 1

Investigator(s): P. Martin Section, Township, Range: Section 18, Township 2 North, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): C Lat: 38.026086 Long: -121.473395 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Elevated area is level with the levee and levee road, with elevations ranging from approximately 10-12 feet above mean sea level. There is no indication of flooding or long duration inundation. No aerial imagery shows the site flooded.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Conium maculatum	25	Y	FACW
2. Hordeum murinum	15	Y	FACU
3. Raphanus sativus	10	Y	--
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Vegetation was mowed recently, however new growth is easily identifiable.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/2	100					silt loam	site consists of fill material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): None

Hydric Soil Present? Yes _____ No ✔

Remarks:

Site consists of fill material as seen on aerial imagery from 1957.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Camp Gold Star City/County: San Joaquin County Sampling Date: 3/26/2025

Applicant/Owner: Frank Morgan State: CA Sampling Point: 2

Investigator(s): P. Martin Section, Township, Range: Section 18, Township 2 North, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): C Lat: 38.025692 Long: -121.475054 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Elevated area is level with the levee and levee road, with elevations ranging from approximately 10-12 feet above mean sea level. There is no indication of flooding or long duration inundation. No aerial imagery shows the site flooded. Small structure and electrical utilities are at level ground with this data point and show no wetland hydrology indicators of flooding.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Conium maculatum	30	Y	FACW
2. Hordeum murinum	5	Y	FACU
3. Raphanus sativus	15	Y	--
4. Anthriscus caucalis	5	N	--
5.			
6.			
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Vegetation was mowed recently, however new growth is easily identifiable.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/2	100					silt loam	site consists of fill material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): None

Hydric Soil Present? Yes ____ No ✔

Remarks:

Site consists of fill material as seen on aerial imagery from 1957. No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): ____

Water Table Present? Yes ____ No ✔ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected. No watermarks on adjacent structures or utility poles. If this location flooded frequently, the levee beyond the site would breach.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Camp Gold Star City/County: San Joaquin County Sampling Date: 3/26/2025

Applicant/Owner: Frank Morgan State: CA Sampling Point: 3

Investigator(s): P. Martin Section, Township, Range: Section 18, Township 2 North, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C Lat: 38.025585 Long: -121.474446 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Elevated area is level with the levee and levee road, with elevations ranging from approximately 10-12 feet above mean sea level. There is no indication of flooding or long duration inundation. No aerial imagery shows the site flooded. Small structure and electrical utilities are at level ground with this data point and show no wetland hydrology indicators of flooding. Slight depression at this location.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Conium maculatum	15	Y	FACW
2. Brassica rapa	10	N	FACU
3. Raphanus sativus	20	Y	--
4. Silybum marianum	15	Y	--
5.			
6.			
7.			
8.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Vegetation was mowed recently, however new growth is easily identifiable.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/2	100					silt loam	site consists of fill material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): None

Hydric Soil Present? Yes _____ No ✔

Remarks:

Site consists of fill material as seen on aerial imagery from 1957. No hydric soil indicators detected.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected. No watermarks on adjacent structures or utility poles. If this location flooded frequently, the levee beyond the site would breach.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Camp Gold Star City/County: San Joaquin County Sampling Date: 3/26/2025

Applicant/Owner: Frank Morgan State: CA Sampling Point: 4

Investigator(s): P. Martin Section, Township, Range: Section 18, Township 2 North, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C Lat: 38.026065 Long: -121.474184 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: PSS1S

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Perennial marsh wetland within the ordinary high water mark of the San Joaquin River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiandra	30	Y	FACW
2.			
3.			
4.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Schoenoplectus californicus	10	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Dense riparian vegetation.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10 YR 2/1	100					organic	organic material/muck

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ✔ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): None

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Soil consists entirely of organic soil, which consists of sapric material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ✔ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soil is saturated and glistening with a shallow water table approximately 3 inches below the surface. San Joaquin River at this location is tidally influenced, and data was collected at low tide.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Camp Gold Star City/County: San Joaquin County Sampling Date: 3/26/2025

Applicant/Owner: Frank Morgan State: CA Sampling Point: 5

Investigator(s): P. Martin Section, Township, Range: Section 18, Township 2 North, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C Lat: 38.026050 Long: -121.474173 Datum: NAD 83

Soil Map Unit Name: W - Water NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Data point is on bank of San Joaquin River and the side of the infill slope above the OHWM/mean high tide.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus armeniacus	30	Y	FAC
2.			
	30 = Total Cover		

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Vegetation was masticated recently, however the base of shrubs and new growth is visible. Herbaceous stratum is absent.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10 YR 2/1	100					organic	organic matter

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ✔ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): None

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Same soil as paired wetland data point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ___ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators detected. No watermarks on adjacent structures or utility poles. If this location flooded frequently, the levee beyond the site would breach. Soil is dry with no water table and is above the mean high tide.

U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires: 2027-09-30

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: 09559.00001.001	Site Name: Camp Gold Star Project	Date and Time: March 26, 2025
Location (lat/long): 38.026162/-121.473156	Investigator(s): P. Martin	

Step 1 Site overview from remote and online resources.
Check boxes for online resources used to evaluate site:

- [ ] gage data
- [x] LiDAR
- [ ] geologic maps
- [ ] climatic data
- [x] satellite imagery
- [ ] land use maps
- [x] aerial photos
- [x] topographic maps
- [ ] Other: _____

Describe land use and flow conditions from online resources.
Were there any recent extreme events (floods or drought)?

The 2024/2025 rain year represents a normal to above average rain year with no extreme events. The land use of the Study Area is ruderal and vacant lot on imported fill that has been in place since before 1957. The San Joaquin River is located on the Stockton Deepwater Ship Channel used for foreign and interstate commerce. The area also supports recreational activities and the surrounding areas is used for agriculture.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or human-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls, etc.

There is an abrupt break in bank slope from ruderal areas to the San Joaquin River. There is no indication that the river floods above the bank. San Joaquin River in the Study Area includes open water, fresh emergent wetland vegetation along the riprap lined levee and forested fresh emergent wetland vegetation within the ordinary high water mark. The San Joaquin River in this location also appears to be tidal. The ruderal area represented the high ground of the Study Area is level with the top of the levee.

Step 3 Mark the boxes next to the indicators used to help identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators used to identify the location of the OHWM may be just below or above the OHWM. Make a slash in boxes next to indicators that are helpful in identifying the OHWM. After the initial assessment, those indicators identified at the OHWM elevation should be changed from slashes to x's. Note, it is not necessary to mark indicators that are present but do not help inform identification of the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and attach a photo log.

Geomorphic indicators

- [x] **Break in slope**
  - [x] *on the bank*
  - [x] *undercut bank*
  - [ ] *valley bottom*
  - [ ] Other: _____
- [ ] **Shelving**
  - [ ] *shelf at top of bank*
  - [ ] *natural levee*
  - [x] *human-made berms or levees*
  - [ ] *other berms:* _____
- [ ] **Secondary channels**
- [ ] **Channel bar**
  - [ ] *shelving (berms) on bar*
  - [ ] *unvegetated*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar*
- [ ] **Instream bedforms and other bedload transport evidence**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., pools, riffles, steps, etc.)*
  - [ ] *Weathered clasts or bedrock*
  - [ ] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*

Sediment indicators

- [x] **Soil development**
- [x] **Changes in character of soil**
- [ ] **Mudcracks**
- [x] **Changes in particle-sized distribution**
  - [x] *transition from* silt to mucky peat
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits*

Vegetation indicators (*Consider the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain*)

- [x] **Change in vegetation type from** _____ **to** _____
- [x] **Change in density of vegetation**
- [x] **Exposed roots below intact soil layer**
- [x] **Vegetation matted down and/or bent**
- [ ] **Other vegetation observations**

Transitions to from upland ruderal vegetation to wetland vegetation in the San Joaquin River. See Sample Point 4.

Other physical indicators

- [x] **Sediment deposited on vegetation or structures**
- [x] **Wracking/presence of organic litter**
- [x] **Presence of large wood**
- [x] **Leaf litter disturbed or washed away**
- [x] **Water staining**

Other observed indicators? Describe:

Vegetation within the San Joaquin River consists of fresh emergent wetland species and forested fresh emergent wetland species, which are also documented in Sample Point 4. Sample Point 4 meets wetland criteria, but is located within the ordinary high water mark of the San Joaquin River. Soil at Sample Point 4 consists entirely of muck and mucky-peat.

Project ID #: 09559.00001.001

Step 4 Was additional information used to support identification of the OHWM? ☒ Yes ☐ No

If yes, describe and attach information to data sheet:

Lidar data was used to verify GPS data collected in the field.

Step 5 Is an OHWM present at this site? ☒ Yes ☐ No

Describe rationale for location of OHWM or lack thereof by describing any observed indicators (at, above, and/or below the OHWM location).

Break in bankslope, change in vegetation, change in soil composition, presence of drift deposits that includes large wood, garbage. Watermarks are also present on a gas pipeline, riprap. Watermarks are absent from the ruderal areas with utility poles and a small structure.

Additional observations or notes

Attach an imagery log of the site.

Imagery log attached? ☐ Yes ☒ No If no, explain why not: See Representative Photograph Appendix E pictures 4, 6, 7.

List photographs, or other imagery/sketches, and include descriptions in the table below.

Number photographs in the order that they are taken. Attach imagery and include annotations of features.

Imagery Number	Imagery description

OHWM Field Identification Data Sheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources (Chapter 5) **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on data sheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape. (Chapter 4)

a. **Note on the data sheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
   iii. Erosional and depositional environments
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence) (Chapter 1 and 3)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious human-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the data sheet,** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence (Chapter 2 and 3)

Assemble evidence by marking each box with a slash next to each line of evidence.

If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation indicators**	**Other physical indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?		Is there vegetation growing on the channel bed?	
Is there an easily identifiable top of bank?	Are there mudcracks present?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there any leaf litter disturbed or washed away?
Are the banks actively eroding?			
Are the banks undercut?	Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation?	Is there large wood deposition?
Are the banks armored?			
Is the channel confined by the surrounding hillslopes?		Is the vegetation tolerant of flowing water?	Is there evidence of water staining?
Are there natural or man-made berms and levees?		Has any vegetation been flattened by flowing water?	
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?

Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

OHWM Field Identification Data Sheet Instructions and Field Procedure

Step 3b Weight each line of evidence (Chapter 1 and 3)

Consider importance of each indicator by assessing the following:

a. Relevance:

i. Is this indicator left by low, high, or extreme flows? Did recent extreme events and/or land use affect this indicator?

ii. Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages?

iii. Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low-flow indicator. The difference between high-and extreme-flow indicators can sometimes be difficult to determine.

iv. Recent floods may have left many extreme-flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.

v. Droughts may cause field evidence of OHWM to be obscured because there has been an extended time since the last high-flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.

vi. Both human-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provide specific case-studies that can help in interpreting evidence at these sites.

***Landscape context from Step 1 (Chapter 4) can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***In Chapter 2 of the OHWM field manual provides information on specific indicators that can assist in putting these in context and determining relevance, strength, and reliability.**

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describe each indicator in detail and provide examples of areas where indicators are difficult to interpret.

Step 4 Was additional information used to support identification of the OHWM? Are other resources used to support the lines of evidence observed in the field?

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling and weighting evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were used to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the data sheet.

Step 5 Describe rationale for location of OHWM: (Chapter 1 and Chapter 3)

a. Weigh body of evidence:

Combine information from Step 3b: Why do the combination of indicators represent the OHWM?

i. Integrate the lines of evidence (relevance, strength, and reliability) of each indicator.

ii. Consider which indicators are high value indicators that co-occur along the stream reach. Which indicators are most relevant to identifying high flow elevations, which are most persistent across the landscape, and which are most persistent over time?

iii. Which indicators that are found above and below the location of the OHWM were helpful in identifying the elevation of the OHWM?

b. If there is more than one possible location, explain why, Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the data sheet under Step 5 or attach additional sketches and field observations to the data sheet.

d. Take photographs of indicators and attach an imagery log using page 2 of data sheet or another method of logging images.

i. Annotate images with descriptions of indicators.

Appendix E

Biological Database Queries

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Terminous (3812114) OR Bouldin Island (3812115) OR Isleton (3812125) OR Thornton (3812124) OR Lodi North (3812123) OR Lodi South (3812113) OR Stockton West (3712183) OR Holt (3712184) OR Woodward Island (3712185))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G4	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Brasenia schreberi watershield	PDCAB01010	None	None	G5	S3	2B.3
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Eucerceris ruficeps redheaded sphecid wasp	IIHYM18010	None	None	G1G3	S2	
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10030	None	None	G5	S2	2B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	G3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Potamogeton zosteriformis eel-grass pondweed	PMPOT03160	None	None	G5	S3	2B.2
Rana boylii pop. 5 foothill yellow-legged frog - south Sierra DPS	AAABH01055	Endangered	Endangered	G3T2	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Scutellaria galericulata marsh skullcap	PDLAM1U0J0	None	None	G5	S2	2B.2
Scutellaria lateriflora side-flowering skullcap	PDLAM1U0Q0	None	None	G5	S1S2	2B.2
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Spirinchus thaleichthys pop. 2 longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
Sylvilagus bachmani riparius riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S2	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S3	

Record Count: 54

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
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In Reply Refer To: 04/09/2025 17:43:49 UTC
Project Code: 2025-0081033
Project Name: Camp Gold Star

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed, and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/program/eagle-management/working-around-eagles). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/node/266177) for minimizing impacts to migratory birds and

bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation; and http://www.towerkill.com.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

PROJECT SUMMARY

Project Code: 2025-0081033
Project Name: Camp Gold Star
Project Type: Boatlift/Boathouse/Dock/Pier/Piles - New Construction
Project Description: Private development.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.0253938,-121.47470966516526,14z



Counties: San Joaquin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Riparian Brush Rabbit *Sylvilagus bachmani riparius* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6189	Endangered

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

FISHES

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Endangered
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.	Proposed Threatened

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/9743	
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Large-flowered Fiddleneck *Amsinckia grandiflora* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5558	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

IPAC USER CONTACT INFORMATION

Agency:	HELIX Environmental Planning Inc.
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CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

1 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [**1A:1B:2A:2B:3**] , Fed List is one of [**FE:FT:FC**] **and** State List is one of [**CE:CT:CR:CC**] , 9-Quad include [**3812123:3812124:3812125:3712183:3812113:3712185:3812115:3812114:3712184**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available

Showing 1 to 1 of 1 entries

Go to top

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 9 April 2025].

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An official website of the United States government Here's how you know

NOAA FISHERIES

Species Directory

All Species | **ESA Threatened & Endangered** | Marine Mammals | Sustainable Seafood

ESA Threatened & Endangered

NOAA Fisheries has jurisdiction over 165 endangered and threatened marine species (80 endangered; 85 threatened), including 66 foreign species (40 endangered; 26 threatened).

Additional species are currently under review or have been proposed for Endangered Species Act listing: 42 petitioned species awaiting a 90-day finding, 9 candidate species for ESA listing, 11 proposed species for ESA listing.

In the table below, the Region column shows if the species can be found in a NOAA Fisheries region. If the species occurs only in areas beyond the U.S. exclusive economic zone and territorial waters, the region is labeled as Foreign.

Species Name

Species Category

Fish & Sharks

Protected Status

All

Region

West Coast

Display

All

Display All

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Bocaccio (Protected) *Sebastes paucispinis* **Also Known As** Bocaccio, Rock Salmon, Salmon Rockfish, Pacific Red Snapper, Pacific Snapper, Oregon Red Snapper, Oregon Snapper, Longjaw, Merou, Jack, Snapper, Rock Cod, Rockfish	**SPECIES CATEGORY** Fish - Groundfish - Protected Fish	Puget Sound/Georgia Basin DPS	ESA Endangered	2010	Final	FInal	Alaska West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Chinook Salmon (Protected) *Oncorhynchus tshawytscha*	**SPECIES CATEGORY** Fish - Protected Fish	Sacramento River winter-run	ESA Endangered	1994	Final	Final	Alaska West Coast
		Upper Columbia River spring-run	ESA Endangered	1999	Final	Final	Alaska West Coast
		California coastal	ESA Threatened	1999	Final	Final	Alaska West Coast
		Central Valley spring-run	ESA Threatened	1999	Final	Final	Alaska West Coast
		Lower Columbia River	ESA Threatened	1999	Final	Final	Alaska West Coast
		Puget Sound	ESA Threatened	1999	Final	Final	Alaska West Coast
		Snake River fall-run	ESA Threatened	1992	Final	Final	Alaska West Coast
		Snake River spring/summer-run	ESA Threatened	1992	Final	Final	Alaska West Coast
		Upper Willamette River	ESA Threatened	2005	Final	Final	Alaska West Coast
		Central Valley spring-run in the San Joaquin River XN	ESA Experimental Population	---	---	---	Alaska West Coast
		Upper Columbia River spring-run in the Okanogan River subbasin XN	ESA Experimental Population	---	---	---	Alaska West Coast
		Central Valley spring-	ESA Experimental	---	---	---	West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
		run XN Shasta	Population				
		Sacramento winter-run XN Shasta	ESA Experimental Population	---	---	---	West Coast
		Central Valley spring-run XN Yuba	ESA Experimental Population	---	---	---	West Coast
		Upper Klamath-Trinity River	ESA Candidate	---	---	---	Alaska West Coast
		Oregon Coast	ESA Candidate	---	---	---	West Coast
		Southern Oregon and Northern California Coastal	ESA Candidate	---	---	---	West Coast
Chum Salmon (Protected) *Oncorhynchus keta*	**SPECIES CATEGORY** Fish - Protected Fish	Columbia River ESU	ESA Threatened	1999	Final	Final	Alaska West Coast
		Hood Canal summer-run ESU	ESA Threatened	1999	Final	Final	Alaska West Coast
Coho Salmon (Protected) *Oncorhynchus kisutch*	**SPECIES CATEGORY** Fish - Protected Fish	Central California Coast ESU	ESA Endangered	2005; 1996 (original)	Final	Final	Alaska West Coast
		Lower Columbia River ESU	ESA Threatened	2005	Final	Final	Alaska West Coast
		Oregon coast ESU	ESA Threatened	2008	Final	Final	Alaska West Coast
		Southern Oregon & Northern California coasts ESU	ESA Threatened	1997	Final	Final	Alaska West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Eulachon *Thaleichthys pacificus*	**SPECIES CATEGORY** Fish - Protected Fish	Southern DPS	ESA Threatened	2010	Final	Final	Alaska West Coast
Green Sturgeon *Acipenser medirostris*	**SPECIES CATEGORY** Fish - Protected Fish	Southern DPS	ESA Threatened	2006	Final	Final	Alaska West Coast
Oceanic Whitetip Shark *Carcharhinus longimanus*	**SPECIES CATEGORY** Fish - Highly Migratory Fish - Protected Fish - Sharks	Species	ESA Threatened	2018	Final	Not Prudent	New England/Mid-Atlantic Pacific Islands Southeast West Coast
Scalloped Hammerhead Shark *Sphyrna lewini*	**SPECIES CATEGORY** Fish - Highly Migratory Fish - Protected Fish - Sharks	Eastern Pacific DPS	ESA Endangered	2014	---	No	West Coast
		Eastern Atlantic DPS	ESA Endangered - Foreign	2014	---	---	Foreign
		Central & Southwest Atlantic DPS	ESA Threatened	2014	---	No	Southeast
		Indo-West Pacific DPS	ESA Threatened	2014	---	No	Pacific Islands
Sockeye Salmon (Protected) *Oncorhynchus nerka*	**SPECIES CATEGORY** Fish - Protected Fish	Snake River ESU	ESA Endangered	1991	Final	Final	Alaska West Coast
		Ozette Lake ESU	ESA Threatened	1999	Final	Final	Alaska West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Steelhead Trout *Oncorhynchus mykiss*	**SPECIES CATEGORY** Fish - Protected Fish	Southern California DPS	ESA Endangered	1997	Final	Final	Alaska West Coast
		California Central Valley DPS	ESA Threatened	1998	Final	Final	Alaska West Coast
		Central California Coast DPS	ESA Threatened	1997	Final	Final	Alaska West Coast
		Lower Columbia River DPS	ESA Threatened	1998	Final	Final	Alaska West Coast
		Middle Columbia River	ESA Threatened	1999	Final	Final	Alaska West Coast
		Northern California DPS	ESA Threatened	2000	Final	Final	Alaska West Coast
		Puget Sound DPS	ESA Threatened	2007	Final	Final	Alaska West Coast
		Snake River Basin DPS	ESA Threatened	2006	Final	Final	Alaska West Coast
		South-Central California Coast DPS	ESA Threatened	1997	Final	Final	Alaska West Coast
		Upper Columbia River DPS	ESA Threatened	2006; 1997 (original)	Final	Final	Alaska West Coast
		Upper Willamette River DPS	ESA Threatened	1999	Final	Final	Alaska West Coast
		Middle Columbia River XN	ESA Experimental Population	---	---	---	Alaska West Coast
		Olympic Peninsula DPS	ESA Candidate	---	---	---	West Coast

Species Name ▼	Species Category	Listed Entity	Protected Status	Year Listed	Recovery Plan	Critical Habitat	Region
Yelloweye Rockfish *Sebastes ruberrimus*	**SPECIES CATEGORY** Fish - Protected Fish	Puget Sound/ Georgia Basin DPS	ESA Threatened	2010	Final	Final	Alaska West Coast

Appendix F

Special-Status Species Potential to Occur Table

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Plants			
Amsinckia grandiflora large-flowered fiddleneck	FE/SE/1B.1	An annual herb found on hilly grasslands at lower elevations in clay-rich soil. This species is often found on steep, north-facing slopes that are in shaded terrain and remain moist for longer periods (USFWS 2025a).	**No Potential.** Grassland habitat does not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Astragalus tener var. *tener* alkali milk-vetch	--/--/1B.1	An annual herb found in alkali flats and seasonally flooded environments. Within those lands, this species occurs in vernal pools, playas, and annual grasslands from 0 – 170 meters elevation. This species blooms from March – June (CNPS 2025).	**No Potential.** Alkali flats and seasonally flooded lands do not occur in the project area and suitable habitat types are also absent. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Atriplex cordulata var. *cordulata* heartscale	--/--/1B.2	An annual herb found in chenopod scrub, grassland, meadow, and seep habitats. This species typically occurs in alkaline areas with sandy soils and is found from 3 – 275 meters elevation. This species blooms from April – October (CNPS 2025).	**No Potential.** Alkaline areas and sandy soils do not occur in the project area and suitable habitat types are also absent. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Blepharizonia plumosa big tarplant	--/--/1B.1	An annual herb found in annual grassland habitats, usually on slopes and burned areas with clay to clay-loam soils. This species occurs from 60 – 505 meters elevation and blooms from July – October (CNPS 2025).	**No Potential.** Annual grassland habitat does not occur in the project area and the project is below the known elevational range of this species. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Brasenia schreberi watershield	--/--/2B.3	A perennial herb found in freshwater marshes, swamps, wetlands, ponds, lakes, and artificial waterbodies from 1 – 2,180 meters elevation. This species blooms from June – September (CNPS 2025).	**No Potential.** This species is not known to occur in river systems such as the San Joaquin River and requires still, or nearly still water. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Carex comosa bristly sedge	--/--/2B.1	A perennial rhizomatous herb found in wet areas of coastal prairies, lake margins, marshes, and mesic valley and foothill grasslands from 0 to 1,010 meters elevation. This species blooms from May - September (CNPS 2025).	**Low Potential.** This species could occur along the bank of San Joaquin River; however, it was not observed during the field survey when it likely would have been identifiable. The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Chloropyron molle ssp. *hispidum*	--/--/1B.1	An annual hemi-parasitic herb found on alkaline soils in meadows, seeps, playas, and valley and foothill	**No Potential.** Alkaline soils and suitable habitats do not occur in the project area.

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
hispid salty bird's-beak		grasslands from 5 – 155 meters elevation. This species blooms from June – September (CNPS 2024).	There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Cicuta maculata var. *bolanderi* Bolander's water-hemlock	--/--/2B.1	A perennial herb that occurs in fresh or brackish marsh and swamp habitats from 0 to 20 meters elevation. This species may also occur in salt marsh habitat. This species blooms from July - September (CNPS 2025).	**No Potential.** Marsh, swamp, and salt marsh habitats are absent from the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Eryngium racemosum Delta button-celery	--/SE/1B.1	An annual herb that occurs in seasonally flooded lands and alkali sinks, typically riparian scrub, vernal pools, and wetlands. This species occurs on clay soils from 1 – 335 meters elevation and blooms from June – October (CNPS 2025).	**No Potential.** Seasonally flooded land and alkaline sinks do not occur in the project area and other suitable habitat types are absent. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Extriplex joaquinana San Joaquin spearscale	--/--/1B.2	An annual herb that is endemic to California and is found in chenopod scrub, alkali meadows, playas, and valley and foothill grasslands from 0 to 800 meters elevation. This species is often found in seasonal alkali wetlands or alkali sink scrub and blooms from April – September (CNPS 2025).	**No Potential.** Chenopod scrub, alkaline habitats, playas, and grasslands do not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Hibiscus lasiocarpos var. *occidentalis* woolly rose-mallow	--/--/1B.2	A perennial, rhizomatous, emergent herb found in freshwater marshes and swamps from 0 to 155 meters elevation, often in riprap along levees. Moist, freshwater-soaked riverbanks and low peat islands in sloughs, especially in the California Delta, also provide suitable habitat for this species. This species blooms from June - September (CNPS 2025).	**Moderate Potential.** This species could occur along the bank of the San Joaquin River; however, it was not observed during the field survey when it likely would have been identifiable. The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. There are 31 documented occurrences of this species within five miles of the project area (CDFW 2025).
Lathyrus jepsonii var. *jepsonii* Delta tule pea	--/--/1B.2	A perennial herb primarily found in fresh and brackish marsh habitats from 0 – 5 meters elevation; and is also known to occur on slough edges. This species is commonly associated with *Typha* spp*., Aster lentus, Rosa californica*, *Juncus* spp., and *Scirpus* spp. This species blooms from May – July (CNPS 2025).	**Moderate Potential.** Marsh habitat does not occur in the project area but this species could occur along the bank of the San Joaquin River. The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. This species was not observed during the field survey when it likely would have been identifiable. There are four documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Legenere limosa legenere	--/--/1B.1	An annual herb found in vernal pools from 1 to 1,000 meters elevation. This species blooms from April - June (CNPS 2025).	**No Potential**. Vernal pools do not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Lilaeopsis masonii Mason's lilaeopsis	--/--/1B.1	A perennial, rhizomatous herb found in tidal zones of marshes, swamps, and riparian scrub from 0 to 10 meters elevation. Range is restricted to the Delta, Suisun Bay, and San Pablo Bay. This species typically occurs in muddy or silty soil formed through river deposition. This species blooms from April - November (CNPS 2025).	**Moderate Potential.** Marsh or swamp habitats do not occur in the project area but this species could occur along the bank of the San Joaquin River. The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. This species was not observed during the field survey when it likely would have been identifiable. There are 24 documented occurrences of this species within five miles of the project area (CDFW 2025).
Limosella australis Delta mudwort	--/--/2B.1	A perennial herb found in fresh or brackish marsh habitats of the Delta from 0 – 5 meters elevation. This species is usually found on muddy banks in marsh or scrub habitats with *Lilaeopsis masonii.* This species blooms in April (CNPS 2025).	**Moderate Potential.** Marsh or swamp habitats do not occur in the project area but this species could occur along the bank of the San Joaquin River. The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. This species was not observed during the field survey when it likely would have been identifiable. There are 10 documented occurrences of this species within five miles of the project area (CDFW 2025).
Potamogeton zosteriformis eel-grass pondweed	--/--/2B.2	An annual herb that occurs in freshwater marshes and swamps from 90 – 2,135 meters elevation. This species blooms from June – July (CNPS 2025).	**No Potential.** Marsh and swamp habitats are absent from the project area and the project area is below the known elevational range of this species. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Sagittaria sanfordii Sanford's arrowhead	--/--/1B.2	An emergent, perennial, rhizomatous herb found in standing or slow-moving freshwater marshes, ponds, sloughs, and ditches from 0 to 605 meters elevation. This species blooms from April - October (CNPS 2025).	**No Potential.** Standing or slow-moving water does not occur in the project area and suitable habitat types are absent. In addition, this species was not observed in the project area during the field survey when it would have been identifiable. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Scutellaria galericulata marsh skullcap	--/--/2B.2	A perennial herb that occurs in marsh, swamp, meadow, and seep habitats within lower montane coniferous forests and isolated populations in the Sacramento Valley from 0 to 1,950 meters elevation. This species blooms from June – September (CNPS 2025).	**No Potential.** Marsh, swamp, meadow, and seep habitats do not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Scutellaria lateriflora side-flowering skullcap	--/--/2B.2	A perennial herb found in marsh, swamp, and wet meadows from 0 to 500 meters elevation. This species is also sometimes found on logs and along riverbanks in the Delta. This species blooms from July – September (CNPS 2025).	**Moderate Potential.** Marsh, swamp, and meadow habitats do not occur in the project area but this species could occur along the bank of the San Joaquin River. The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. There is one documented occurrence of this species within five miles of the project area (CDFW 2025).
Symphyotrichum lentum Suisun Marsh aster	--/--/1B.2	A perennial herb found in fresh and brackish marsh habitats from 0 to 15 meters elevation. This species is also found in sloughs with *Phragmites* spp., *Scirpus* spp., and *Typha* spp. and blooms from May - November (CNPS 2025).	**High Potential.** Marsh habitat does not occur in the project area but this species could occur along the bank of the San Joaquin River. Suisun Marsh aster has been documented along the bank of the San Joaquin River upstream and downstream of the project area (CDFW 2025). The majority of the project area does not provide suitable habitat for this species as it is comprised of ruderal and open water habitats. There are 25 documented occurrences of this species within five miles of the project area (CDFW 2025).
Trifolium hydrophilum saline clover	--/--/1B.2	An annual herb found in vernal pools, marshes, swamps, and mesic, alkaline valley and foothill grasslands from 1 – 335 meters elevation. This species blooms from April – June (CNPS 2025).	**No Potential.** Vernal pools, marshes, swamps, and mesic, alkaline grasslands do not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Tropidocarpum capparideum caper-fruited tropidocarpum	--/--/1B.1	An annual herb found in valley and foothill grasslands with alkaline clay soils from 0 – 360 meters elevation. This species blooms from March – May (CNPS 2025).	**No Potential.** Grassland habitat does not occur in the project area and alkaline soils are absent. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Animals			
Invertebrates			
Bombus crotchii Crotch's bumble bee	--/SCE/--	This species occurs in grassland and scrub habitats. New colonies are initiated by solitary queens, generally in the early spring, which typically occupy abandoned rodent burrows (CDFW 2019). This species is a generalist forager and has been reported visiting a wide variety of flowering plants. The flight period for queens in California is from February to October. New queens hibernate over the winter and initiate a new colony the following spring. Crotch's bumble bees are rare throughout their range and are in decline in the Central Valley and southern California (CDFW 2019). The most current known range of this species follows a small strip from western Trinity County south to Tehama County, and along the entire Central Valley and coast south of Monterey to the southernmost portions of the State. The range is generally bound on the east by the high Sierra Nevada range and areas east of Bishop, Ridgecrest, and the Salton Sea (CDFW 2023).	**No Potential.** Grassland and scrub habitats do not occur in the project area. This species is currently rare across its range and is in decline in the Central Valley. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Branchinecta lynchi vernal pool fairy shrimp	FT/--/--	This species generally occurs in vernal pools but may also be found in seasonal wetlands, swales, and alkali pools. Typically found in turbid water but also occurs in clear water with abundant aquatic vegetation (CDFW 2025).	**No Potential.** Vernal pools and other potentially suitable aquatic habitats do not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Danaus plexippus pop. 1 monarch - California overwintering population	FCE/--/--	Overwintering populations of monarch butterflies roost in wind protected tree groves, especially *Eucalyptus* spp., and species of pine or cypress with nectar and water sources nearby. Winter roost sites extend along the coast from Mendocino County to Baja California. As caterpillars, monarchs feed exclusively on the leaves of milkweed (*Asclepias* sp.; Nial *et al*. 2019 and USFWS 2020). Monarch butterfly migration routes pass east over the Sierra Nevada in the fall and back to the California coast in the spring. The overwintering population is located along the California coast while	**Low Potential**. Plant species necessary for development were not observed in the Project area and the Project area is not located in a winter roost zone. Individual butterflies may pass through the Project area during migration but are not expected to be impacted by the project. There are no documented occurrences of this species within five miles of the Project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		summer breeding areas occur in interior California and North America with spring breeding areas located further east (USFWS 2020).	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/-- /SSHCP	This species depends on elderberry shrubs (*Sambucus* spp.) and typically occurs near rivers or streams. Stems at least a 1-inch diameter or greater are necessary for larvae and pupae development. Adults emerge in spring until early summer and exit holes are visible on shrub stems year-round (CDFW 2025).	**No Potential**. Elderberry shrubs currently do not occur in or adjacent to the project area. One large elderberry shrub was observed in the project area and was recently cut and destroyed prior to the field survey. There is no longer any suitable habitat for this species in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Lepidurus packardi vernal pool tadpole shrimp	FE/--/--	This species occurs in a variety of seasonally inundated habitats, particularly low-alkalinity seasonal pools in grasslands. Known to occur in vernal pools, wetlands, and other seasonal freshwater habitats. Generally occurs in larger, deeper features where dissolved oxygen levels are higher and features remain inundated for longer periods (CDFW 2025).	**No Potential.** Vernal pools and other potentially suitable aquatic habitats do not occur in the project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Fishes			
Acipenser medirostris pop. 1 green sturgeon - southern DPS	FT/--/SSC	Green sturgeon spawn in freshwater streams in fast, deep water over gravel, cobble, or boulders. Juveniles inhabit estuarine waters for 1-4 years until dispersing into coastal marine waters as adults. Adults return to spawn in fresh water every 6-10 years. The Sacramento River watershed, including the Feather River, is the only known historical and current spawning area for the southern DPS of green sturgeon (CDFW 2025 and NMFS 2018). The Sacramento River and associated channels/sloughs downstream of Knights Landing are not believed to have suitable spawning habitat for green sturgeon, primarily due to lack of suitable coarse bottom substrate such as large cobbles (USACE 2012). The current known spawning areas in the Sacramento River occur north of the Glenn-Colusa Irrigation District oxbow to approximately Bend Bridge; and near the Thermalito Afterbay Outlet near Gridley in the Feather	**Moderate Potential.** Green sturgeon are not known to spawn in the San Joaquin River or its tributaries; however, adult and juvenile green sturgeon have been detected in the San Joaquin River. The San Joaquin River is thought to be important juvenile rearing and feeding habitat, especially near the Delta. This species is documented within the project area and the project area is within Designated Critical Habitat for this species (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		River (NMFS 2017).	
Hypomesus transpacificus Delta smelt	FT/SE/--	Delta smelt inhabit open surface waters of the Sacramento-Bay Delta and Suisun Bay. They are euryhaline species (tolerate a wide range of salinities) that generally occur in water with less than 10 to 12 ppt salinity. Delta smelt tend to be concentrated near the zone where out flowing fresh water and incoming saltwater mix except during spawning times. Spawning occurs in shallow freshwater habitats in the Delta and river systems immediately upstream of the Delta. Before spawning, adult smelt migrate upstream from brackish water habitat associated with the mixing zone to disperse into river channels and tidally influenced backwater sloughs. The spawning season varies from year to year and occurs between late winter (December) to early summer (July). Although spawning has not been observed in the wild, the eggs are thought to attach to substrates such as cattails, bulrush, tree roots and submerged branches (Moyle et al. 1989).	**High Potential.** The San Joaquin River within the project area provides suitable habitat for this species including potential spawning habitat. This species is documented within the project area and the project area is within Designated Critical Habitat for this species (CDFW 2025).
Oncorhynchus keta chum salmon: Columbia River ESU and Hood Canal summer-run ESU	FT/--/--	The Columbia River ESU includes naturally spawned chum salmon originating from the Columbia River and its tributaries in Washington and Oregon, as well as chum salmon from the Grays River Program, the Washougal River Hatchery/Duncan Creek Program, and the Big Creek Hatchery Program. The Hood Canal summer-run ESU includes naturally spawned summer-run chum salmon originating from Hood Canal and its tributaries, as well as from Olympic Peninsula rivers between Hood Canal and Dungeness Bay, as well as summer-run chum salmon from Lilliwaup Creek Fish Hatchery and the Tahuya River Program (NOAA 2025b).	**No Potential.** Chum salmon are not known to spawn in the Sacramento or San Joaquin rivers and generally do not occur in these systems. One female chum salmon was captured in the San Joaquin River in 2013 but was considered a stray (CDFW 2015). There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Oncorhynchus kisutch coho salmon: Central California Coast ESU	FE/SE/--	Coho salmon have a relatively complex life history that includes spawning and juvenile rearing in rivers for at least one summer followed by migrating to saltwater to feed, grow, and mature before returning to freshwater to spawn (NOAA 2025b). The Central California Coast	**No Potential.** Coho salmon are not known to occur in the San Joaquin River or the adjacent Delta. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		ESU includes naturally spawned coho salmon originating from rivers south of Punta Gorda to Aptos Creek, and from tributaries to the San Fransico Bay.	
Oncorhynchus mykiss pop. 11 steelhead - Central Valley DPS	FT/--/SSC	This DPS includes all naturally spawned anadromous steelhead populations below impassable barriers in the Sacramento and San Joaquin rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs. Steelhead spawn in rivers and streams with cool, clear, water and suitable silt free substrate (NMFS 2016).	**Moderate Potential**. Central Valley steelhead were thought to be extirpated from the San Joaquin River until recent monitoring detected small populations of steelhead in the Stanislaus, Mokelumne, and Calaveras Rivers, and other streams previously thought to be devoid of steelhead. It is unknown if the steelhead in those rivers are predominantly resident or anadromous, but both are presumably present (NOAA 2014). This species is not known to spawn in the San Joaquin River but may use it as a migration corridor to and from spawning grounds. This species may pass through the project area from August through April when entering spawning grounds, and juveniles may emigrate through the project area during that same period, peaking in March and April (NOAA 2014). This species is documented within the project area (CDFW 2025).
Oncorhynchus nerka sockeye salmon: Snake River ESU and Ozette Lake ESU	FE/FT/--	The Snake River ESU includes all naturally spawned anadromous and residual sockeye salmon originating from the Snake River basin, and also sockeye salmon from the Redfish Lake Captive Broodstock Program and the Snake River Sockeye Salmon Hatchery Program. The Ozette Lake ESU includes naturally spawned sockeye salmon originating from the Ozette River and Ozette Lake and its tributaries. This ESU also includes sockeye salmon from the Umbrella Creek/Big River Hatchery Program (NOAA 2025b).	**No Potential.** Anadromous sockeye salmon do not occur in California. However, landlocked sockeye salmon do occur in California (referred to as kokanee) and are not a protected species. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Oncorhynchus tshawytscha pop. 11 Central Valley Chinook salmon spring-run ESU	FT/ST/--	Central Valley spring-run Chinook salmon spawn in rivers and streams with cool, clear, water and suitable cobble and gravel substrate. This species historically occurred in all major rivers and tributaries of the Central Valley, including the San Joaquin River. The only known streams that currently support self-sustaining	**No Potential**. This species was historically abundant in the San Joaquin River before the construction of the Friant Dam; after dam construction, parts of the San Joaquin River became dry and disconnected salmon from their spawning habitats. Spring-run Chinook salmon have been absent from the San Joaquin River for over 60 years

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		populations of non-hybridized or introduced spring-run Chinook salmon in California are Mill, Deer, and Butte creeks in Tehama County. These creeks are accessible by the Sacramento River. Immigration of adults through the Delta and lower Sacramento River occurs from March through September and spawning occurs between late-August through October (NMFS 2014).	(NOAA 2025a). However, reintroduction efforts have been made in the San Joaquin River, and in 2013, NOAA Fisheries designated the Central Valley spring-run Chinook salmon reintroduced to the San Joaquin River as an experimental non-essential population in accordance with section 10(j) of the ESA (78 FR 79622). In 2019, the first spring-run Chinook salmon in over 65 years completed their life cycle, returning to the San Joaquin River after being released as juveniles through the reintroduction effort (NOAA 2025a). Because this species is currently designated as an experimental population within the San Joaquin River, it holds no legal protection under the ESA. The only other known populations of this ESU that are self-sustaining/protected are located in stream reaches outside of the project area: Mill, Deer and Butte Creeks, in Tehama County. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Oncorhynchus tshawytscha pop. 7 Sacramento River Chinook salmon winter-run ESU	FE/SE/--	Sacramento River winter-run Chinook salmon spawn in rivers and streams with cool, clear, water and suitable cobble and gravel substrate. Immigration of adults through the Delta and lower Sacramento River occurs from December through July. Spawning is currently limited to the Sacramento River downstream of Keswick Dam and upstream of the Red Bluff Diversion and the lower reaches of Battle Creek. Spawning occurs between late-April through mid-August (NMFS 2014).	**No Potential**. This species occurs in the Sacramento River and its tributaries and is not known to occur in the San Joaquin River. There are no documented occurrences of this species within five miles of the Project area (CDFW 2025).
Pogonichthys macrolepidotus Sacramento splittail	--/--/SSC	This species is endemic to the Central Valley and occurs in estuarine environments with salinities from 10-18 ppt. They prefer slightly lower salinities but can survive short term exposures to water with a salinity as high as 29 ppt. This species typically occurs in slow moving rivers, sloughs, and alkaline lakes. This species is largely confined to the lower Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and Sacramento-	**No Potential.** The San Joaquin River in the project area is not an estuarine habitat with suitable salinity levels for this species and is outside of the current known range of this species. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		San Joaquin estuary. Species abundance is strongly tied to outflows because spawning occurs over flooded vegetation (Moyle et. al. 2015).	
Sebastes paucispinis (Bocaccio) and other marine species listed by NOAA	Varies	The bocaccio is a large rockfish that occurs along the Pacific coast from Baja California to the Gulf of Alaska. The Puget Sound/Georgia Basin DPS of this species was federally-listed as endangered in 2010. The oceanic whitetip shark is found throughout the world in tropical and sub-tropical waters and was federally-listed as threatened in 2018. The scalloped hammerhead shark can be found in coastal warm temperate and tropical seas worldwide. Two distinct population segments of the scalloped hammerhead shark are listed as endangered and two are listed as threatened under the ESA. The yelloweye rockfish is among the longest lived of rockfishes and the Puget Sound/Georgia Basin DPS in Washington State was federally-listed as threatened in 2010 (NOAA 2024a).	**No Potential.** These species are restricted to marine habitats and will not occur in the project area as the project area is within a freshwater environment of the San Joaquin River.
Spirinchus thaleichthys longfin smelt	FE/ST/--	The longfin smelt is a pelagic estuarine fish that spawns in freshwater and then moves downstream to brackish water to rear. Longfin smelt in the Bay-Delta may spawn as early as November and as late as June, although spawning typically occurs from January to April. The specific spawning substrate remains unknown. The known range of the longfin smelt extends from the San Francisco Bay-Delta northward to Alaska. In the Sacramento area, this species is known to spawn in the central Delta/San Joaquin River to about Turner Cut/Rough and Ready Island and north into the Cache Slough and the Sacramento Deepwater Ship Channel (CDFW 2009; Moyle 2002), and rarely higher in the Sacramento and San Joaquin rivers (CDFW 2009).	**Low Potential**. The San Joaquin River within the project area may provide suitable habitat for this species. However, a 12-month review of the species by the USFWS found that longfin smelt are currently rare in the Sacramento region (50 CFR 17 Docket No. FWS-R8-ES-2008-0045) and the 2020 *Effects Analysis of State Water Project Effects on Longfin Smelt and Delta Smelt* by CDFW found that longfin smelt rarely spawn or occur higher than Rough and Ready Island and Cache Slough or in the Sacramento Deepwater Ship Channel (CDFW 2009). The project area is in between Rough and Ready Island and Cache Slough and may not be suitable for this species. There are four documented occurrences of this species within five miles of the project area (CDFW 2025).
Thaleichthys pacificus eulachon: Southern DPS	FT/--/--	This DPS of eulachon can be found in the northeastern Pacific Ocean from the Mad River in northern California to the Nass River in British Columbia. This species is anadromous and spends the first year of life in the open	**No Potential.** Eulachon are not known to occur in the San Joaquin River or the adjacent Delta. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		ocean before migrating to rivers to spawn. Newly hatched larvae are carried by the river to estuaries and juveniles disperse onto the marine continental shelf (NOAA 2025b).	
Amphibians			
Ambystoma californiense California tiger salamander - Central California DPS	FT/ST/WL	This species is generally restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet elevation in central California. This species spends the majority of its life in underground burrows in upland areas in the vicinity of suitable breeding ponds. In order to provide suitable habitat for this species, suitable breeding habitat must be present in combination with suitable upland habitat. In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County, and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties (USFWS 2017).	**No Potential**. Aquatic breeding habitat and suitable upland habitat are absent from the Project area. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Rana boylii pop. 5 foothill yellow-legged frog	FE/SE/--	This population of foothill yellow-legged frog occurs in the Sierra Nevada from the South Fork American River subbasin in El Dorado County south to the Tehachapi Mountains in Kern County. Occurs in perennial rocky streams in a wide variety of habitats up to 6,400 feet elevation. This species rarely ventures far from water, and is usually found basking in the water, under surface debris, or underground within 165 feet of water. Eggs are laid in clusters attached to gravel or rocks along stream margins in flowing water. Tadpoles typically require up to four months to complete aquatic development. Breeding typically follows winter rainfall and snowmelt, which varies based upon location (Jennings and Hayes 1994).	**No Potential.** Although the San Joaquin River is a perennial river system, it does not contain rocky habitat suitable for this species. The portion of the river within the project area is deep, tidally influenced habitat with no riffles or shallow rocky areas that are suitable for this species. There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Spea hammondii western spadefoot	FPT/--/SSC	This species occurs in a variety of open habitats including grasslands, coastal sage scrub, chaparral, sandy washes, and playas. It can also be found in valley-	**No Potential**. Suitable habitat types do not occur in the project area. In addition, no suitable breeding habitat or refuge habitat is present in the project area.

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		foothill woodlands and appears to prefer open areas with sandy or gravelly soils. This species spends the majority of its life underground and typically emerges between October and May to breed. Breeding occurs in vernal pools, depressional wetlands, and sometimes puddles. Breeding sites must remain inundated for at least 30 days for larvae to mature (CDFW 2025).	There are no documented occurrences of this species within five miles of the project area (CDFW 2025).
Reptiles			
Actinemys marmorata northwestern pond turtle	FPT/--/SSC	This species occurs in a variety of aquatic habitats; typically, permanent ponds, lakes, streams, irrigation ditches, canals, marshes, or pools in intermittent drainages. It appears to prefer areas lined with abundant vegetation and either rocky or muddy substrates. This species requires basking sites such as logs, rocks, cattail mats or exposed banks. The active season is from February to November, and breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats close to water sources (approximately 300 feet), in which they will bury themselves under loose soil (CDFW 2025). Nesting sites in uplands may be as far as 400 meters (1,312 feet) or more from the aquatic habitat, although the distance is usually much less and is generally around 100 meters (328 feet). In nonriverine habitats that experience little water level fluctuation, this species may overwinter underwater (Thomson *et al.* 2016).	**Moderate Potential.** The majority of the project area is comprised of open water and ruderal habitats which are generally unsuitable for this species. However, some emergent aquatic vegetation is present on the bank of the San Joaquin River, and riprap along the levee road could provide basking habitat for this species. Because of the typically warm Mediterranean climate of the project area, this species is likely active year-round and could be present in the project area, especially near emergent aquatic vegetation and the levee road, throughout the year. There are nine documented occurrences of this species within five miles of the project area (CDFW 2025).
Thamnophis gigas giant garter snake	FT/ST/--	This species is endemic to the San Joaquin and Sacramento Valley floors. It inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. This species requires adequate water during its active season (early spring through mid-fall) to provide food and cover, and also requires emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation	**Moderate Potential.** The majority of the project area is comprised of open water and ruderal habitats which are generally unsuitable for this species. However, some emergent aquatic vegetation is present on the bank of the San Joaquin River, and riprap along the levee road could provide basking and refugia habitat for this species. There are four documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		uplands for cover and refuge from flood waters during its dormant season (winter). It inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant. This species is primarily found in marshes and sloughs as well as slow-moving creeks but is absent from large rivers (USFWS 2016).	
Birds			
Agelaius tricolor tricolored blackbird	--/ST/SSC	This species is common locally throughout central California. It nests and seeks cover in emergent wetland vegetation and thorny vegetation such as Himalayan blackberry (*Rubus armeniacus*). The nesting area must be large enough to support a minimum colony of 50 pairs as they are a highly colonial species. Typical nesting areas are in large wetlands, marshes, and large brambles of thorny vegetation in suitable foraging habitat. This species forages on the ground in croplands, grassy fields, flooded land, and on edges of ponds for insects (Shuford and Gardali 2008).	**Low Potential**. Suitable foraging habitat is absent from the project area but is present in the surrounding lands. Some emergent wetland vegetation is present along the bank of the river that could support nesting, but it may be too small and linear to support a nesting colony. There is one documented occurrence of this species within five miles of the project area (CDFW 2025).
Athene cunicularia burrowing owl	--/SCE/SSC	This species occurs in a variety of open habitats; typically grasslands, desert scrub, agricultural fields, washes, and disturbed areas such as golf courses or vacant lots. It occurs in suitable habitat where burrowing mammals are abundant with low and sparse vegetation. Nests in burrows, especially those of California ground squirrel (*Otospermophilus beecheyi*), but will also use other refuge sites such as rubble piles, pipes, and culverts. In the Central Valley of California, most foraging occurs within a 600-meter radius of the nest (Gervais *et al.* 2003).	**No Potential**. Suitable habitat does not occur in the project area. The disturbed areas within the project area consist of a maintained levee road and pad that lack suitable vegetation. No burrows or other potential refuge sites were observed and suitable foraging habitat is absent. There are no documented occurrences within five miles of the project area (CDFW 2025).
Buteo swainsoni Swainson's hawk	--/ST/--	This species occurs in a variety of open habitats including expansive grasslands, agricultural areas, and open woodlands. It breeds in California and winters in Mexico and South America. Swainson's hawks usually arrive in the Central Valley between March 1 and April 1 and migrate south between September and October.	**Moderate Potential.** Suitable nesting or foraging habitat is absent from the project area but occurs in the surrounding vicinity. Several trees within 0.5-mile of the project area provide suitable nesting habitat and agricultural fields provide suitable foraging habitat. There are 15 documented occurrences of this species

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		This species usually nests in trees adjacent to suitable foraging habitat but is known to forage in areas away from the nest. Nests are usually located in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Mature oak and riparian trees are the most used nest trees, typically associated with high quality foraging habitat (CDFW 2025). Suitable foraging areas for Swainson's hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, idle land, certain grain and row croplands, and ruderal lands. Swainson's hawks primarily feed on voles; but will take a variety of prey including small mammals, birds, and insects (CDFW 1994).	within five miles of the project area (CDFW 2025).
Elanus leucurus white-tailed kite	--/FP/--	This species occurs in a variety of habitats including grasslands, savannah, oak woodland, riparian woodland, open suburban areas, and agriculture fields. Nest trees typically have a dense canopy or are within a dense group of trees, such as riparian forest or oak woodland. Foraging occurs within un-grazed or lightly-grazed fields, agricultural areas, and open grasslands (CDFW 2025).	**Moderate Potential.** Suitable nesting or foraging habitat is absent from the project area but occurs in the surrounding vicinity. Several trees within 0.5-mile of the project area provide suitable nesting habitat and agricultural fields provide suitable foraging habitat. There are no documented occurrences of this species within five miles of the project area (CDFW 2025). However, this species is not regularly tracked by the CNDDB and is a common species in the vicinity of the project area (eBird 2025).
Laterallus jamaicensis coturniculus California black rail	--/ST/FP	The largest concentrations of this species are found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations also occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River Area (Spautz et. al. 2005). This species inhabits brackish marsh habitats, primarily in the upper marsh zone dominated by alkali heath (*Frankenia salina*), cattail (*Typha* spp.), and rush (*Juncus* spp.); and prefers lower salinity environments. In the Sierra Nevada foothills, this species is a year-round resident along wetland	**Low Potential.** Marsh or wetland habitat does not occur in the project area but some emergent wetland vegetation along the bank of the San Joaquin River could potentially provide suitable habitat for this species. There are 11 documented occurrences of this species within five miles of the project area (CDFW 2025).

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		edges where water is generally 1.2 inches or less and is typically found in wetlands 0.25 acre or larger. This species is typically associated with perennial wetlands associated with flowing water such as irrigation canals, perennial streams, and springs with dense vegetation in the Sierra Nevada foothills. It forages on the ground, under cover of dense vegetation (Richmond et al. 2010).	
Melospiza melodia song sparrow (Modesto Population)	--/--/SSC	This species occurs in the central lower basin of the Great Valley, from Colusa County south to Stanislaus County and east of the Suisun Marshes. It breeds in riparian thickets in shrubs or vines near fresh or saline emergent wetland habitat. Nests are typically situated low to the ground or on the ground under dense riparian vegetation (Shuford and Gardali 2008).	**Moderate Potential.** Suitable nesting habitat is present along the bank of the San Joaquin River within the project area. However, the vegetation is flooded from the river and may not be suitable for this species. There are 12 documented occurrences of this species within five miles of the Project area (CDFW 2025).
Vireo bellii pusillus least bell's vireo	FE/SE/--	This species is a summer migrant in California and usually arrives to breeding grounds in mid-March to early April from their wintering grounds in Mexico; and typically departs in late July but may stay until September (Yolo HCP/NCCP 2018). This species primarily occurs in riparian scrub habitat but also occurs in mule fat scrub, oak woodland, and chaparral habitats. Previously considered to be limited to southern California, this species is now known to breed in Salinas Valley and in Yolo County (NatureServe 2025 and CDFW 2025).	**No Potential.** Riparian scrub and other suitable habitat types do not occur in the project area. The project area is outside of documented occurrences or known nesting areas in Northern California. There are no documented occurrences of this species within five miles of the Study Area (CDFW 2025).
Mammals			
Lasiurus blossevillii western red bat	--/--/SSC	This species occurs in forest and wooded areas where it roosts in foliage of trees and large shrubs. They appear to prefer riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores. This species requires water such as rivers, creeks, ponds, or lakes. Water features are a vital habitat component because bats often drink immediately after emergence and water is an important source of concentrated insects. Roosts are common in edge habitats adjacent to	**Low Potential.** Trees and shrubs within the project area are generally small and do not provide suitable roosting habitat for this species. However, suitable roosting habitat is present in the surrounding vicinity and this species could forage throughout the project area. Because suitable roosting habitat is absent from the project area, this species is not anticipated to be impacted by the proposed project. There are no documented occurrences of this species

Scientific Name/ Common Name[1]	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
		streams or open fields, in orchards, and sometimes in urban areas with mature trees (SSHCP 2018).	within five miles of the Project area (CDFW 2025).
Sylvilagus bachmani riparius riparian brush rabbit	FE/SE/--	This species occurs in riparian habitats with thick, brushy vegetation. The only known populations of this species are located at Caswell Memorial State Park and the Oxbow Preserve, as well as in the South Delta and at the San Joaquin River National Wildlife Refuge (USFWS 2025b).	**No Potential.** The project area is outside of the known range of this species. The project area is also isolated in the overall landscape and is surrounded by open, agricultural land. This species has not been documented north of French Camp (CDFW 2020). There are no documented occurrences of this species within five miles of the Project area (CDFW 2025).

1 Sensitive species reported in CNDDB or CNPS on the "*Terminous*" and eight surrounding USGS quads, or in USFWS lists for the project site.

2 Status is as follows: Federal (ESA) listing/State (CESA) listing/other CDFW status or CRPR. F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; PT = Proposed Threatened; FP=Fully Protected; SSC=Species of Special Concern; WL=Watch List; SSHCP= South Sacramento Habitat Conservation Plan Covered Species.

3 Status in the Project site is assessed as follows. **No Potential:** The Project area is outside the known distribution of the species; or there is no suitable habitat present for the species; or, the species is not known to occur within five miles of the Project area boundary, and its dispersal capability is less than five miles. **Low Potential:** There are no documented occurrences within five miles of the Project area boundary, and the existing habitat is of low or marginal quality, or all documented occurrences within five miles of the Project area line are believed to be extirpated, and existing habitat is of low or marginal quality, or extant occurrences are documented within five miles of the Project area, and the most recent occurrence is greater than or equal to 25 years old. **Moderate Potential:** Documented occurrences are reported within five miles of the Project area, the most recent occurrence is less than 25 but greater than 10 years old, and suitable habitat is present; or critical habitat is mapped within the Project area, all PCEs are present within the Project area, and suitable habitat is present. **High Potential:** There are extant occurrences within one mile of the Project area, the most recent occurrence is less than 10 years old, and there is suitable habitat within the Project area; or critical habitat is mapped within the Project area, documented occurrences are present within one mile of the Project area, suitable habitat is present, and all PCEs are present within the Project area.

CRPR = California Rare Plant Rank: 1B to rare, threatened, or endangered in California and elsewhere; 2B to rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 to seriously endangered; .2 to moderately endangered.

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Appendix G

NHPA Section 106 Consultation Letter

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

May 14, 2025

VIA EMAIL

In reply refer to: COE_2025_0502_002

Ms. Abigail Bobbette
Regulatory Project Manager
CA Delta Section
U.S. Army Corps of Engineers, Sacramento District
1325 J Street, Sacramento, CA 95814

RE: Initiating National Historic Preservation Act Section 106 Consultation: Camp Gold Star Floating Dock Installation Project, City of Stockton, San Joaquin County California (SPK-2024-00472).

Dear Ms. Bobbette:

The State Historic Preservation Officer (SHPO) is in receipt of the May 2, 2025, letter from the U.S. Army Corps of Engineers, Sacramento District (USACE), initiating consultation on the above referenced undertaking in accordance with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR Part 800. The USACE is currently requesting SHPO comment on their finding of no historic properties affected for the undertaking.

As described in their May 2 letter, Camp Gold Star, LLC (Applicant), is seeking authorization from the USACE under Section 10 of the Rivers and Harbors Act. The undertaking includes the installation of floating docks with sections of 8'x650', 8'x120', 10'x20' and eighteen dock fingers of 4'x30'. Access would be provided by the construction of a 4’x80’ aluminum gangway, which would be fastened to the shore with a 3’x4’x1.5’ concrete landing. The dock would be secured with the installation of fifteen 12" diameter SCH 40 steel piles. The floating dock would be made with a concrete encapsulated float, HDG steel thru-rods, and pressure treated Douglas fir (PTDF) walers. The gangway would be made from marine grade aluminum. The piles would be installed with a barge mounted crane utilizing a drop hammer. Ground disturbance would be limited to that required for the driving of piles and the 1.5 ft deep concrete landing installation.

The USACE has delineated the area of potential effects (APE) to include “the undertaking’s areas of direct and indirect effects, access, staging, and construction work areas” as depicted on the August 14, 2024, Camp Gold Star Floating Dock Installation plans prepared by Mid-Cal Construction and enclosed with the USACE’s May 2 letter.

Efforts included a records search and consultation with the Native American Heritage Commission (NAHC). By letter dated March 19, 2024, the USACE initiated consultation with Indian tribes and other consulting parties listed on the NAHC contact list. To date no consulting Indian tribe or additional consulting party has provided information regarding potential historic properties of religious and cultural tribal significance within the APE.

No historic properties have been identified within the APE, thus the USACE has made a finding of no historic properties affected and is requesting SHPO comment on their finding. Following a review of the documentation submitted, I do not object to the USACE's finding of no historic properties affected for the undertaking pursuant to 36 CFR § 800.5(d)(1).

Please be advised that under certain circumstances, such as an unanticipated discovery or a change in project scope, the USACE may have additional future responsibilities for the undertaking under 36 CFR Part 800. Should a post-review discovery or inadvertent effect occur during the implementation of the undertaking, the USACE should notify and consult with the SHPO within 48 hours of the discovery or inadvertent effect in accordance with 36 CFR § 800.13(b)(3).

If you require further information, please contact Associate State Archaeologist Alicia Perez at Alicia.Perez@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Appendix H

FEMA Letter of Map Amendment

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

COMMUNITY AND MAP PANEL INFORMATION		LEGAL PROPERTY DESCRIPTION
COMMUNITY	SAN JOAQUIN COUNTY, CALIFORNIA (Unincorporated Areas)	A portion of Section 13, Township 2 North, Range 4 East, as described in the Grant Deed recorded as Document Nos. 2024-022830 and 2024-050533, in the Office of the Recorder, San Joaquin County, California The portion of property is more particularly described by the following metes and bounds:
	COMMUNITY NO.: 060299	
AFFECTED MAP PANEL	NUMBER: 06077C0290F	
	DATE: 10/16/2009	
FLOODING SOURCE: SAN JOAQUIN RIVER		APPROXIMATE LATITUDE & LONGITUDE OF PROPERTY:38.025726, -121.474380 SOURCE OF LAT & LONG: LOMA LOGIC DATUM: NAD 83

DETERMINATION

LOT	BLOCK/ SECTION	SUBDIVISION	STREET	OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NAVD 88)	LOWEST ADJACENT GRADE ELEVATION (NAVD 88)	LOWEST LOT ELEVATION (NAVD 88)
--	--	--	4103 North Zuckerman Road	Portion of Property	X (unshaded)	--	--	9.1 feet

Special Flood Hazard Area (SFHA) - The SFHA is an area that would be inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood).

ADDITIONAL CONSIDERATIONS (Please refer to the appropriate section on Attachment 1 for the additional considerations listed below.)

LEGAL PROPERTY DESCRIPTION
PORTIONS REMAIN IN THE SFHA
STATE LOCAL CONSIDERATIONS

This document provides the Federal Emergency Management Agency's determination regarding a request for a Letter of Map Amendment for the property described above. Using the information submitted and the effective National Flood Insurance Program (NFIP) map, we have determined that the described portion(s) of the property(ies) is/are not located in the SFHA, an area inundated by the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). This document amends the effective NFIP map to remove the subject property from the SFHA located on the effective NFIP map; therefore, the Federal mandatory flood insurance requirement does not apply. However, the lender has the option to continue the flood insurance requirement to protect its financial risk on the loan.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

ATTACHMENT 1 (ADDITIONAL CONSIDERATIONS)

LEGAL PROPERTY DESCRIPTION (CONTINUED)

BEGINNING AT THE MOST EASTERLY CORNER OF ABOVE SAID PARCEL A; THENCE ALONG THE SOUTH LINE OF SAID PARCEL A THE FOLLOWING 3 COURSES: 1)SOUTH 78°37'50" WEST, A DISTANCE OF 176.55 FEET; 2)SOUTH 82°47'20" WEST, A DISTANCE OF 248.86 FEET; 3)SOUTH 69°37'00" WEST, A DISTANCE OF 444.17 FEET; THENCE LEAVING SAID SOUTH LINE NORTH 34°56'00" EAST, A DISTANCE OF 164.32 FEET; THENCE NORTH 4°35'27" EAST, A DISTANCE OF 128.93 FEET; THENCE NORTH 77°14'51" EAST, A DISTANCE OF 330.85 FEET; THENCE SOUTH 86°05'57" EAST, A DISTANCE OF 35.58 FEET; THENCE NORTH 58°55'13" EAST, A DISTANCE OF 65.39 FEET; THENCE SOUTH 87°50'54" EAST, A DISTANCE OF 18.27 FEET; THENCE NORTH 72°51'21" EAST, A DISTANCE OF 87.19 FEET; THENCE SOUTH 65°44'06" EAST, A DISTANCE OF 26.17 FEET; THENCE SOUTH 51°02'35" EAST, A DISTANCE OF 26.28 FEET; THENCE SOUTH 13°58'00" EAST, A DISTANCE OF 31.30 FEET; THENCE SOUTH 48°18'30" EAST, A DISTANCE OF 77.00 FEET TO A POINT LYING ON THE NORTHEASTERLY LINE OF ABOVE SAID PARCEL A; THENCE ALONG SAID NORTHEASTERLY LINE SOUTH 59°28'00" EAST, A DISTANCE OF 124.00 FEET TO THE POINT OF BEGINNING

PORTIONS OF THE PROPERTY REMAIN IN THE SFHA (This Additional Consideration applies to the preceding 1 Property.)

Portions of this property, but not the subject of the Determination/Comment document, may remain in the Special Flood Hazard Area. Therefore, any future construction or substantial improvement on the property remains subject to Federal, State/Commonwealth, and local regulations for floodplain management.

STATE AND LOCAL CONSIDERATIONS (This Additional Consideration applies to all properties in the LOMA DETERMINATION DOCUMENT (REMOVAL))

Please note that this document does not override or supersede any State or local procedural or substantive provisions which may apply to floodplain management requirements associated with amendments to State or local floodplain zoning ordinances, maps, or State or local procedures adopted under the National Flood Insurance Program.

This attachment provides additional information regarding this request. If you have any questions about this attachment, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at (877) 336-2627 (877-FEMA MAP) or by letter addressed to the Federal Emergency Management Agency, LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Appendix I

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

Camp Gold Star Project

Purpose of Mitigation Monitoring and Reporting Program: The California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21081.6, requires that a Mitigation Monitoring and Reporting Program (MMRP) be established upon completing findings. CEQA stipulates that "the public agency shall adopt a reporting or 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. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP has been prepared in compliance with Section 21081.6 of CEQA to ensure that all required mitigation measures are implemented and completed according to schedule and maintained in a satisfactory manner during the construction and operation of the project, as required. San Joaquin County (County) is the Lead Agency for the Camp Gold Star Project (project) under CEQA and shall administer and implement this MMRP. The County is responsible for reviewing all monitoring reports, enforcement actions, and document disposition. The County shall rely on information provided by the project site observers/monitors (e.g., construction manager, project manager, biologist, archaeologist, etc.) as accurate and up-to-date and shall provide personnel to field check mitigation measure status, as required.

A table (attached) has been prepared to assist the responsible parties in implementing the MMRP. The table identifies individual mitigation measures, monitoring/mitigation timing, the responsible person/agency for implementing the measure, and space to confirm implementation of the mitigation measures. The numbering of mitigation measures follows the numbering sequence found in the Initial Study/Mitigated Negative Declaration (IS/MND).

MITIGATION MONITORING AND REPORTING PROGRAM
Camp Gold Star Project

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
BIOLOGICAL RESOURCES				
Mitigation Measure BIO-1: Special-Status Plant Survey The following mitigation measure is from Section 5.2.4.29 of the SJMSCP to reduce or avoid potential project-related impacts to SJMSCP Covered Plant Species: A qualified botanist shall conduct a special-status plant survey within the appropriate identification (blooming) period prior to the initiation of any ground-disturbing activities. One survey conducted in April will satisfy the blooming period for Delta mudwort and can serve as an early season survey for other plant species, and a second survey in July will satisfy the blooming periods for the remainder of the special-status plants with potential to occur in the project site. For all SJMSCP Covered Plants, if approved by the Joint Power's Authority (JPA) with the concurrence of the Permitting Agencies' representatives on the Technical Advisory Committee (TAC), the timing of preconstruction surveys for SJMSCP Covered Plants may be modified (i.e., the length of survey windows may be reduced) on a case-by-case based upon the TAC's assessment of the season's weather patterns (which may have affected blooming cycles) and the likelihood of species occurrences on a particular site given the specifics of the site's topography, existing land uses, aspect, slope, presence of competing vegetation, soils or other related factors which may have modified the blooming cycle for the species. If special-status plants are observed within the project site, the following mitigation measures shall be required:	Prior to initiation of any ground-disturbing activities.	Qualified Botanist		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• *For widely distributed plant species*: Mason's lilaeopsis, woolly rose-mallow, Suisun marsh aster, Delta tule pea, Delta mudwort: Attempt acquisition. If the plant population is considered healthy by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC, then the parcel owner shall be approached to consider selling a conservation easement including a buffer area as prescribed in Section 5.4.4 of the SJMSCP and sufficient to maintain the hydrological needs of the plants. Alternatively, the landowner may be approached to consider land dedication in-lieu of paying SJMSCP development fees. If the project proponent is not agreeable to acquisition, then compensation shall be as prescribed in SJMSCP Section 5.3.1. • *B. For narrowly distributed plant species*: bristly sedge and side-flowering skullcap: Attempt acquisition. If the plant population is considered healthy by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC , then the parcel owner shall be approached to consider selling a conservation easement including a buffer area a as prescribed in Section 5.4.4 of the SJMSCP and sufficient to maintain the hydrological and ecological (e.g., account for weed control, buffers, inclusion of pollinators) needs of the plants. Alternatively, the landowner may be approached to consider land dedication in-lieu of paying SJMSCP development fees. Consultation. If the landowner rejects acquisition of the population, then the JPA shall, with the concurrence of the				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
Permitting Agencies' representatives on the TAC, determine the appropriate mitigation measures (e.g., seed collection) for each plant population based upon the species type, relative health and abundance.				
Mitigation Measure BIO-2: Special-Status Fish The SJMSCP does not provide specific measures for special-status fish and relies on measures pertaining to riparian habitat protection to be umbrella protection measures for fish. The following measures are from Section 5.2.4.31 of the SJMSCP and would reduce or avoid potential project-related impacts to special-status fish: • Require appropriate erosion control measures (e.g., hay bales, filter fences, vegetative buffer strips or other accepted equivalents) to reduce siltation and contaminated runoff from project sites. • Retain emergent (rising out of water) and submergent (covered by water) vegetation. Additional measures have also been provided by the project applicant regarding dock construction and design. These additional measures will also reduce or avoid potential project-related impacts to special-status fish. Dock installation shall occur for a seven-day period sometime within the June 1 and October 31 work window during daylight hours (one hour after sunrise to no later than sunset) to minimize the potential impacts to special-status fish species during construction. This window will avoid sensitive periods such as migration or spawning periods of special-status fish. The dock shall be pre-manufactured off-site to reduce the amount of installation time on the water and to minimize potential effects on water quality. The following dock design features shall be incorporated into the project design to minimize impacts to special-status fish:	During construction.	Project Applicant		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• The dock will be placed in sufficiently deep water to minimize or preclude dredging, avoid groundings, and avoid displacement of submerged aquatic vegetation. • Overwater structures will use the fewest number of piles as practicable (15) for necessary support of the structure to minimize pile shading, substrate impacts, and impacts to water circulation. • Pilings will be spaced at least 10 feet apart at the center to minimize shading. • If cutting, boring, or touch-up preservation applications must be performed over the water, then tarps, barriers, plastic tubs, or similar devices will be used to capture debris, spills, or drips. Additionally, the following construction Best Management Practices (BMPs) shall be implemented during pile driving activities to minimize acoustic effects during dock installation: • The drop hammer will be 3,000 pounds or less. • No single strike will exceed 191 decibels (dB) for an estimated distance of 10 meters. • The minimum number of piles will be used (15) to safely support the dock structure while minimizing the duration of the acoustic effects associated with pile driving. • Pile driving will utilize curtains to mitigate negative impacts to water quality.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• Pile driving will utilize wooden cushion blocks to minimize acoustic impacts. • Pile driving will occur only during daylight hours and initially will occur at low energy levels and reduced impact frequency. Applied energy and frequency will be gradually increased until necessary full force and frequency are achieved.				
Mitigation Measure BIO-3: Giant Garter Snake The following mitigation measure is from Section 5.2.4.8 of the SJMSCP to reduce or avoid potential project-related impacts to giant garter snake: For areas with potential giant garter snake habitat, the following is required. • Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2nd and April 30th, the JPA, with the concurrence of the Permitting Agencies' representatives on the TAC, shall determine if additional measures are necessary to minimize and avoid take. • Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary. • Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance. • Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.	Prior to initiation of any ground-disturbing activities.	Construction Personnel.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date

• In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site:
  ○ Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;
  ○ Restrict working areas, spoils and equipment storage and other project activities to areas outside of marshes, wetlands and ditches; and
  ○ Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.
• Pre-construction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.
• Other provisions of the USFWS Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat shall be implemented (excluding programmatic mitigation ratios which are superseded by the SJMSCP's mitigation ratios).				

Mitigation Measure BIO-4: Avoid Impacts to Water Quality To avoid impacts to water quality during construction activities, the following construction BMPs shall be implemented during handling of construction materials, debris, and waste: • Building materials and/or construction equipment shall not be stockpiled or stored where they may be washed into the water or cover aquatic or	During handling of construction materials, debris, and waste.	Construction Personnel; Project Applicant.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
riparian vegetation. Stockpiles shall be covered when measurable rain is forecasted. • All debris and waste will be picked up daily. All workers shall not dump any litter or construction debris within the river or where it may pass into the river. • Water containing mud, silt, or other potential pollutants from equipment washing or other activities, shall not be allowed to enter the river or placed in locations that may be subjected to high storm flows. • Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life, wildlife, or riparian habitat shall be prevented from contaminating the soil and/or entering the river. • Hazardous materials such as fuels, oils, solvents, etc., shall be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitat. All fueling and maintenance of vehicles and other equipment shall occur at least 200 feet from any aquatic habitat. In the event of accidental spills or emergencies involving potentially hazardous materials, the following measures shall be taken: • If cutting, boring, or touch-up preservation applications must be performed over the water during installation of the dock and/or gangway, then tarps, barriers, plastic tubs, or similar devices shall be used to capture debris or accidental spills or drips.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
• Absorbent materials designated for spill containment and cleanup activities shall be on-site during all stages of construction for use in an accidental spill. Before entering the work site, all field personnel shall be aware of the location of spill kits and trained in their appropriate use. • In the event of a hazardous materials spill into the river, the California Office of Emergency Services State Warning Center shall be immediately notified by calling 1-800-852-7550 and written notification shall be immediately provided to the California Department of Fish and Wildlife (CDFW) by email at R31600Program@wildlife.ca.gov. All reasonable measures shall be taken to document the extent of the impacts and affected areas, including photographic documentation of affected areas, or any injured fish or wildlife.				
Mitigation Measure BIO-5: Northwestern Pond Turtles The following mitigation measure is from Section 5.2.4.10 of the SJMSCP to reduce or avoid potential project-related impacts to northwestern pond turtle: When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall [be] indicated by temporary fencing if construction has or will begin before nesting periods are ended (the period from egg laying to emergence of hatchlings is normally April to November).	Prior to initiation of any ground-disturbing activities.	Construction Personnel.		
Mitigation Measure BIO-6: Special-Status Birds, Migratory Birds, and Raptors The SJMSCP includes measures for nesting birds and general compliance with the Migratory Bird Treaty Act (MBTA); these measures are grouped into three categories: General, Habitat Protection, and Stressor Management and are listed	Prior to initiation of any ground-disturbing activities.	Qualified Biologist; Construction Personnel; Project Applicant.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
below. These measures will reduce or avoid potential project-related impacts on special-status birds, migratory birds, and raptors. • General Measures o A qualified biologist shall educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife. This shall be conducted in the form of an environmental awareness training and may be combined with other trainings, as applicable. o Prior to removal of an inactive nest, a qualified biologist shall ensure that the nest is not protected under the Endangered Species Act or the Bald and Golden Eagle Protection Act (BGEPA). Nests protected under ESA or BGEPA cannot be removed without a valid permit. o Do not collect birds (live or dead) or their parts (e.g., feathers) or nests without a valid permit. o Provide enclosed solid waste receptacles at all project areas. Non-hazardous solid waste (trash) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor. o Report any incidental take of a migratory bird, to the local USFWS or CDFW Service Office. • Habitat Protection				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
○ Minimize project creep by clearly delineating and maintaining project boundaries (including staging areas). ○ Consult all local, State, and Federal regulations for the development of an appropriate buffer distance between the development site and any wetland or waterway, as applicable. ○ Maximize the use of disturbed land for all project activities (i.e., siting, lay-down areas, and construction). ○ Implement standard soil erosion and dust control measures. For example: ▪ Establish vegetation cover to stabilize soil. ▪ Use erosion blankets to prevent soil loss. ▪ Water bare soil to prevent wind erosion and dust issues. • Stressor Management ○ Schedule all vegetation removal, trimming, and grading of vegetated areas outside of the peak bird breeding season (February 1 to August 31) to the maximum extent practicable. Use available resources, such as internet-based tools to identify peak breeding months for local bird species; or contact local Service Migratory Bird Program Office for breeding bird information.				

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
○ When project activities cannot occur outside the bird nesting season (February 1 to August 31), conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact and buffer any nesting locations found during surveys. ▪ Generally, the surveys should be conducted no more than five days prior to the scheduled activity. ▪ Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance. ▪ If active nests or breeding behavior (e.g., courtship, nest building, territorial defense, etc.) are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If the activity must occur, establish a buffer zone (100-feet minimum) around the nest and no activities will occur within that buffer zone until nestlings have fledged and left the nest area. The dimension of the buffer zone may need to be expanded depending on the proposed activity, habitat type, and species present and should be coordinated with the biologist on site and/or SJMSCP. ▪ When establishing the buffer zone, construct a barrier (e.g., plastic fencing) to protect the area. If the fence is knocked down or destroyed, work will suspend wholly, or in part, until the fence is satisfactorily repaired.				

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▪ When establishing a buffer zone, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs. Prior to vegetation clearing, the monitor will ensure that the limits of construction have been properly staked and are readily identifiable. Any associated project activities that are inconsistent with the applicable conservation measures, and activities that may result in the 'take of migratory birds' will be immediately halted and reported to the SJMSCP and the appropriate agency office within 24 hours. ▪ If establishing a buffer zone of a minimum of 100 feet is not feasible, contact the appropriate agency office for guidance to minimize impacts to migratory birds associated with the proposed project or removal of an active nest. Active nests may only be removed if you receive a permit from your local Migratory Bird Permit Office. A permit may authorize active nest removal by a qualified biologist with bird handling experience or by a permitted bird rehabilitator.				
Mitigation Measure BIO-7: Aquatic Resources Delineation and Regulatory Permitting A formal aquatic resources delineation has been conducted for the project site and shall be submitted to the U.S. Army Corps of Engineers (USACE) for verification. Before the initiation of any construction activities that could result in impacts to potentially regulated aquatic features, the extent of the features	Prior to initiation of any ground-disturbing activities.	Project Applicant.		

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within the project site shall be verified by the USACE. The project applicant shall obtain 404 and 401 permits for any impacts to Waters of the U.S. A permit under Section 10 of the Rivers and Harbors Act for placement of a structure within a navigable water shall also be required. Mitigation measures and any other requirements contained in these permits shall be implemented.				
CULTURAL RESOURCES				
CUL-1: Accidental Discovery of Cultural Resources In the event that cultural resources are exposed during ground-disturbing activities, construction activities shall be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features, including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, the retained archaeologist, who meets the Secretary of the Interior's *Professional Qualifications Standards*, shall assess the resource, and provide appropriate management recommendations. If the discovery proves to be California Register of Historical Resources (CRHR)- or National Register of Historical Places (NRHP)-eligible, additional documentation and analysis, such as data recovery excavation, shall be warranted.	Immediately upon discovery.	San Joaquin County; Qualified Archaeologist.		
Mitigation Measure CUL-2: Accidental Discovery of Human Remains Although considered highly unlikely, there is always the possibility that ground-disturbing activities during construction may uncover previously unknown human remains. In the event of an accidental discovery or recognition of any human remains, Public Resources Code (PRC) Section 5097.98 shall be followed. Once project-related earthmoving begins and if there is a discovery or recognition of human remains, the following steps shall be taken:	Immediately upon discovery.	San Joaquin County; NAHC; Native American Representative; County Coroner.		

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			Initials	Date
1. There shall be no further excavation or disturbance of the specific location, or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or 2. Where the following conditions occur, the landowner or their authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the project area in a location not subject to further subsurface disturbance: • The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission; • The descendent identified fails to make a recommendation; or, • The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.				

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			Initials	Date
All treatment recommendations made by the Tribe and other cultural resources specialists shall be documented in the confidential portion of the project record. Work in the area(s) of the cultural find shall only proceed after authorization from the lead agency in coordination with the Tribe.				
GEOLOGY AND SOILS				
Mitigation Measure GEO-1: Septic System Engineering Design Review Prior to the issuance of building permits, the project applicant shall retain a qualified professional engineer to prepare and submit a detailed engineered design plan for any proposed sewage holding tank system to the San Joaquin County Environmental Health Department (SJCEHD) for review and approval. The design plans shall include the following specifications: location and configuration of the proposed septic system, the area required to be reserved for future sewage disposal repair/replacement, and design calculations that include the maximum number of people that will be served by the proposed septic system. The project applicant shall also perform and submit a site-specific Soil Suitability and Nitrate Loading Study that evaluates projected staffing and customer use and a Percolation Test that conforms to the *U.S. EPA Design Manual: Onsite Wastewater Treatment and Disposal Systems* to SJCEHD, which shall both be approved by SJCEHD prior to the issuance of a building permit. The proposed septic system shall be constructed in accordance with the approved design and study findings, and under permit and inspection by SJCEHD.	Prior to issuance of building permits.	Project Applicant; San Joaquin County.		
Mitigation Measure GEO-2: Avoid and Minimize Impacts to Paleontological Resources In the event paleontological or other geologically sensitive resources (such as fossils or fossil formations) are identified during any phase of project construction, all excavations within 100 feet of the find shall be temporarily	Immediately upon discovery.	Qualified paleontologist; San Joaquin County.		

Mitigation Measure	Monitoring / Mitigation Timing	Reporting / Responsible Party	Verification of Compliance	
			Initials	Date
halted until the find is examined by a qualified paleontologist, in accordance with Society of Vertebrate Paleontology standards. The paleontologist shall notify the appropriate representative at the County who shall coordinate with the paleontologist as to any necessary investigation of the find. If the find is determined to be significant under the California Environmental Quality Act (CEQA), the County shall implement those measures which may include avoidance, preservation in place, or other appropriate measures, as outlined in Public Resources Code (PRC) Section 21083.2.				
TRIBAL CULTURAL RESOURCES				
Mitigation Measure TCR-1: Inadvertent Discovery of Tribal Cultural Resources In the event that Tribal Cultural Resources (TCRs), archaeological artifacts, other cultural resources, articulated, or disarticulated human remains are exposed during ground-disturbing activities, all construction activities shall be halted within 100 feet of the find (examples of potential cultural materials include but are not limited to midden soils, artifacts, chipped or worked stone, baked clay, shell, or bone). An archaeologist who meets the Secretary of the Interior's *Professional Qualifications Standards* shall then be retained to evaluate the resource's significance under the California Environmental Quality Act (CEQA) in close coordination with tribal members who would provide traditionally based cultural knowledge for the analysis. If the discovery proves to be significant, additional work and mitigation measures, such as those listed in Mitigation Measures CUL-1 and CUL-2, as deemed appropriate by the tribal organization consulting on the find. Such mitigation may include avoidance, data recovery excavation, or traditional ethnographic research into the cultural importance of the find to contemporary descendant communities.	Immediately upon discovery.	Native American Representative; Qualified Cultural Resources Specialist; San Joaquin County.		