State Route 37 Sears Point to Mare Island Improvement Project

State Route 37 from State Route 121 to Mare Island
Napa, Sonoma, and Solano Counties, California
04-SON-SR 37 (PM 2.4/6.2); 04-SOL-SR 37 (PM 0.0/8.5);
04-SON-121 (PM 0.0/0.2)
EA – 04-1Q761; EFIS – 0419000255

Final Supplemental Environmental Impact Report to the 2023 Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California, Department of Transportation

July 2025

General Information About this Document

The California Department of Transportation, as lead agency under the California Environmental Quality Act (CEQA), has prepared this Final Supplemental Environmental Impact Report (SEIR), which examines the potential environmental impacts of the proposed State Route 37 Sears Point to Mare Island Improvement Project (Project) in Napa, Sonoma, and Solano Counties, California. The document supplements the previously certified 2023 Final Environmental Impact Report/Environmental Assessment (2023 Final EIR/EA) with Finding of No Significant Impact (three volumes). A Notice of Determination was filed in February 2023 (State Clearinghouse Number 2020070226). As provided in CEQA Guidelines Section 15163, this Final SEIR provides supplemental information necessary to make the previous 2023 Final EIR/EA adequate for the proposed Project. The proposed Project evaluated in this Final SEIR includes updates to the Project. The Draft SEIR circulated to the public for a 45 -day review period from December 20, 2024 to February 3, 2025. Comments received during this period are included in Appendix F (under separate cover). Elsewhere throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated. Additional copies of this document and the related technical studies can be available upon request through the “Alternative Format” contact. This document and additional Project information are available to download at https://dot.ca.gov/caltrans-near-me/district-4/d4-projects/d4-37-corridor-projects/37-planning-environmental-documents. Should a hardcopy be required, it may be provided upon request via the contact provided under “Alternative Formats.”

Alternative Formats:

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SCH Number: 2020070226
04-SON-SR 37 (PM 2.4/6.2); 04-SOL-SR 37 (PM 0.0/8.5);
04-SON-121 (PM 0.0/0.2)
EA No. 04-1Q761
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State Route 37 Sears Point to Mare Island Improvement Project

Napa, Sonoma, and Solano Counties, California

Final Supplemental Environmental Impact Report

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies under CEQA:
California Transportation Commission, San Francisco Bay Conservation and Development Commission, California Department of Fish and Wildlife, San Francisco Bay Regional Water Quality Control Board

07/16/2025

Date

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Summary

This is a Supplemental Environmental Impact Report (SEIR) that supplements the California Environmental Quality Act (CEQA) portion of the previously certified 2023 Final Environmental Impact Report/Environmental Assessment (2023 Final EIR/EA) with Finding of No Significant Impact for the State Route (SR) 37 Sears Point to Mare Island Improvement Project (Project). A Notice of Determination for the Project was filed in February 2023 (State Clearinghouse Number 2020070226). As provided in CEQA Guidelines Section 15163, this Final SEIR provides the information necessary to make the previous 2023 Final EIR/EA adequate for the revised Project under CEQA. The revised Project evaluated in this Final SEIR proposes updates to the Project, as described in more detail in Section 2.3. To comply with the National Environmental Policy Act (NEPA), the California Department of Transportation has also addressed changes to the project with a separate NEPA Re-validation.

The Strip Marsh East (SME) design has been refined based on subsequent consultations with the California Department of Fish and Wildlife (CDFW) and the San Pablo Bay National Wildlife Refuge (the Refuge) – United States Fish and Wildlife Service—the landowners and managers of the Refuge, where the enhancements at SME are proposed. In a meeting on April 1, 2025, CDFW and the Refuge staff requested that a portion of the berms, previously proposed to be removed as part of the original design, be retained. It was discussed that these berms provide upland refugia and sea-level rise accommodations for marsh wildlife, and this habitat is extremely limited in and near SME. CDFW requested that the berms on their property be left at upland elevations, and the Refuge requested that a portion of the berms on their property be left at upland elevations to provide islands of upland refugia within the matrix of restored and enhanced tidal marsh. As a result of the design modification, the 17 acres of wetlands and waters that were proposed to be created by the enhancements at SME have been reduced to 11.1 acres, and 80 acres of channelized tidal waters have been reduced to 50 acres. These changes are discussed in more detail in Section 2.3.9; Figure 2-2, Table 2-1, and Table 3-3 in Section 2.3.9 have been updated accordingly.

Additional lighting would be added along SR 37 as part of the Project, and an evaluation of lighting impacts has been included in Section 3.3, Biological Resources, to augment the discussion of potential impacts of artificial light on special-status species. An additional avoidance and minimization measure (AMM-BIO-46: Minimize Light Effects on Wildlife) has been added to minimize lighting impacts on biological resources; it is described in Section 2.4.2 and has been added to the Environmental Commitments Record in Appendix C.

Purpose and Need

The existing Project purpose and need is retained and unchanged by this Final SEIR and is briefly summarized below.

Project Purpose

The Project is intended to address existing recurring congestion on SR 37, where the highway narrows to one lane in each direction between SR 121 and Mare Island. The purpose of the Project is to:

- improve traffic flow and peak travel times; and
- increase vehicle occupancy (the number of people moved per vehicle).

Project Need

The Project is needed to address reoccurring congestion in the near term on SR 37, where the highway narrows to one lane in each direction between SR 37/SR 121. Existing capacity, traffic demand, and merging constraints result in traffic queueing at the SR 37/SR 121 intersection. Current and anticipated future transportation demand contribute to the need for this Project. The 2023 Final EIR/EA provided a discussion of congestion problems in more detail.

Areas of Known Controversy

The proposed Project has been previously circulated for public and agency review, and comments were received, responded to, and summarized in the 2023 EIR/EA. This included a Notice of Preparation for the 2023 Final EIR/EA filed with the State Clearinghouse on July 9, 2020 (State Clearinghouse Number 2020070226) that began a review period ending on August 24, 2020. A virtual public scoping meeting was held on July 22, 2020. The Draft EIR/EA 45-day review period began on January 13, 2022, and ended on February 28, 2022, including a public meeting held on February 2, 2022. Public comments received included the following areas of controversy:

- Project impacts on adjacent biological and water resources, including loss of wetlands and wildlife habitats due to proposed fill for road widening
- Concerns related to long-term resilience of SR 37 due to sea-level rise
- Concerns related to impacts of tolling on low-income individuals
- Bicycle access restrictions under some of the alternatives
- The desire for lengthening and widening of Tolay Creek Bridge to create restoration opportunities
- Concerns related to climate targets and vehicles miles traveled

The 2023 Final EIR/EA listed and examined topics where there could be potentially significant effects (2023 Final EIR/EA, Table S1).

Project Impacts

Table S1 summarizes the environmental impacts of changes to the highway design and addition of SME to the Project.

The Project changes include other highway improvements and the enhancement of degraded marsh habitat at SME. For more details on these proposed changes, please refer to Section 2.3 of this Final SEIR. These additional improvements would not result in any new significant impacts beyond those identified in the 2023 Final EIR/EA. Other highway improvements would be subject to applicable avoidance, minimization, and/or mitigation measures and environmental commitments provided in the 2023 Final EIR/EA. SME is incorporated into the Project to address and minimize adverse impacts. SME would have long-term beneficial impacts that include improving site drainage and tidal hydrology, creating new wetlands and waters, enhancing and creating special-status species habitat, and providing nature-based shoreline protection.

Alternatives

In the 2023 Final EIR/EA, four Build Alternatives (Alternatives 1, 2, 3A, and 3B) and one No Build Alternative were evaluated, of which Alternative 3B was identified as the Preferred Alternative. The revised Project is proposing to incorporate additional highway improvements and the enhancement of degraded marsh habitat at SME into Alternative 3B. No changes are proposed for any other previously considered Alternatives; therefore, their evaluation in the 2023 Final EIR/EA remains valid, and they were not evaluated any further in the Draft SEIR. Because the revised Project would not result in any new potentially significant impacts, no new alternatives are being proposed. Therefore, this Final SEIR focuses on analyzing the proposed changes for Alternative 3B and their potential environmental impacts.

Summary of Changes (Highway Design Changes and SME)

Table S1 summarizes how the impacts and avoidance, minimization, and/or mitigation measures discussed in the 2023 Final EIR/EA under Alternative 3B would change with the incorporation of proposed changes, which includes other highway improvements and the addition of the SME enhancements.

Table S1 Summary of Changes to Impacts and Avoidance, Minimization, and/or Mitigation Measures (Highway Design Changes and Strip Marsh East)

Affected Resource	Original Preferred Alternative 3B (2023 Final EIR/EA)	Preferred Alternative 3B with Highway Changes and SME (Proposed Project)	Avoidance, Minimization, or Mitigation Measures
Aesthetics	Visual impacts were determined to be **less than significant** in the 2023 Final EIR/EA, except for lighting impacts, which were determined to have no impact.	Visual changes related to other highway improvements and the toll gantry design and new location. Impacts would be **less than significant**. Since additional lighting is being proposed, the conclusion has changed from no impact to less than significant.	No change
Agriculture and Forestry Resources	No change from the 2023 Final EIR/EA. There would be **no impact**.	This is the same as the Original Preferred Alternative 3B. Other highway improvements and SME would not result in conversion of agricultural and forestry resources. There would be **no impact**.	No change
Air Quality	The 2023 Final EIR/EA identified increases in criteria pollutants, but impacts would be **less than significant.**	There would be additional temporary construction air quality emissions for the restoration and enhancement of SME. There would be no changes in operational emissions. Impacts would be **less than significant**.	No change
Biological Resources	The 2023 Final EIR/EA determined that the Project would have temporary and permanent impacts to biological resources. Impacts would be **less than significant with mitigation**.	There would be no change to the 2023 Final EIR/EA conclusions with respect to the highway design. Impacts would be **less than significant with mitigation**. SME would minimize permanent impacts of the Project (beneficial effect), and impacts associated with SME construction would not change the EIR/EA conclusions.	Beneficial impact. The Project would minimize permanent impacts on special-status species habitat, wetlands, and other waters from the roadway work through the enhancement of SME. SME enhancement will improve drainage, restore full tidal function, create new wetlands and other waters from uplands, create new emergent salt marsh habitat, and establish tidal channel and tidal flat habitat. These improvements would result in ecosystem uplift of

Affected Resource	Original Preferred Alternative 3B (2023 Final EIR/EA)	Preferred Alternative 3B with Highway Changes and SME (Proposed Project)	Avoidance, Minimization, or Mitigation Measures
			approximately 600 acres of salt marsh habitat. Of that, at least 230 acres would be converted to emergent tidal marsh; the remainder would be converted to tidal mudflat and channel habitat that would also maintain conditions for widgeon grass to remain viable, which would promote the recovery of special-status species with potential to occur in the Project area. SME enhancement is included in the Project description for this Final SEIR, and the commitment is summarized in new AMM-BIO-41b. Implementation of AMM-BIO-41b will minimize permanent loss of wetland and habitat resources from roadway work, and it replaces previously proposed offsite compensation for habitat loss from the Project on specific biological resources. However, compensation for California red-legged frog habitat effects would be retained. New AMMs BIO-41a, BIO-41b, BIO-42, BIO-43, BIO-44, and BIO-45 have been added to the ECR since completion of the 2023 Final EIR/EA. Modifications have been made to AMMs BIO-07, BIO-26, BIO-30, and BIO-35 since the 2023 Final EIR/EA. Refer to 0, ECR for details.

Affected Resource	Original Preferred Alternative 3B (2023 Final EIR/EA)	Preferred Alternative 3B with Highway Changes and SME (Proposed Project)	Avoidance, Minimization, or Mitigation Measures
Cultural Resources	There would be **no impacts** to cultural resources. Avoidance, minimization, and mitigation measures would be implemented during construction.	Other highway improvements and SME would not introduce any new impacts to any known cultural resources in the Project's APE. A Finding of No Historic Properties Affected was the determination following review of the Project changes. Measures already required in the event of cultural resources discovery during construction for the original Project would apply to SME. There would be **no impact.** See also Tribal Cultural Resources summary in this table.	No change
Energy	An increase in energy consumption would occur temporarily during Project construction and maintenance. The original preferred Alternative 3B would reduce the potential for wasteful energy because there would be a reduction in stop-and-go traffic conditions. Traffic would also be managed by the HOV restrictions and tolling. There would be **no impact**.	There would be an additional temporary increase in energy use during construction activities. As with the original preferred Alternative 3B, the Preferred Alternative Project would reduce the potential for wasteful energy because there would be a reduction in stop-and-go traffic conditions. Traffic would also be managed by the HOV restrictions and tolling. There would be **no impact**.	No change
Geology, Soils, Paleontology	There would be **no impacts**. A Paleontology Mitigation Plan avoids impacts to paleontological resources.	This would be the same as the Original Preferred Alternative 3B. The implementation of the Project changes would not result in any new significant impacts. There would be **no impacts**.	No change

Affected Resource	Original Preferred Alternative 3B (2023 Final EIR/EA)	Preferred Alternative 3B with Highway Changes and SME (Proposed Project)	Avoidance, Minimization, or Mitigation Measures
Greenhouse Gas Emissions	Construction would result in GHG emissions. Operational GHG emissions would be reduced with the preferred alternative's reduction in congestion and VMT. Impacts would be **less than significant**.	There would be an increase in GHG emissions associated with constructing the enhancements at SME. GHG emissions during the operation of the proposed Project would be the same. Impacts would be **less than significant**.	No change
Hazards and Hazardous Materials	With adherence to federal and state regulations, the impact would be **less than significant.**	Same as the Original Preferred Alternative 3B. With adherence to federal and state regulations, the impact would be **less than significant.**	No change
Hydrology and Water Quality	Water quality and groundwater supplies impact would be **less than significant**. BMPs would be specified in the SWPPP and implemented and monitored during construction. Permanent stormwater treatment measures would be implemented to minimize permanent water quality impacts.	Temporary water quality impacts would occur with construction activities for other highway improvements and SME. The same BMPs and stormwater treatment would be implemented as the Original Preferred Alternative 3B. Impacts would be **less than significant**.	Beneficial impact. SME would have beneficial impacts on the drainage conditions of the marsh.
Land Use	The Project would be constructed in and along Caltrans' right-of-way, would not physically divide an established community, and would be consistent with relevant transportation plans. There would be **no impact**.	The SME element of the Project is outside of the existing Caltrans right-of-way and will require temporary use or access to the refuge lands at SME during marsh enhancement activities. There would be **no impact**.	No change
Noise	Noise and vibration related to construction would be similar to existing highway conditions, and marginally higher during pile driving. The impact would be **less than significant** related to ambient noise.	There would be temporary construction noise and vibration associated with enhancements at SME; the impact would be **less than significant**. Operational noise would be the same as the Original Preferred Alternative 3B.	No change

Affected Resource	Original Preferred Alternative 3B (2023 Final EIR/EA)	Preferred Alternative 3B with Highway Changes and SME (Proposed Project)	Avoidance, Minimization, or Mitigation Measures
Mineral Resources	There would be **no impact** to mineral resources.	There would be **no impact** to mineral resources.	No change
Population and Housing	There would be **no impact** related to substantial population growth.	This would be the same as the Original Preferred Alternative 3B. Other highway improvements and SME would have **no impact**.	No change
Public Resources	There would be **no impact** associated with the provision of new or physically altered public facilities.	This would be the same as the Original Preferred Alternative 3B. Other highway improvements and SME would have **no impact**.	No change
Transportation	The impact would be **less than significant** to Transportation.	The proposed changes, including additional highway improvements and SME, would not change the determination from the 2023 Final EIR/EA. The impact would be **less than significant**.	No change
Tribal Cultural Resources	No tribal cultural resources were identified in or near the APE. Therefore, it was found that there would be **no impact.** Project features would be implemented to minimize any potential impacts.	The 2023 Final EIR/EA found there would be no impact on Tribal Cultural Resources. However, as a result of continued consultation, it was determined that there is a potential for Tribal Cultural Resources to be discovered during construction. Therefore, the conclusion has changed to **less than significant** and additional AMMs have been added to address these potential impacts, as discussed in Section 2.4.2.	AMMs TCR-01, TCR-02, TCR-03, TCR-04, TCR-05, and TCR-06 have been modified or added since completion of the 2023 Final EIR/EA.

Affected Resource	Original Preferred Alternative 3B (2023 Final EIR/EA)	Preferred Alternative 3B with Highway Changes and SME (Proposed Project)	Avoidance, Minimization, or Mitigation Measures
Utilities and Service Systems	Impacts related to relocation of utilities, water supplies, impacts to wastewater flows, wastewater treatment, or solid waste would be **less than significant**.	Same as the Original Preferred Alternative 3B. The implementation of the Project changes would not result in any new significant impacts. Impacts would be **less than significant**.	No change
Wildfire	There would be **no impact** related to wildfire. All Project construction would follow state and federal fire regulations during these relocations.	Same as the Original Preferred Alternative 3B. The implementation of the Project changes would not result in any new significant impacts. The would be **no impact**.	No change
Cumulative Impacts	It was determined that the Project's contribution to cumulative Projects would be **less than significant.**	The Project changes would not alter the 2023 Final EIR/EA conclusion. Project effects would be **less than significant**. SME would have a beneficial impact related to marsh enhancements to hydrology and wildlife habitat.	SME would have a beneficial impact related to enhancements to hydrology, wetlands, and wildlife habitat.

Notes:

AMM = avoidance and minimization measure
APE = area of potential effect
BMP = best management practice
Caltrans = California Department of Transportation
EA = Environmental Assessment
ECR = Environmental Commitments Record
EIR = Environmental Impact Report
GHG = greenhouse gas
HOV = high-occupancy vehicle
SEIR = Supplemental Environmental Impact Report
SME = Strip Marsh East
SWPPP = Storm Water Pollution Prevention Plan
VMT = vehicle miles traveled

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List of Acronyms and Abbreviations

ALAN	artificial light at night
AMM	avoidance and minimization measure
APE	area of potential effect
ATDM	active transportation and demand management
BAAQMD	Bay Area Air Quality Management District
BCDC	Bay Conservation and Development Commission
BMP	best management practice
BSA	Biological Study Area
BTU	British Thermal Unit
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CHP	California Highway Patrol
CMS	changeable message sign
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
dBA	A-weighted decibel
DPS	distinct population segment
EA	Environmental Assessment
ECR	Environmental Commitments Record
EIR	Environmental Impact Report
2023 Final EIR/EA	2023 Final Environmental Impact Report/Environmental Assessment
EMS	extinguishable message sign
FIGR	Federated Indians of Graton Rancheria
GHG	greenhouse gas
HTL	high-tide line
HOV	high-occupancy vehicle
I-80	Interstate 80
Leq(h)	hourly equivalent sound level
MHHW	mean higher high water
MHW	mean high water
MT	metric ton
MTC	Metropolitan Transportation Commission
MVP	maintenance vehicle pullout
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NOC	Notice of Completion

NO_X	oxides of nitrogen
PEL	Planning and Environmental Linkages Study
PF	project feature
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
PQS	Professionally Qualified Staff
Project	SR 37 Sears Point to Mare Island Improvement Project
Refuge	San Pablo Bay National Wildlife Refuge
ROG	reactive organic gas
RSA	Resource Study Area
RWQCB	Regional Water Quality Control Board
SEIR	Supplemental Environmental Impact Report
SFEI	San Francisco Estuary Institute
SMART	Sonoma-Marin Area Rail Transit
SME	Strip Marsh East
SR	State Route
SSC	State Special Species of Concern
SWPPP	Storm Water Pollution Prevention Plan
TCE	temporary construction easement
TMP	Transportation Management Plan
TSMO	transportation system management and operations
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VES	Visual Encounter Survey
VMT	vehicle miles traveled

Chapter 1 Introduction

The California Department of Transportation (Caltrans)—in cooperation with the Metropolitan Transportation Commission (MTC) and the north San Francisco Bay Area partner agencies of Sonoma County Transportation Authority, Solano Transportation Authority, and Napa Valley Transportation Authority—has proposed improvements to the existing single-lane portion of State Route (SR) 37. The SR 37 Sears Point to Mare Island Improvement Project (Project) and alternatives considered were presented in the SR 37 Sears Point to Mare Island Improvement Project 2023 Final Environmental Impact Report (EIR)/Environmental Assessment (EA) (the 2023 Final EIR/EA) with Finding of No Significant Impact (three volumes). The EIR/EA was certified, and a Notice of Determination was filed in February 2023 (State Clearinghouse Number 2020070226). Caltrans and its partner agencies have prepared this document to update Project changes to include the enhancement of degraded marsh habitat at Strip Marsh East (SME), which will be performed to minimize impacts on wetlands, waters, and special-status species habitats.

This Final Supplemental Environmental Impact Report (SEIR) was prepared to provide additional information needed to address the proposed Project, in addition to what was provided in the 2023 Final EIR/EA.

1.1 California Environmental Quality Act Context

This Final SEIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code Section 21000 *et seq*.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 *et seq*.).

The lead agency is the public agency with primary responsibility over the proposed Project. In accordance with CEQA Guidelines Section 15051(b)(1), “the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose.” Caltrans, as the lead agency, directed the preparation of this Final SEIR to evaluate the environmental impacts of implementation of the proposed Project.

1.1.1. Type of Environmental Impact Report

This section summarizes the reasons for preparing a Supplemental EIR. CEQA Guidelines Sections 15162 through 15164 set forth the criteria for determining the appropriate additional environmental documentation, if any, to be completed when there is a previously certified EIR covering the Project for which a subsequent discretionary action is required. According to CEQA Guidelines Sections 15162(a) and 15163, when an EIR has been certified for a project, no subsequent or supplement to an EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole public record, one or more of the following:

(1) substantial changes are proposed in the project that will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects;

(2) substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

(A) the project will have one or more significant effects not discussed in the previous EIR;

(B) significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternatives; or

(D) mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15163 of the CEQA Guidelines states that a lead agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

(1) any of the conditions described above for Section 15162 would require the preparation of an SEIR; and

(2) only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

Section 15163 of the CEQA Guidelines also indicates that a SEIR need contain only the information necessary to make the previous EIR adequate for the Project as revised. A SEIR may also be circulated for public and agency review by itself without recirculating the previous draft or final EIR.

Pursuant to Section 15163, this Supplemental EIR was therefore prepared to address the changes to the Project, including the addition of enhancements at SME and other highway improvements that were not originally addressed in the 2023 Final EIR/EA. Changes also include new and revised avoidance and minimization measures (AMMs), including measures resulting from Tribal consultation. This new information justified circulation of this Supplemental EIR for agency and public review to provide the opportunity for comments and responses. This Final SEIR therefore supplements the CEQA portion of the Project's previously certified 2023 Final EIR/EA with Finding of No Significant Impact (three volumes) to incorporate the changes to the project and documentation of public and agency review.

1.2 Scope and Focus of this Supplemental Environmental Impact Report

Pursuant to Section 15143 of the CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental impacts to specific issue areas where significant impacts on the environment may occur. This principle has been used to organize the information presented in this Final SEIR.

Caltrans used a variety of information to determine which issue areas may require relatively more or less information in supplement to the 2023 Final EIR/EA to address the proposed Project. This information included review of proposed Project characteristics and comments received from members of the public and from agencies.

By reviewing the existing information, it was determined that the proposed Project has the potential to result in environmental impacts to certain resource areas. Accordingly, although all resource areas were considered in their own respective section under Chapter 3 of this Final SEIR. The focus of this Final SEIR is on the following resource areas where potential impacts are apparent, and for which supplementary information has been provided:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Noise
- Tribal Cultural Resources

1.3 Circulation, Review, and Comments on the Draft Supplemental Environmental Impact Report

The Draft SEIR was circulated for public and agency review and comment from December 20, 2024, to February 3, 2025 (45 days). A public meeting was held on January 14, 2025, in person at the John F. Kennedy Library in Vallejo, California, and was available via Zoom webinar. The meeting provided the opportunity for the public to learn about the Draft SEIR, share verbal questions and comments, and provide written comments. Comments received during this period are included in Appendix F (under separate cover). Appendix F also includes the responses to each comment.

The Draft Supplemental EIR was made available for review and comment and was advertised and noticed using a range of outreach methods that were consistent with how the original 2023 EIR/EA was noticed. Each of the notices and mailers provided information on how to obtain and review the Draft SEIR, how to comment, and the deadline for comments; how to participate in the public meeting; and who to contact at Caltrans for more information or assistance, including weblinks, Caltrans contacts and phone numbers/addresses, and an email box and postal mail address for submitting comments. The notices included contact information in Spanish. A Notice of Completion (NOC) was posted with the California State Clearinghouse, identifying the start and end dates of the public review period (SCH #2020070226), and the NOC was distributed through the clearinghouse to a wide range of state agencies and commissions. Letters to elected and nonelected officials were mailed. Postcards were distributed to local area mailing addresses through the United States Postal Service Direct Mail service, and an information flyer was distributed through emails to the Project and Caltrans distribution list. Newspaper advertisements were posted in the Vallejo Times Herald, Santa Rosa Press Democrat, Napa Valley Register, and Marin Independent Journal.

After the approval of this SEIR, a Notice of Determination will be filed with the State Clearinghouse.

Chapter 2 Project Description Changes

2.1 Introduction

Caltrans, in cooperation with the MTC and the north San Francisco Bay Area partner agencies of Sonoma County Transportation Authority, Solano Transportation Authority, and Napa Valley Authority has proposed improvements to the existing single-lane portion of SR 37. The Project and alternatives considered were presented in the Project's Final EIR/EA. The Project's EIR/EA was adopted on February 8, 2023, and a Finding of No Significant Impact for the identified Preferred Alternative (Alternative 3B) was included in the Project's Notice of Determination filed on February 9, 2023 (State Clearinghouse Number 2020070226). These documents are available online at https://ceqanet.opr.ca.gov/2020070226/3. In June 2024, Caltrans completed a CEQA Addendum and NEPA Re-validation to the 2023 Final EIR/EA, updating the Project description to include the replacement of the Tolay Creek Bridge. In the original 2023 Project, only the widening of Tolay Creek Bridge was proposed.

Caltrans and its partner agencies have prepared this Final SEIR to address changes to the Project description to include Project elements not previously considered, including the addition of changeable message signs (CMSs), maintenance vehicle pullouts (MVPs), relocation and redesign of the tolling facility and maintenance area, and minimization measures at SME for the overall Project.

Proposed minimization measures at SME would expand the Project footprint in and outside of the Project area considered in the 2023 Final EIR/EA. Primarily, the Project would expand its footprint and activities to include ecological restoration at SME (in the general area between SR 37, San Pablo Bay, the Pond 1/1A tidal channel, and Mare Island).

Figure 2-1 shows the location and extent of the Project corridor that was evaluated in the 2023 Final EIR/EA (which now includes the updated highway Project changes), along with the added expanded Project Study Area for SME. It is to be noted that the area shown for SME in Figure 2-1 is the study area and does not represent fill in the bay.

Caltrans is the lead agency for the Project under CEQA and has prepared this Final SEIR in accordance with the conditions of CEQA Sections 21166 and 15162. Caltrans has determined that the addition of SME enhancement constitutes a substantial change to the Project and presents new information that could not have been known at the time of the 2023 Final EIR. Caltrans has determined that the additions to the Project Description and clarification to existing minimization measures are minor and necessary to make the previous EIR adequately applicable to the Project with the proposed changes.

2.2 Purpose and Need

The existing Project purpose and need is retained and unchanged by this Final SEIR. The proposed changes considered in this Final SEIR address an update to the overall Project description to incorporate new Project activities that would minimize impacts to environmental resources and would be applicable to any of the build alternatives considered in the 2023 Final EIR/EA.

2.2.1. Project Purpose

The Project is intended to address existing recurring congestion on SR 37, where the highway narrows to one lane in each direction between the SR 37/121 intersection and Mare Island. The purpose of the Project is to:

- improve traffic flow and peak travel times; and
- increase vehicle occupancy (the number of people moved per vehicle).

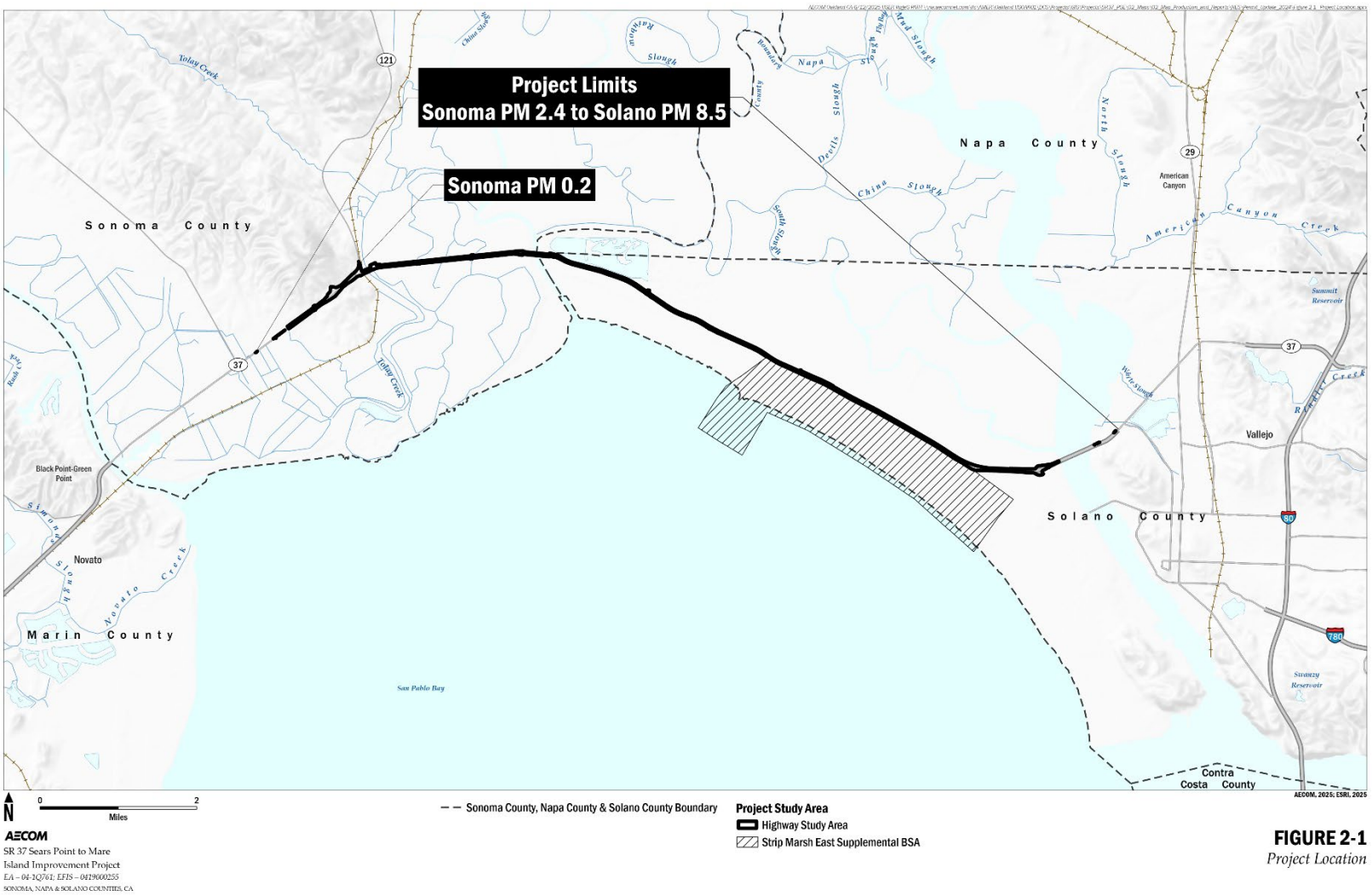

Figure 2-1 Project Location

2.2.2. Project Need

The Project is needed to address reoccurring congestion in the near term on SR 37, where the highway narrows to one lane in each direction between SR 37/SR 121. The existing capacity and merging constraints result in traffic queueing at the SR 37/SR 121 intersection and at Mare Island. Current and anticipated future transportation demand contribute to the need for this Project. The 2023 Final EIR/EA provided a detailed discussion of congestion problems, the legislation and rules applicable to the proposed highway lanes, and the length or limits of the proposed improvements. These criteria and descriptions remain unchanged from the 2023 Final EIR/EA.

2.2.3. Alternatives

The revised Project is proposing to incorporate additional highway improvements and the enhancement of degraded marsh habitat at SME into Alternative 3B. No changes are proposed for any other previously considered alternatives; therefore, their evaluation in the 2023 Final EIR/EA remains valid, and they were not evaluated any further in this SEIR.

2.3 Supplemental Project Description

The following sections discuss the elements that are included in this Final SEIR to update Project activities, which includes enhancements at SME. The Final SEIR environmental review focuses only on the Project changes since approval of the 2023 Final EIR/EA.

2.3.1. Project Phases

Project phasing refers to how the Project will be constructed and opened to traffic, based on available funding or other constraints. The Project is anticipated to be constructed in three overall phases along the corridor, depending on funding. The first phase will include the SR 37/SR 121 intersection area, the Tolay Creek Bridge replacement, and the addition of the eastbound through lane and the eastbound transition lane from west of the SR 37/SR 121 intersection to east of the Tolay Creek Bridge replacement. The second phase will include the eastbound lane addition from east of the Tolay Creek Bridge replacement to the eastern Project limits in the vicinity of the Walnut Avenue overcrossing and implementation of SME enhancements. This second phase will also include installation of a tolling facility and maintenance area just east of the Tubbs Island trailhead and parking area. The third phase will involve widening and installing the additional lane in the westbound direction.

Construction staging will be defined during final design. Staging will be planned with the intention of minimizing traffic disruptions during construction. During construction, SR 37 will mostly remain open to through traffic during peak travel periods. However, brief periods of full closures may be needed at night to expedite construction and ensure crew safety. There would be periodic delays during construction, which would be minimized and planned during nonpeak periods. Traffic speeds would be reduced within construction zones. A Traffic Management Plan would address project construction such as bridge work and widening, which would be available for public review and noticing prior to construction.

2.3.2. Maintenance Vehicle Pullouts and California Highway Patrol Enforcement Areas

MVPs have been added to the Project to provide areas outside of the highway shoulders where Caltrans personnel can safely park maintenance and other vehicles near the roadside cabinets that will house communication, power supply, and monitoring equipment. MVPs will be short, paved areas adjacent to the 8-foot-wide shoulders; they will be wide enough to accommodate maintenance vehicles outside of the shoulder, to provide safe roadside areas for maintenance crews. The standard MVP dimensions result in a trapezoidal area of pavement approximately 120 feet at its longest length and 12 feet wide.

Approximately seven new MVP areas are proposed within the Project limits, although the exact dimensions, number, and location of the MVPs will be confirmed during final design. The MVP locations are shown on the Project layout plan sheets in Appendix A, Figures A-1 and A-2.

California Highway Patrol (CHP) enforcement areas were generally described in the 2023 Final EIR/EA. Typical roadside CHP pullout dimensions result in a trapezoidal area of pavement that is approximately 200 feet long and 12 feet wide. Under the current design, these enforcement areas will also be incorporated into the median of the highway just east of the Tubbs Island Trailhead. The CHP median enforcement area will be at the tolling gantry (described below). It will consist of a slightly widened area of the median to accommodate CHP vehicles between concrete barriers, allowing officers to observe and enforce traffic, tolling, and high-occupancy vehicle (HOV) lane violations.

2.3.3. Active Transportation and Demand Management, and Transportation System Management and Operations Elements

Due to the proposed corridor characteristics for SR 37, incident management, trip reliability, managed lanes efficiency, transit performance, and primary and secondary crash risks are potential concerns for SR 37 corridor stakeholders. To maintain overall traffic safety and operational efficiency along SR 37, Project changes include additional active transportation and demand management (ATDM) and transportation system management and operations (TSMO) would be implemented as part of the Project to dynamically manage congestion, improve safety, and facilitate mode shift. These new operational features are meant to maximize the available capacity of the highway lanes on a daily basis, while actively reducing crash risks due to traffic saturation, lane-blocking events, and weather-related impacts. They also provide the necessary data to help Caltrans and the transportation agencies proactively collaborate to address congestion and potential safety challenges during the operations and maintenance phase.

ATDM and TSMO equipment added to the project includes closed-circuit television cameras and radar-detection devices mounted on poles (and on the gantry described below). Such equipment will help monitor traffic flow, identify congested conditions, and identify locations of accident incidents. Loop detectors installed at intervals in the pavement will also provide information on traffic conditions. Controller equipment will be housed in utility cabinets along and outside of the highway shoulder, and guardrails will be installed to protect the equipment from collisions.

2.3.4. Static, Changeable Message, and Extinguishable Message Signs

Roadside and overhead signs were identified in the 2023 Final EIR/EA, and the number and locations of the signs have been updated. Static overhead panels on a lighted versatile sign structure provide upcoming directional information to motorists. These structures may span both lanes or extend over one direction of the highway only. These were described in the 2023 Final EIR/EA.

CMSs and extinguishable message signs (EMSs) display information to motorists such as traffic conditions, notifications, weather or road conditions, events affecting traffic or routes, and how to get information. The overhead CMS signs would also display tolling information, including when the toll lane starts and toll pricing. The CMS and EMS locations are shown on the Project layout plan sheets in Appendix A, Figures A-1 and A-2.

Four CMSs would be added to the Project within the Project limits to provide real-time traffic safety and guidance information about planned and unplanned events that impact traffic conditions on SR 37. These overhead electronic CMS signs would be mounted in the median or roadside on steel poles that cantilever the signs over the road; the poles would be supported by concrete foundations placed outside

the road shoulder. Vegetation around the CMS locations would be cleared during construction and mowed to maintain access throughout the life of the Project operations. Four CMS locations have been strategically chosen to help manage traffic movement and congestion along this corridor: two in the westbound direction and two in the eastbound direction, near both ends of the corridor Project work limit.

The EMSs would be overhead or roadside signs, sometimes smaller than CMSs, and would provide motorist warning information about upcoming intersections and signals (e.g., “Prepare to Stop”). These signs would be off or dark when the information is not needed. There are already existing EMS signs at the approaches to the SR 37/SR 121 intersection, and these would be shifted to accommodate the widened highway. New locations of the EMS signs will be determined later, in the design phase.

2.3.5. Relocated Toll Gantries

The 2023 Final EIR/EA indicated that the new lanes in each direction would be tolled and that traffic monitoring equipment would be installed. Toll gantries were identified in the 2023 Final EIR/EA at two locations near the SR 121 interchange and near the Walnut Avenue overcrossing. The new lanes will still be tolled as described in the 2023 Final EIR/EA, but now the tolling gantries will be co-located about 400 feet east of the Tubbs Island Trailhead Road intersection (shown on Figure A-1, Appendix A, Sheet 5 of 18). The gantries will be used for mounting the open-road tolling equipment and traffic monitoring equipment (tolls will be electronically collected, similar to the electronic tolling locations on other Bay Area toll bridges, as described in the 2023 Final EIR/EA). Gantries would be steel truss structures or bents that span over all SR 37 lanes. Gantry foundations would be situated outside of the road shoulders and anchored to concrete foundations.

At the same location as the relocated toll gantries east of the Tubbs Island Trailhead Road intersection, an equipment building has been added to the Project that will be constructed to house the tolling equipment. A paved vehicle pullout area accessible from the eastbound shoulder will be installed at this building location to provide protected off-highway parking for workers and their maintenance vehicles who need periodic access to the tolling equipment.

Near the toll gantry and maintenance structure, solid concrete barriers will be installed on both the inside and outside of the highway shoulders. This is a necessary safety measure, intended to avoid collisions with the gantry and maintenance structures. Along the rest of the corridor, as included in the 2023 Final EIR/EA, the outside barrier will be a guard rail (Midwest Guardrail System) or a Type 85 concrete see-through barrier or equivalent that allows some visibility through the barrier.

2.3.6. Lighting

The 2023 Final EIR/EA indicated that lighting would be added along the corridor in advance of the tolling gantries, along highway curves, at CHP enforcement areas, and at local intersections to improve safety, but the design was not sufficiently advanced to describe the details and locations. The Project design has been updated to include locations of overhead roadway lighting, with support posts in the median, designed to illuminate four lanes of traffic at the curves and approaches east and west of the Sonoma Creek Bridge, at the Noble Road intersection, and east and west of the Tolay Creek Bridge replacement. Median lighting locations are shown in Appendix A-2. This median lighting at some curve areas will be on double arm standards; this is needed to increase safety by improving drivers’ sight distance in dim or night-time conditions and to provide improved visibility for cyclists who may be traveling in the road shoulder. Lighting locations and design of the lighting to minimize glare and intensity, and prevent light spilling outside of the highway corridor, will be defined during final design.

2.3.7. Utility Equipment, Infrastructure, and Grading

Design refinements include electronic and power service equipment that will be housed in roadside service cabinets, protected by guardrails. Fiber-optic lines will be installed in or adjacent to the highway

shoulders to provide communication service in the corridor. Existing wood pole power lines, which generally parallel the highway on the northern side, will be relocated where necessary to accommodate the widened highway.

Trash capture measures would be included where there are identified areas of trash generation or accumulation. These measures can include catch basin inserts or screens, or equivalent devices that prevent trash from entering downstream waters. Moderate areas of trash generation have been preliminarily identified at ramps, including east and west of the Mare Island/Napa River Bridge. Trash capture will be determined during final design and added in the Project's right-of-way.

Construction of the Project will require grading of slopes and placement of fill. Where material is excavated, a balanced Project design is preferred, with excavated material reused in the corridor as fill. The reuse of excavated material will depend on testing for geotechnical competency because use for fill and may also depend on the results of testing for any potential contamination. Excavated material that is unsuitable for reuse will be removed off site and properly used or disposed in a landfill. The suitability of reuse of excavated material will also be addressed for the SME, as described in Section 2.3.9.

2.3.8. Right-of-Way

The 2023 Final EIR/EA indicated that the proposed Project (Alternative 3B) would result in partial property sliver acquisitions and temporary construction easements (TCEs) along the corridor. The EIR/EA included a list of the potentially affected parcels. To help minimize right-of-way and widening, one lane in each direction has been reduced from 12 feet wide to 11 feet wide. As a result, all lanes will be 11 feet wide, except at Tolay Creek Bridge. For the highway corridor, the final right-of-way needs will be determined during final design. Minor additional changes in highway corridor right-of-way needs, construction staging and construction access requirements, and utility relocations and connections will be refined during final design. The Project team will coordinate with federal and state land managers and owners regarding the affected refuge lands that are alongside the highway corridor. These affected state and federal lands may require land exchanges or other methods, to be determined during the right-of-way phase of Project development.

The SME element of the Project is outside of the existing Caltrans right-of-way and will require temporary use or access to the refuge lands at SME for grading, import or export of fill, hydrological and drainage changes, and other temporary construction activities and use. These temporary and relatively short-term activities are necessary to achieve the beneficial restoration goals at SME. The Project team has had preliminary coordination with the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS), who manage the SME. During final design, Caltrans will determine the right-of-way process to allow for the planned SME marsh restoration activities and needs. Once the marsh restoration activities are completed at SME, the affected area will provide enhanced ecological benefits. Therefore, the long-term use of SME will not change with respect to ownership and management, and the only use of SME by the Project will be a temporary use for the necessary activities related to marsh enhancement and restoration.

2.3.9. Strip Marsh East Enhancement

The Project includes a substantial new minimization measure, titled AMM-BIO-41b (see Section 3.3.2), to fully address permanent impacts and loss of protected habitat associated with the Project's identified Preferred Alternative. AMM-BIO-41b would enhance approximately 600 acres of degraded habitat and create approximately 230 acres of new emergent salt marsh habitat, 50 acres of tidal channel habitat, and 320 acres of tidal flats from existing seasonal lagoons that would benefit protected species and resources at the SME unit of the USFWS-managed San Pablo Bay National Wildlife Refuge (Refuge). CDFW and the California State Lands Commission also own parcels in the Refuge. This measure replaces most of the compensatory mitigation measures proposed in the EIR for potential loss of special-status species habitat and permanent fill impacts in jurisdictional waters of the U.S. and state that would be realized by

the Project. However, compensation for California red-legged frog habitat effects would be retained. A detailed overview of SME is presented here because SME enhancement is primarily or entirely outside of the highway right-of-way and substantially expands the Project Area, presents new impacts (both beneficial and temporary adverse), and replaces existing measures in the EIR. The Project's Environmental Commitments Record (ECR) is updated with this Final SEIR and supersedes the previous version. It is included as 0.

2.3.9.1. Strip Marsh East Enhancement

The following paragraphs describe the SME setting and conceptual options for enhancement. SME is included as a minimization measure to the overall Project because it would create new habitat types critical to threatened and endangered species through actions to enhance marsh ecological conditions. Following environmental and public review, SME will be further refined with respect to design, schedule for implementation, and responsible parties. SME is not in the Caltrans right-of-way and will remain under the management and control of the Refuge. Construction of the SME enhancement may be carried out separately from construction of the highway elements to allow selection of appropriately qualified contractors for these two different efforts.

2.3.9.2. Location

The SME unit of the USFWS-managed Refuge, which includes CDFW parcels, is in Solano County. It lies between SR 37 on the north, San Pablo Bay on the south, the Pond 1/1A Intake Channel on the west, and Mare Island on the east. SME is about 3.5 miles long east-to-west and 0.57 mile wide north-to-south. SME serves two major functions: habitat for a variety of marsh-dependent species and nature-based shoreline protection for SR 37. The Project's study area was expanded to include SME and areas adjacent to SME. Figure 2-1 shows the location of SME.

2.3.9.3. Site Background

Tidal marsh at SME was formed via wave-deposited sediment atop San Francisco Bay mudflats that expanded outward into the bay. Most of the marsh was formed between 1940 and 1980. The outer bayfront edge is primarily a relatively low-shear berm made up of coarse sediment on top of Bay Mud; it obstructs drainage of the shallow lagoon behind it. In 1953, Leslie Salt, a salt-producing company in the San Francisco Bay Area, constructed a bay water intake channel through the marsh unit (hereafter referred to as the Pond 1/1A channel). The channel was mechanically dredged, and material from the excavation was side-cast to create berms on the eastern and western sides of the channel. The resulting berms further obstructed drainage at SME, resulting in seasonal flooding and impoundment in the low elevation internal basin.

As sea levels rose through the twentieth century, the impoundment of rainwater, spring tide flooding, and intermittent wave overtopping of the bayfront berm increased, as did the duration of marsh flooding into the spring through summer growing season. Marsh vegetation dieback because of repeated and prolonged inundation and increasingly hypersaline soils began its severe trajectory in the 1990s, after the end of severe drought that exacerbated poor soil conditions.

The bayfront marsh edge is experiencing shoreline retreat. The San Francisco Estuary Institute (SFEI) found shoreline accretion for the measured period of 1993 to 2010 switching to shoreline retreat for 2010 to 2018 (SFEI 2020).

2.3.9.4. 1996 Mitigation Project

In 1996, as a mitigation action, Caltrans cut two small drainage ditch networks in the interior of SME in response to marsh drowning and dieback. Western and eastern ditch networks were created in the SME interior with the intent of improving drainage to the Pond 1/1A channel and San Pablo Bay. The western ditch network was constructed by expanding and extending (to approximately 10 feet wide by 5 feet deep) an existing drainage ditch that connected to the Pond 1/1A intake channel; and by constructing nine

lateral drainage channels (approximately 4 feet wide by 3 feet deep), extending south from this ditch into the interior marsh basin. The eastern ditch network cut a new channel (approximately 7 feet wide by 4 feet deep) that meanders through the marsh interior and connects to the bayfront mudflats at the eastern end of SME. Two small lateral ditch cuts (approximately 3 feet wide by 1.5 feet deep) were constructed off this eastern ditch.

These ditches did improve drainage initially. However, all ditches soon filled with accumulated sediment and debris, restricting the lateral sheet flow from the flooded marsh. These built up areas eventually established thick pickleweed vegetation that further restricted drainage. The interior marsh quickly returned to a cycle of prolonged flooding during the spring and, in some years, through summer growing season months. This prolonged flooding and the resulting decrease in soil quality accelerated strip marsh vegetation dieback. The SME interior flats became barren during the dry season and underwent organic soil erosion down to the Bay Mud substrates, which in turn increased the duration of submergence periods in wet years.

2.3.9.5. Existing Conditions

Topography and Bathymetry. Topography is the study of the land's surface, including hills, mountains, valleys, rivers and craters. Bathymetry is the measurement of the depth of water in oceans, rivers, or lakes. North American Vertical Datum of 1988 (NAVD88) is a geodetic vertical datum or coordinate system with a reference surface (such as sea level) that is used as a reference for elevation measurements across North America. The elevations of the site interior are in the upper-intertidal range (5.0 to 6.5 feet NAVD88) with the lagoon flats generally occurring below 5.5 feet NAVD88 and vegetated tidal marsh generally occurring above this elevation. The site interior is surrounded by a rim of land around the perimeter that is above the elevation of local mean higher high water (MHHW) elevation. Along the bayfront edge, there is a high marsh berm, partially composed of dense wrack deposits and extending more than a foot above local MHHW in some locations. The berm on the eastern side of the Pond 1/1A intake channel has elevations of more than 11 feet NAVD88 at some locations; the berm on the western side of the intake channel is larger and reaches elevations of up to 14 feet NAVD88. The northern boundary of the site consists of SR 37 and the Figueras Tract levee; the eastern boundary consists of the Mare Island levee system, all of which create abrupt transitions to elevations above tidal mean high water (MHW) that are greater than 9 to 10 feet NAVD88. The only location around the site perimeter with intertidal elevations is the small gap in the Pond 1/1A intake channel eastern berm at the extreme northwestern corner of SME. Of the roughly 8.5-mile SME perimeter, only about 15 feet (0.03 percent) occurs below high tide.

The lagoon flats in the marsh interior generally exhibit less than a half-foot of elevation variation. However, even minor elevation variations in the site interior can affect marsh hydrology.

The Pond 1/1A intake channel bottom depth varies from shallow subtidal to lower intertidal elevations (-1 to +1 foot NAVD88) along its length. Generally, the channel becomes progressively deeper from the existing water control structure on the southern side of SR 37 to where it enters the bay. A deep scour hole with elevations extending below -5 feet NAVD88 is present at the head of the channel, immediately below the Pond 1/1A intake structure. At the confluence with the bay, the channel forms a broad, shallow (approximately 0.5-foot-deep) swale across the mudflats. The distance that this swale persists across the mudflats is not known and may vary throughout the year based on the hydrologic management of Ponds 1/1A.

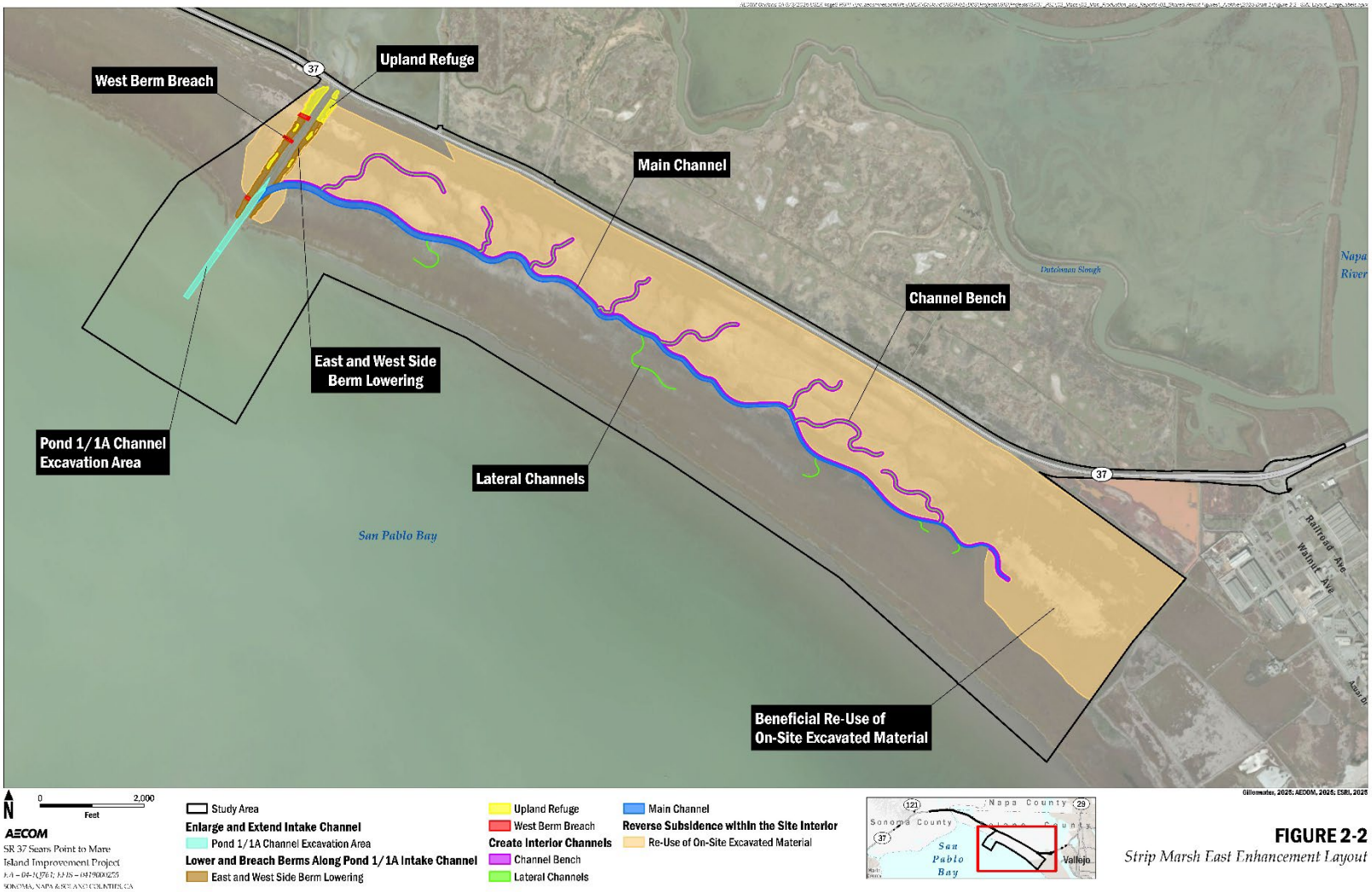

FIGURE 2-2
Strip Marsh East Enhancement Layout

Figure 2-2 Project Layout (Strip Marsh East Enhancement)

Northern San Pablo Bay is very shallow in the vicinity of the Project Area. SME, like other fringing tidal marshes that occur along the northern bay shore, is bordered by broad intertidal mudflats that are up to 2,000 feet wide at SME. South of these intertidal mudflats, shallow subtidal bay bottom elevations gradually decrease toward the south to the San Pablo Bay Deepwater Shipping Channel. There are no continuous deepwater navigation channels in northern San Pablo Bay between the Petaluma River to the west and the Napa River to the east. As a result, navigation in the vicinity of the Project Area is difficult and limited to higher tide stages that afford adequate draft.

Hydrology. There are four external drivers of the hydrologic regime at SME: tides, wind, storms, and nearshore bay bathymetry. These drivers interact with SME topographic features though time. The interplay between these external drivers and site geomorphology dictates the inundation regime. Site inundation and desiccation cycles alongside salinity are the primary controls of ecology on site.

Winter storms are the primary water inputs to SME. Early season rains first saturate site soils then subsequent storms generate ponding. The very poor drainage results in ponding lasting for one to three months following spring storms. How late ponding persists depends on the winter rainfall and when spring rains end.

The very small channel (a few feet wide) at the northwest corner of the site at the northern end of the Pond 1/1A intake channel provides minimal tidal exchange. Winter 2024 measurements found tidal variation within the interior of SME on the order of 0.1 ft. Wind-wave overtopping of the bayfront marsh edge is the primary source of bay waters. Overtopping occurs mainly during winter storms that combine with extreme high tides. The broad shallow Bay mudflats offshore of SME dampen wind waves and resuspend bay sediment which, along with floating debris, deposits along the bayfront marsh edge, incrementally raising this berm height and reducing future overtopping. Observed bay shoreline erosion in combination with projected sea-level rise and higher intensity winter storms suggest this naturally formed berm may experience ongoing erosion and retreat over time into SME. Landward erosion of SME's edge along San Pablo Bay has also destabilized the marsh system and contributed to the gradual loss of this landscape feature. This long-term and large-scale change along the margins of San Pablo Bay may continue to result in habitat loss, reduced topographic elevations in the marsh, reduced flood risk resiliency along SR 37, and other effects that could be further avoided or minimized by restoration of SME.

Sea-level rise is an external factor that affects the height of both high- and low-tide events, which in turn will continue to affect the frequency, depth, and duration of tidal flooding. At SME, sea-level rise will affect the cumulative time marshes are submerged at higher high tides, which can lead to gradual conversion from higher marsh to lower marsh and in decadal time scales mudflat. Deposition of sediments transported up the channel and over the bayfront berm can contribute to marsh accretion, though regional sediment supplies and sea-level rise will reduce available sediment. Thus, projecting sedimentation for SME has not been undertaken. These processes are outside the control of this Project and are considered in the design approach.

The large, unchannelized SME interior is a seasonal lagoon flat that drains water very slowly, over a period of months. The relatively high-elevation bayfront natural berm blocks outflows and allows inflows from wind-wave overtopping with higher high tides. The berm along the Pond 1/1A intake channel blocks inflows and outflows. Mare Island to the east is high-elevation land. The only surface water drainage location at SME is the very small channel (a few feet wide and deep) at its northwest connection to the Pond 1/1A intake channel. The variability in elevation at the SME interior has segmented the site into subbasins that further limit drainage.

Habitat. SME is a seasonally inundated marsh with a mosaic of habitat types driven by elevation, inundation, plant communities, soil characteristics, and vegetation cover. Over the last few decades, the habitat quality has degraded significantly in large swaths of the unit, particularly the interior lagoon flats, due to poor drainage and excessive inundation.

- **Bay Edge Marsh Complex.** The Bay Edge Marsh complex is composed of the landward-retreating, wave-built high salt marsh berm, bordering fully tidal marsh and flats, separated by an active vertical wave-cut scarp (a steep bank or slope that separates two relatively flat areas with different elevations).

- **Outer Salt Marsh.** The outer, bayward salt marsh terrace extends landward from the Bay Edge Marsh berm, ending where it merges with the interior lagoon flats. The outer salt marsh has a relatively consistent elevation plain that is almost entirely dominated by tall pickleweed. It is inundated by winter storms, winter wave overtopping, and borders interior seasonal ponding.

- **Interior Lagoon Flats (Basin).** During the winter and spring season, storm events and wave overtopping cause the interior lagoon flats of SME to become completely inundated with water. Groundwater saturation reaches surface elevations, and meadows of widgeon grass (*Ruppia maritima*; a perennial aquatic herb) begins to regrow across portions of the lagoon flat. During summer months, the water rapidly evaporates, leaving behind desiccated widgeon grass mats across the lagoon bed and hypersaline soils devoid of vegetation. Where widgeon grass does establish, the interior lagoon is unvegetated substrate. These interior flats are barren of vascular plants that live along the shoreline or near the water's edge and banks. Decades of excessive flooding during the growing season caused long-term dieback of the formerly dense, continuous pickleweed salt marsh that once thrived in these locations. The progressive net dieback of pickleweed salt marsh was followed by marsh soil decomposition and erosion, leaving a mosaic of growing salt panne (depressions) that coalesced into a vast, shallow intermittent nontidal lagoon. Since 2001, more than 600 acres of vegetated tidal salt marsh in these internal lagoons at SME have degraded (Toms et al. 2022). The lagoon salinity varies seasonally, and evaporative concentration of seawater brine follows. High-water-surface indicators suggest a maximum lagoon stand of approximately 12 to 16 inches flood depth, lasting into the summer growing season in years of late high rainfall.

- The lagoon flats are extensively but not entirely dominated by widgeon grass, a native salt-tolerant pondweed. Widgeon grass extent varies within and between years. No data exists on its full extent and when it first appeared at SME. The widgeon grass meadows intergrade with flooded pickleweed in a transition zone at the bayward edge of the lagoon. Widgeon grass meadows at SME are productive foraging habitat for dabbling and diving ducks, shorebirds, herons, and egrets. Widgeon grass is a Habitat of Concern as identified by the National Marine Fisheries Service (NMFS) under the Magnussen-Stevens Act.

- **Interior Salt Marsh.** The only salt marsh vegetation remaining along the highway embankment, extending toward the lagoon bed, exists at the northwestern end of SME, where some limited tidal connectivity to the ditch system remains. The narrow breach in the intake canal berm provides heavily muted tidal circulation to a segment of a narrow (less than 3 feet of open water surface between its banks) and steep-sided ditch. The lagoon is encroaching on this remnant salt marsh.

- **Intake Channel and Fringing Marsh.** The Pond 1/1A intake channel is approximately 15 to 20 feet wide along most of its length. Much of the original channel has infilled with parallel strips of pickleweed-dominated tidal salt marsh between the active channel and the adjacent intake channel berms.

- **Intake Channel Berms.** These mostly upland berms support a weedy matrix of terrestrial vegetation, which includes coyote brush, upland mustards, poison hemlock, and fennel.

- **Perimeter Ruderal/Uplands.** Along the SME boundaries with SR 37 and the Mare Island levee system, the interior wetland and lagoon flat habitats transition to adjacent levees and roadways. These upland areas around the perimeter are similar in vegetation composition to the intake channel berms and levee weedy flora in the vicinity.

2.3.9.6. SME Enhancement Goals and Objectives

SME enhancement goals describe the intended outcomes of proposed actions, and the objectives describe the measurable actions intended to minimize Project impacts on protected natural resources. It may not be possible to meet all the goals and objectives presented here. Construction feasibility, environmental impacts, and costs are meaningful factors that may limit what can be achieved.

2.3.9.7. Enhancement Goals

1. Provide for recovery and durability of habitat, habitat access, and ecological functions of SME perennial emergent marshlands for special-status fish, wildlife, and plants with potential to occur that use channelized emergent marsh.
2. Provide for durability of SME as natural flood attenuation and shoreline erosion protection for SR 37.
3. Beneficially reuse excavated sediment on site, to the greatest extent feasible.
4. Create new wetlands and waters connected to San Francisco Bay.
5. Meet landowner and land manager's, and adjacent landowner/manager's, requirements.

2.3.9.8. Primary Objectives

1. Convert extensive interior seasonal lagoon flats back to relatively continuous emergent salt marsh vegetation and habitat structure suitable for salt marsh harvest mouse (*Reithrodontomys raviventris*) and other marsh-dependent special-status fish and wildlife species, to the greatest extent feasible.
2. Increase elevations in the enhanced interior marsh over time through sedimentation and biomass accumulation, allowing marsh to keep pace with sea-level rise as much as possible; and support marsh vegetation, to the extent nature can provide.
3. Create high-water refuge habitat in the marsh interior for native small mammals, to increase resilience to extreme tides and storms associated with sea-level rise, if feasible.
4. Create additional marsh channel habitat in the marsh interior to support primary management target fish wildlife species in the Refuge, if feasible.
5. Do not increase mosquito production in SME that would substantially increase treatment requirements at the Refuge.
6. Lower elevations of existing upland areas in SME to convert them to wetlands and waters, where appropriate and achievable.

2.3.9.9. Coordination

Caltrans, MTC, and its county transportation partners coordinated and collaborated with state, federal, county, local, regulatory partners and nonprofit organizations. Coordination among the Project Team and stakeholders has included the USFWS, Regional Water Quality Control Board (RWQCB), United States Army Corps of Engineers, United States Environmental Protection Agency (U.S. EPA), NMFS, San Francisco Bay Conservation and Development Commission, CDFW, California State Lands Commission (SLC), Federated Indians of Graton Rancheria (FIGR), the Yocha Dehe Wintun Nation, SFEI, Audubon Society, Napa-Sonoma Marsh Restoration Group, SME landowners/managers (USFWS, SLC, and CDFW) and others.

2.3.9.10. SME Enhancement Activities

The Project would enhance drainage, establish regular tidal exchange, and improve ecological function at SME through earth-moving activities in the SME interior, and at the Pond 1/1A channel. Improved ecological functions would be achieved by improving tidal connectivity between existing seasonal lagoons and San Pablo Bay. The anticipated results would convert recently established seasonal lagoons/widgeon

grass mats that replaced emergent tidal marsh since the late 1990s to a mosaic of tidal marsh habitats, including perennial vegetated emergent salt marsh, tidal pans, and tidal channels. Emergent vegetation anticipated within the tidally restored areas would be Pacific cordgrass (*Spartina foliosa*), alkali bulrush (*Bolboschoenus maritimus*), annual and perennial pickleweed (*Salicornia bigelovii* and *Salicornia pacifica*), saltgrass (*Distichlis spicata*), Frankenia (*Frankenia salina*), and Jaumea (*Jaumea carnosa*) in the low to high marsh plains. Upland transition zones and uplands areas are anticipated to provide refugia consisting of marsh gumplant (*Grindelia* spp.), creeping wildrye (*Leymus triticoides*), and coyote bush (*Baccharis pilularis*). This mosaic of vegetated tidal brackish to salt marsh habitats would support greater biodiversity when compared to the existing seasonal lagoon/widgeon grass mats and barren flats habitats that dominate SME interior. The proposed enhancement would support the threatened and endangered species that have historically occupied SME in greater densities than currently occur, would provide subtidal and intertidal channel habitats not previously found at SME, and is expected to provide habitats that are persistent and resilient through all seasons, recognizing that over multidecadal time scales sea-level rise will slowly shift these habitats to low marsh and mudflats.

To achieve this salt marsh habitat enhancement and ecosystem uplift, the following construction activities would be included:

1) **Enlarge and extend the Pond 1/1A intake channel.** Bay and marsh soils would be excavated from offshore mudflats, the intake channel, and the tidal marsh alongside the intake channel to create a wider and deeper tidal connection between San Pablo Bay and SME. Excavation would take place with a combination of a suction dredge and/or barge-mounted excavator supported by land-based equipment along the intake channel berms.

2) **Lower berms along the Pond 1/1A intake channel.** Lower the berms on both sides of the intake channel using land-based equipment. The eastern berm would be retained just above tide level initially to function as the containment berm for all the interior SME work and final lowering and notching of eastern and western berms would occur following completion of interior work. Berms at the northern end in the CDFW property would be retained as upland refuge that helps accommodate sea-level rise. The remainder of the berms in the Refuge would be lowered mostly to high marsh refuge, with some areas retained to serve as upland wildlife refuge and accommodate sea-level rise, and some converted to marsh swales (western berm and the central channel or eastern berm).

3) **Create interior channels.** Channels in the SME interior would be excavated using a suction dredge and/or excavator. Berms intended to contain dredged sediment from the channel construction would be set back a short distance from the channels to create adjacent mid-marsh benches.

4) **Reverse subsidence in site interior.** Material excavated from channel dredging, berm lowering and notching, and channel excavations would be placed into the SME interior to raise subsided lands. Material excavated from the site interior would be placed with land-based equipment as direct sidecast material, temporarily stored or sidecast on site; and then spread across the SME interior with land-based equipment. Original material removed with dredge equipment would be pumped directly from the excavation area via a pipe system and placed as a slurry in the SME interior.

5) **Reverse Subsidence Adjacent to Pond 1/1A Intake Channel Berms.** A portion of the soils excavated from berm lowering would be used to reverse subsidence within about 500 feet of each berm. Subsidence reversal will be performed using these soils to construct gentle gradient marsh slopes from the lowered berm elevations of 6.5 to 7.5 feet NAVD88 out to existing interior grades. Western berm soils will be dispersed in a manner that directs drainage to three constructed marsh swales that would connect to the Pond 1/1A intake channel**.**

The following sections describe these design elements, their maximum potential footprints and estimated cut/fill volumes, and construction considerations. The following descriptions of SME enhancement construction activities represent the maximum practicable implementation of potential design elements. During the design phase, these activities and elements may be reduced or eliminated to minimize construction impacts, if the stated goals can be achieved through a reduction in construction activities and construction footprint at SME.

Elements 1 to 4 are essential to reestablishing perennial emergent tidal marsh to the site interior. Element 5 (Stabilize Bayfront Edge) is not currently essential to the core goals of the Project but is considered here as an element that could address the long-term resilience of the site. Therefore, Stabilize Bayfront Edge is given programmatic treatment at this design stage, is not included in the Project's cost estimate, and will be further evaluated during the plans, specifications and estimate phase.

Figure 2-2 illustrates the range of conceptual design features for the proposed SME enhancement (based on Audubon et al. 2024). Further refinements to the design have been made based on conversations with landowners and managers, as discussed in the Summary section. Portions of the eastern and western berms would be retained for upland refugia, and swells/notches would be implemented on the western side to provide better drainage flow.

2.3.9.11. Design Elements Considered and Not Advanced

Based on input from the Project Team and stakeholders, the following two design elements that were considered by the Project Team and stakeholder partners were not pursued further:

- reusing soils excavated from the Project site to construct a habitat transition ramp along the upland border with SR 37 and Figueras Tract; and
- exporting soils excavated from the Project site to other nearby marsh restoration sites.

The Project Team and its stakeholder partners concurred that SME's interior subsidence reversal presented the most feasible, beneficial, and cost-effective reuse option for sediments excavated from the Project site. Accordingly, these two reuse options were not advanced at this stage.

2.3.9.12. Elements Being Considered

There are five elements that are being considered for SME implementation. Brief descriptions of each are provided below:

Element 1: Enlarge and Extend Intake Channel. The current intake channel is too small to accommodate the additional tidal prism (volume of water flowing between mean high tide and mean low tide) that the proposed channels within a reconnected SME interior would require to support enhancement goals. The proposed SME enhancement would involve dredging the Pond 1/1A intake channel and portions of the adjacent mudflats in San Pablo Bay to the target design geometry. Other approaches may be considered during final design that would allow natural scour to enlarge the intake channel to the required geometry or dredge a new independent channel connection to San Pablo Bay.

The Pond 1/1A intake channel would be dredged to a bottom width of 120 feet, with 1:1 side slopes and a bottom elevation of -4 feet NAVD88. Dredging would continue for 600 feet until it turns into the SME interior. The layout of the maximum channel dredging scenario is shown on Figure 2-2.

Element 2: Lower Berms Along Pond 1/1A Intake Channel. The SME enhancement would involve excavating material from the berms on either side of the Pond 1/1A intake channel to greatly increase the tidal exchange and reduce the prolonged ponding in the interior marsh. These berms are approximately 3,000 feet in length, the western berm slightly longer than the eastern berm. Lowering the eastern berm improves connectivity with the interior of SME; lowering the western berm improves connectivity in the eastern extent of Sonoma Creek East, where emergent perennial marsh vegetation loss has been

expanding in recent years. Based on discussions with the Refuge and CDFW, the intake channel berms would be modified into four habitat types including:

1) **Upland refuge and long-term sea-level rise accommodation.** Elevations will range from 7.5 feet NAVD88 up to roughly 10 to 14 feet NAVD88. These areas will include the CDFW-owned berm sections closest to SR 37 (roughly 750 feet in length), which will be minimally graded for construction access and staging; and two sections of the southern Refuge reaches of each berm.

2) **High marsh refuge.** Elevations will range from 6.5 to 7.5 feet NAVD88 (MHHW to +1 foot MHHW). These areas will be on the southern Refuge reaches of each berm.

3) **Mid-marsh drainage swales (western berm only)**. Swale invert elevations will be about 5.0 feet NAVD88, and swales will extend across the infill tidal marsh in the intake channel to allow unimpeded drainage from the SME interior.

4) **Central channel (eastern berm only)**. The channel's bottom elevation will match the -4 feet NAVD88 of the central channel with SME interior and the enlarged intake channel.

Element 3: Create Interior Channels and Mid-Marsh Benches. The SME enhancement is intended to improve internal site hydrology by cutting channels into the SME interior to increase flows into and drainage from the site interior. This enhancement design reflects a hybrid approach that blends elements of the "channel-swale" and "channel network" design options. The channel network will consist of a large central channel running east to west, with uniform width/depth tapering down from the Pond 1/1A intake channel at the western end toward the far eastern end of the site. At the western end, the channel will have a bottom width of 120 feet and an invert elevation of -4 feet NAVD88. Figure 2-2 summarizes the preliminary design elements associated with the channel network approach.

Element 4: Reverse Subsidence within the Site Interior. Construction of the various elements described in the preceding sections could generate in excess of approximately 670,00 cubic yards of excavated soils, depending on the final Project design. The primary approach to reusing soil to reduce subsidence in SME site interior would be to create thin marsh lifts and or marsh mounds. Marsh mounds are simply low mounds of excavated soil, either sidecast directly by an excavator, or loaded into a truck and transported to the desired placement location. These features would create topographic variance and habitat in the marsh plain. The varied mounding would function as high-water refugia for marsh wildlife during high tides and storm events and would serve as concentrated vegetated areas in severely subsided sites.

Element 5: Reverse Subsidence Adjacent to Pond 1/1A Intake Channel Berms. The bayfront edge of the SME marsh indicates signs of erosion, which results in loss of marsh habitat area and could eventually subject a subsided marsh to increased wave energy and erosion. The Project is considering activities to stabilize the bayfront edge of SME to preserve its function as nature-based shoreline protection for SR 37. Bank stabilization methods could result in potential impacts from placement of fill in waters and would be determined during final Project design and permitting.

2.3.9.13. Anticipated Ecological Outcomes – Tidal Channel Network Approach

In the near-term, the construction of a tidal channel network would permanently convert the seasonal widgeon grass lagoon area to channelized sloughs, tidal mudflats, fringe marsh, perennial vegetated tidal saltmarsh, and upland refugia habitat. This mosaic of tidal wetlands would enhance and increase (in area and diversity) habitat elements that are vital to focal threatened and endangered species in the Project area.

The tidal channel banks at the western end of SME would establish vegetation cover through natural recruitment or planting with California cordgrass. It would then be expected to establish continuous low cordgrass marsh emerging near the MHW elevation starting at the tidal source. The eastward extent of cordgrass marsh is uncertain; it would depend on the final design dimensions of the new channel network

and the duration of marsh hypersalinity events (high concentration of salt) during summer neap tides (the seasonal period of moderate tides) closer to the high-tide line (HTL). Pacific pickleweed (Salicornia pacifica) and annual pickleweed (*Salicornia depressa*) establishment would likely be very rapid on all converted lagoon bed areas with enhanced elevations at or above MHW, with Pacific pickleweed dominant in zones closer to tidal sources and channel banks, and mixed annual/Pacific pickleweed stands more prevalent in flats farther from channel banks. Tall alkali bulrush (*Bolboschoenus maritimus*) patches may establish at and below MHW near the tidal source at the western end if the first few years after tidal breaching coincide with high rainfall and brackish salinity through early to mid-summer. Where severe persistent adverse substrate and groundwater conditions occur at the far eastern end of SME (e.g., hypersalinity, sulfide accumulation, and acid sulfate soils), pioneer plant colonization could be inhibited after tidal restoration, and may require years of sediment burial to become receptive to plant colonization (Audubon et al. 2024). In contrast, tidal sedimentation rates and substrate conditions for rapid marsh plant recruitment and establishment would likely be high near the tidal source at the western end, attenuating toward the head of tide. Differential salt marsh accretion rates near the head of tide may re-isolate some lagoon bed areas as pans—but smaller in extent than existing conditions, and subject to tidal flooding on spring tide series (high-tide periods during the new or full moon [when the earth, sun, and moon are aligned]). New pans or pools would likely be always submerged and receive consistent tidal exchange twice daily; they are expected to be more ecologically productive than the existing summer-desiccated lagoon beds. The submerged tidal pans and pools are expected to support fish and invertebrate populations that are not supported under existing conditions.

The projected area of SME habitat change by type for the proposed tidal channel network design was estimated at the initial completion of enhancement construction and at 5 and 10 years after construction completion, based on an analysis of the restoration success at three nearby restoration projects: Sonoma Baylands, Sonoma Creek West, and Lower Tubbs Island (Audubon et al. 2024). Using aerial images of these three nearby restoration projects, a low to high probability of new emergent marsh vegetation was estimated for the habitat restoration at SME. At all three nearby restoration sites, the marsh elevations and channels were newly constructed, producing a major shift in hydraulic regime and emergent marsh habitat that resulted from progressive vegetation colonization of unvegetated mudflats, ponds, or pannes. At the 5-year point, emergent marsh vegetation may be established within a range of 15 percent at the low estimate to 80 percent at the high estimate of the existing interior seasonal lagoons. At the 10-year point, approximately 45 percent at the low estimate to 85 percent at the high estimate of the existing seasonal lagoon may be converted to emergent marsh. Table 2-1 summarizes the estimated restoration outcome at SME with the proposed construction scenario. The processes that will drive future marsh change at SME may differ from those at the other sites examined to develop this estimate.

Table 2-1 SME Projected Probabilistic Habitat Changes with Enhancement

Scenario	Channels (acres)	Interior Lagoon Flats (acres)	Emergent Marsh (acres)	Tidal Flats (acres)	Total (acres)
Existing Conditions	0	600	0	0	600
Year 0	50	0	0	550	600
Year 5	50	0	80	470	600
Year 10	50	0	230	320	600

Note:
SME = Strip Marsh East

The anticipated long-term rate of restoration after enhancement would be dependent on sea- level rise changes, site response to external environmental factors, and sediment accretion. A brief opinion on the potential long-term succession over time is presented here. The large constructed tidal channel may erode and widen due to tidal prism increases driven by seal-level rise, and converting areas where

cordgrass establishes after enhancement to open waters over time. The interior marsh accretion rates would not be likely to keep pace with sea- level rise by mid-century, especially towards the HTL at the eastern end. As sea levels increase as anticipated, pickleweed marsh would convert to cordgrass marsh. The outer pickleweed salt marsh would narrow to a barrier island marsh surrounded by open water on the southern side, and cordgrass marsh and channel on the northern side. The edge of the retreating bay marsh (the bank or scarp) could begin to breach the channel where embayments or wave-driven surge channels reach landward ahead of the average scarp position. If this threshold condition occurs, it would likely accelerate marsh erosion and could destabilize breached marsh fragments as bay wave energy crosses the deep interior tidal channel and jumps to the landward bank. Late-century SME salt marsh stability of the tidal channel would provide higher resilience in the near term, but may be less stable over the long term in comparison to a less intensive restoration design approach.

2.3.9.14. Post Construction and Adaptive Management

After completion of construction activities, Caltrans will implement a 10-year monitoring and adaptive management plan. Monitoring and adaptive management would assess post restoration conditions at SME and implement measures as appropriate and, if resources allow, would address potential site changes to better meet targeted restoration conditions. A monitoring and adaptive management plan will be developed in coordination with USFWS Refuge managers and environmental regulatory agencies with jurisdiction during the Project's final design and permitting stage.

Postconstruction adaptive management measures could include excavation to address localized drainage issues; placement of Bay Mud at locations as needed, to improve vegetated marsh coverage or address subsidence that could lead to reduced water quality events at spot locations; placement of rootwads, seeds, or plant starts to improve vegetation establishment; management of nonnative invasive weed species; and placement of large woody debris or rock along the shoreline edge.

2.3.9.15. SME Construction

Equipment could include barge-mounted excavators, clamshell and amphibious excavators, bulldozers and other earth-moving vehicles, and suction dredges.

Other Project Features

This Project includes standardized features that are employed on most, if not all, Caltrans projects, in accordance with standard specifications, state and federal laws, and anticipated standard environmental permit conditions; they were not developed in response to any specific environmental impact resulting from the proposed Project. Project features (PFs) are separated from Environmental Commitments, which directly relate to the impacts resulting from the proposed Project. The PFs presented in the 2023 Final EIR/EA remain applicable and unchanged. AMMs are included in the ECR in 0.

2.4 Avoidance and Minimization Measures

The revised ECR for the proposed Project is summarized in 0. The avoidance, minimization, and/or mitigation measures (AMMs) described within 0 will be implemented to avoid, minimize, and/or mitigate impacts to environmental resources.

The existing measures presented in the 2023 EIR/EA are largely unchanged, but the inclusion of SME into the proposed Project has resulted in the need to revise AMMs so that they describe how the Project will address permanent impacts and construction activities focused on habitat restoration in SME. In the 2023 Final EIR/EA, mitigation measures **BIO-07, BIO-26, BIO-30**, and **BIO-35** proposed in-lieu-fee-based compensation for permanent impacts on protected natural resources via offsite restoration to be completed in coordination with Caltrans and implemented by others. These mitigation measures would be superseded with inclusion of minimization measure **BIO-41a. Tolay Creek Bridge Replacement** and **BIO-41b, Strip Marsh East Enhancement** in the proposed Project. Because the proposed SME

enhancement includes dredging activities, AMM-BIO-42 was developed and is included in Section 2.4.2 in this Final SEIR.

2.4.1. Changes to Measures in the EIR

Measures from the original EIR that are changed include Minimization Measures **BIO-07**, **BIO-26**, **BIO-30**, **and BIO-35**. Additionally, **AMM-VMT-1: Bus Service, Ride Sharing** was included in the 2023 EIR/EA, but the title has been modified to **AMM-VMT-1: Ride Sharing and Possible Bus Service** to clarify that it could include ride-sharing and micro-transit such as vanpooling, shuttling-pooling, and possibly bus services.

The revised measures are presented in the following paragraphs.

- **AMM-BIO-07. Wetlands and Other Waters Minimization.** Caltrans will offset temporary impacts during construction to wetlands and other waters by restoring disturbed areas to pre-Project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.
- **AMM-BIO-26. Minimization for Ridgway's Rail Habitat Effects.** Caltrans will offset temporary impacts during construction to Ridgway's rail (*Rallus obsoletus*) habitat by restoring disturbed areas to pre-Project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.
- **AMM-BIO-30. Minimization for Salt Marsh Harvest Mouse and California Black Rail Habitat Effects. Caltrans** will offset temporary impacts during construction to salt marsh harvest mouse and California black rail (*Laterallus jamaicensis coturniculus*) habitat by restoring disturbed areas to pre-Project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.
- **AMM-BIO-35. Minimization for Chinook Salmon, Steelhead, Green Sturgeon, Longfin Smelt, and Delta Smelt Habitat.** Caltrans will offset temporary impacts during construction to fish habitat by restoring disturbed areas to pre-Project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.
- **AMM-VMT-1: Ride Sharing and Possible Bus Service.** This AMM is modified to clarify the different types of transit options that would be considered and implemented beyond tolling, if necessary, to further reduce any potential increases in vehicle miles traveled (VMT). In the 2023 Final EIR/EA, bus services and ride sharing were discussed as options under this AMM that could take advantage of the added HOV lanes. This revised AMM would still include carpooling and could also include micro-transit options such as ridesharing, vanpooling, and shuttle-pooling. Bus services may also be considered.

2.4.2. New Measures

New Minimization Measures **BIO-41a**, **BIO-41b**, **BIO-42**, **BIO-43**, **BIO-44**, and **BIO-45** are presented below to address the addition of SME to the Project permanent impacts on protected natural resources, and potential for western pond turtle presence at the Tolay Creek Bridge Replacement. The list below also presents new AMMs to address potential Project impacts on Tribal Cultural Resources that are further discussed in Section 3.16.

- **AMM-BIO-41a. Tolay Creek Bridge Replacement.** Caltrans will replace the existing Tolay Creek Bridge with a 365-foot-long, pile-supported bridge; and remove existing fill in the historic Tolay Creek channel to improve hydrology, increase tidal prism, and create new habitat for special-status species. Tolay Creek Bridge replacement is anticipated to create approximately 1 acre of new waters from existing uplands.
- **AMM-BIO-41b. Strip Marsh East Enhancement.** Caltrans, in coordination with landowners, land managers, and environmental agencies with jurisdiction, will enhance approximately 600 acres of

degraded salt marsh habitat in an approximately 1,400--acre area of the Refuge's SME Unit. Marsh enhancement is anticipated to benefit salt marsh harvest mouse, fish species (including steelhead [*Oncorhynchus mykiss*], Chinook [*Oncorhynchus tshawytscha*], Delta Smelt [*Hypomesus transpacificus*], Longfin Smelt [*Spirinchus thaleichthys*], Green Sturgeon [*Acipenser medirostris*]), Ridgway's rail, California black rail, shorebirds, and other special-status species that require channelized marsh habitat. SME enhancement through creation of a new channelized network is anticipated to create up to approximately 11.1 acres of new wetlands and other waters from existing uplands at the Pond 1/1A intake channel berms, 230 acres of new emergent salt marsh habitat, and 50 acres of channelized tidal waters; and restore tidal function to the SME interior.

Note that **AMM-BIO-41b** and **AMM-BIO-41a** are proposed by Caltrans to fully address permanent impacts on special-status species (except the California red-legged frog), special-status species habitat, and jurisdictional waters. Any other or additional minimization or mitigation required will be determined during final design of the Project, in consultation with regulatory agencies with jurisdiction.

- **AMM-BIO-42. Strip Marsh East Pond 1/1A Intake Channel Dredging Work Windows**. To minimize potential impacts on special-status species during work to excavate material from the Pond 1/1A intake channel and north San Pablo Bay, dredge activities will be conducted consistent with applicable species work windows accepted in the Dredged Material Management Office's Long-Term Management Strategy for the for the Placement of Dredged Materials in the San Francisco Bay (available online here: https://www.spn.usace.army.mil/Missions/Dredging-Work-Permits/Guidance/). Specific work windows may be adjusted during Project consultation with state and federal regulators during Project permitting.

- **AMM-BIO-43. Post Construction Monitoring at SME.** Prior to commencing Project impacts, a monitoring and adaptive management plan will be developed in coordination with USFWS Refuge managers and environmental regulatory agencies with jurisdiction. After completion of SME construction activities, Caltrans will implement the approved 10-year monitoring and adaptive management plan. Monitoring and adaptive management would assess post-restoration conditions at SME, implement measures as appropriate, and, if resources allow, address potential site changes to better meet targeted restoration conditions.

- **AMM-BIO-44: Visual Encounter Surveys (VESs).** This measure only applies to suitable aquatic habitat found along Tolay Creek and at freshwater drainages at Tubbs Island. Preconstruction surveys to detect western pond turtles in aquatic habitats shall consist of VESs performed either between April and September (optimally) in the northern range of the species (northwestern pond turtle), on sunny days between 8:00 AM until 12:00 PM to 17:00 PM (adjusted to the local weather). VESs should focus on suitable aerial and aquatic basking habitat such as logs, branches, rootwads, and riprap, as well as the shoreline, adjacent warm, shallow waters, and open waters where pond turtles may be present below the water surface beneath algal mats or other surface vegetation. VESs should be performed with binoculars or spotting scopes before directly approaching suitable habitat to prevent disrupting and flushing basking turtles.

- **AMM-BIO-45: Northwestern Pond Turtle Nest Surveys.** This measure only applies to suitable upland habitat found along Tolay Creek and at Tubbs Island. During the nesting season (roughly May through July), a qualified biologist shall survey the work site no more than 48 hours before the onset of activities for signs of western pond turtles and/or western pond turtle nesting activity (i.e., recently excavated nests, nest plugs) or nest depredation (partially to fully excavated nest chambers, nest plugs, scattered egg shell remains, and egg shell fragments). Preconstruction surveys to detect western pond turtle nesting activity should be limited to portions of the Caltrans right of way within 402 meters (1,319 feet) of suitable aquatic habitat and should focus on areas along south- or west-facing slopes with bare hard-packed clay, or silt soils, or a sparse vegetation of short grasses or forbs, including levee embankments and unpaved roads. If western pond

turtles or their nest sites are found, the biologist shall contact USFWS to determine whether relocation and/or exclusion buffers and nest exclosures are appropriate. If the Department approves of moving the animal, the biologist shall be allowed sufficient time to move the western pond turtle(s) from the work site before work activities begin; if the Department approves of establishing exclusion buffers and nest exclosures, the biologist shall be allowed sufficient time to install exclosure materials, establish a protective buffer, and monitor the nest(s) until the young successfully hatch and emerge from the nest in the fall (roughly 90 to 120 days; north/ southwestern pond turtle) or overwinter and emerge the following spring (northwestern pond turtle).

- **AMM-BIO-46: Minimize Light Effects on Wildlife.** Permanent lighting fixtures will be designed to minimize indirect effects on wildlife where feasible. Methods to minimize light effects are suggested in Effects of LED Lighting on Terrestrial Wildlife (Longcore 2023) and include the following recommendations:
    - Avoid installing lighting unless absolutely necessary, and only install lighting when/where there is a proven benefit.
    - Direct lighting only where needed, and use shielding to minimize light spillage into natural environments.
    - Minimize illumination, and select lighting that is no brighter than necessary.
    - Dim, extinguish, or limit lighting when not needed.
    - Use warmer colored light (yellow, orange, and red) where possible.

Tribal Cultural Resource measures were modified after coordination between Caltrans and tribal organizations. These are included below:

- **AMM-TCR-01. Post-Review Discovery and Tribal Monitoring Plan.** Prior to the Project advertisement, Caltrans will consult with the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation to develop and implement a Post-Review Discovery and Tribal Monitoring Plan (Plan) which outlines the procedures and identifies the chain of command to follow in the event of encountering cultural resources and Tribal Cultural Resources within each of the Tribes' respective ancestral territories. The Plan may include, but is not limited to, the following:
    1. A communication plan that outlines established communication protocols for construction schedules, changes in construction design or methods, and a clear chain of command in the event of archaeological or tribal cultural finds.
    2. Archaeological awareness and Tribal Cultural Resources (TCRs) sensitivity training of construction staff, with information about the possibility of encountering cultural resources (including TCRs) and the appearance and types of resources that could be encountered during Project construction.
    3. A Native American and archaeological monitoring plan as determined through consultation among Caltrans, FIGR, and Yocha Dehe.
    4. Temporary work stoppage and tribal consultation protocols if previously unidentified tribal or archaeological resources are discovered, in addition to those specified in PF-CULT-01.
    5. Recommendations for treatment and disposition of cultural finds in consultation with FIGR and Yocha Dehe.
- **AMM-TCR-02. Cultural Sensitivity/Awareness Training.** Prior to the initiation of construction for the Project and when new construction personnel enter the project site, an agency-approved

archaeologist and tribal representatives from the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation, within each tribes' respective ancestral territories, will conduct an education program for all construction personnel, focusing on cultural, tribal, and archaeological resources. At minimum, the training will include a discussion of archaeological and tribal resources that may be encountered (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants); the procedures when working in Tribal Monitoring Areas; a summary of state and federal regulations pertaining to cultural resources; and the importance of compliance with Caltrans' conditions.

- **AMM-TCR-03. Tribal Monitoring Area.** Caltrans will consult with the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation to establish and implement Tribal Monitoring Areas (TMAs) within each tribes' respective ancestral territories. TMAs will be depicted in the Plans Specifications, and Estimates (PS&E) and within the Environmental Commitments Record (ECR). No work would be conducted in the TMAs unless the appropriate tribal monitor is present or explicit authorization is received from Caltrans' Office of Cultural Resource Studies.

- **AMM-TCR-04. Cultural Landscape Study.** Prior to the start of construction, Caltrans will prepare, in consultation with the Federated Indians of Graton Rancheria (FIGR) and Yocha Dehe Wintun Nation (Yocha Dehe), comprehensive Cultural Landscape/Ethnographic Studies (Studies) for each tribe in the State Route 37 corridor. Topics included in the Studies may include, but are not limited to:

    1. Purpose and use of the Studies.
    2. Changes to the landscape, faunal, and flora from the precontact period to present.
    3. Traditional uses and meanings in habitat, faunal and flora.
    4. Relative traditional importance and traditional meanings in the landscape for FIGR and Yocha Dehe.
    5. Maps of traditional land use areas of FIGR and Yocha Dehe and landscape uses over time.
    6. Ethnographic studies of FIGR and Yocha Dehe and landscape use over time.
    7. Evaluation to the National Register of Historic Places of identified cultural landscapes.

AMM-TCR-05. Plant Palette and Landscaping. Caltrans will consult with the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation on preferred planting palettes for landscaping and revegetation efforts. Where feasible and necessary habitat types exist, Caltrans will prioritize revegetation efforts using the preferred plants identified by FIGR and/or Yocha Dehe.

AMM-TCR-06. Tribal Review of Project Changes. Caltrans PQS will review project changes within the PS&E phase and during construction that have the potential to change the scope of ground disturbance or impact potential Tribal Cultural Resources (TCRs). Caltrans PQS will notify the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation of the proposed change and provide both tribes an opportunity to review and comment. Communication protocols regarding project changes will be documented in the Post Review Discovery and Tribal Monitoring Plan as described in *AMM-TCR-01*.

2.5 Estimated Cost and Schedule

Due to funding restrictions, the Project will be phased into three construction packages, each with independent utility and logical termini.

The Project is currently funded through the Project approval and environmental document phase. The estimated Project cost is $500 million. Preliminary design and environmental review

were completed in early 2023. Supplemental environmental review would be completed in 2025. Detailed design is anticipated from 2025 to 2026, and completion of construction (open to use) is anticipated in 2030.

If there is a gap in funding between construction packages, the overall time to complete the Project would be extended accordingly. Additionally, the length of the construction period is dependent upon work restrictions associated with seasonal permit requirements. If work is restricted seasonally, the overall length of construction would be extended accordingly.

Chapter 3 Impact Analysis

This analysis addresses whether any new significant impact could result due to changes to the Project, changes in circumstances, or new information. The AMMs included in the 2023 Final EIR/EA will be implemented as revised in this Final SEIR as part of the proposed Project. These AMMs are provided in the updated ECR in 0 of this Final SEIR. Additional AMMs have been proposed in this Final SEIR for Biological and Tribal Cultural Resources, and are described in Sections 3.3 and 3.16, respectively. Aesthetics (light and glare) and Tribal Cultural Resources were the only sections where CEQA conclusions changed from "no impact" to "less than significant." Accordingly, the Aesthetics and Tribal Cultural Resources sections are the only section that includes a revised CEQA checklist table.

3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	Yes	No

3.1.1. Summary of Prior Aesthetics Analysis

The 2023 Final EIR/EA determined that no light and glare impact would result. The 2023 Final EIR/EA also concluded that the impact on scenic vistas, scenic resources, and the visual character in the Project vicinity would be **less than significant** with respect to the proposed new built elements, including a higher median barrier and outside barrier, along a highway that is potentially eligible for scenic highway status. Section 3.3.1 of the 2023 Final EIR/EA addressed aesthetics issues for the prior 2023 Project. The regulatory setting related to aesthetics was discussed in Section 2.2.12.1, on pages 2-55 and 2-56 of the 2023 Final EIR/EA, and this information has not changed.

3.1.2. Updates to the Environmental Setting

An Addendum Visual Impact Assessment was prepared addressing the highway design changes and the addition of SME to the Project description (AECOM 2024a). The environmental setting for the proposed Project is generally the same as what was discussed in the 2023 Final EIR/EA. However, the area where marsh enhancements would occur at SME is a new area that has been added to the Project. SME is an open and flat area containing tidal wetlands and vegetation that is dominated by pickleweed. It is visible to the south of SR 37, from just west of the Skaggs Island Road intersection to west of Walnut Avenue overcrossing. There are patches of tall coyote-brush and poison hemlock, mixed with high marsh plants like San Francisco Bay gumplant and fat-hen. The marsh vegetation appears brown during the summer months. Areas where the other highway improvements are proposed would appear the same as what was discussed in the 2023 Final EIR/EA.

3.1.3. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Effect on a Scenic Vista, Change in Visual Character, or Change in Quality of the Site or Surroundings. As discussed in the 2023 Final EIR/EA, the Project area comprises county-designated scenic corridors in both Solano and Sonoma Counties. The Project changes would add visible elements

in the SR 37 corridor, including roadway signage, CMSs, EMSs, MVPs, an overhead toll gantry, a maintenance building for the tolling gantry, and a pullout area for maintenance vehicles. Section 2.2.12 of the 2023 Final EIR/EA discussed visual impacts of an overhead toll gantry. The gantry is now being proposed in a different location, about 400 feet east of the Tubbs Island Trailhead Road Intersection (see Figure 3-1). The toll gantry has a slightly heavier-looking design than the one that was previously presented in 2023 but would be around the same height and color (see Figure 3-2). The visual impacts of the toll gantry would be similar to what was analyzed in the 2023 Final EIR/EA because it is of similar appearance to the previous design that was included in the 2023 Final EIR/EA. Adjacent to where the toll gantry is being proposed, there would be a paved area for a maintenance building and a pullout for maintenance vehicles (see Figure 3-2). The paved area would appear as an extension of the roadway.

Figure 3-1 Existing Conditions East of the Tubbs Island Trailhead Road Intersection Looking East

Figure 3-2 Proposed Tolling Gantry East of the Tubbs Island Trailhead Road Intersection Looking East

Additional roadway signs would be similar to what exists on the roadway now and are not expected to be a substantial visual change. The 2023 Final EIR/EA noted that new overhead signs would be placed in the corridor, providing motorists with information such as HOV requirements and hours of lane operation. Four CMSs and EMSs would be implemented to provide information to motorists, including several overhead signs in the westbound direction at or approaching the Napa River bridge, and in the eastbound direction between the Lakeville Highway and SR 37/121 interchange. These signs would be visually similar to other overhead signs along the SR 37 corridor. As discussed in the Project description, CMSs would be mounted in the median or roadside on steel poles that cantilever the signs over the road. EMSs would be overhead or roadside signs, sometimes smaller than CMSs, and would provide motorist warning information about upcoming intersections and signals. These signs would be off or dark when the information is not needed. Although these signs are meant to be seen, they would not block scenic views of the bay or distant scenic views of the mountains from SR 37. MVPs would appear as an extension of the roadway, similar to shoulders. These changes would not substantially alter the highway, and scenic views from the highway would still be available.

Enhancements at SME would appear the same as existing conditions. SME appears as a somewhat degraded marsh habitat. Temporary construction activities would be visible to motorists during restoration construction, but following completion SME would appear as restored marsh. For these reasons, impacts would be **less than significant**.

Scenic Resources. The impacts related to implementing other highway improvements would be the same as what was discussed in the 2023 Final EIR/EA. The overhead toll gantry, roadway signage, EMSs, and CMSs would contribute new built elements to a highway that is potentially eligible for scenic highway status. The implementation of SME would not result in any impacts to scenic resources. Impacts would be **less than significant**.

Impacts from New Light or Glare. Similar to the analysis in the 2023 Final EIR/EA, the Project changes would not create a substantial source of light or glare. However, because additional lighting is

being proposed along SR 37, the conclusion has changed from no impact to a **less than significant impact**. The Project design has been updated to also include median lighting at the curves and approaches east and west of the Sonoma Creek Bridge, at the Noble Road intersection, and east and west of the Tolay Creek Bridge replacement. The Project has also added CMSs and EMSs to display information to motorists. These elements would create sources of light. This permanent lighting would be consistent with applicable regulations and with street lighting existing in the Project vicinity. All light fixtures would have light-emitting diodes configured at the minimum necessary number of bulbs, optimal mounting height, mast-arm length, and angle to restrict light to the roadways. Where applicable, shields on the fixtures to prevent light trespass to adjacent properties would be considered during the detailed design phase. When lighted, the CMSs and EMSs would be bright enough to be seen by motorists on SR 37 but would not create substantial light and glare that adversely affect views in the area (whether daytime or nighttime). Additionally, EMSs would be dark when no information to motorists needs to be conveyed. Therefore, impacts would be **less than significant**.

3.2 Air Quality

3.2.1. Summary of Prior Air Quality Analysis

The 2023 analysis indicated that during Project construction there would be temporary increases in criteria pollutants, but impacts would be **less than significant** because of the limited duration of construction, and the incorporation of best management practices (BMPs) for dust and exhaust. One criteria pollutant, oxides of nitrogen (NO_X), was identified as having the potential to exceed the Bay Area Air Quality Management District (BAAQMD) significance threshold. That estimate was based on worst-case estimates for off-road engine emissions with no or limited controls, using default air quality modeling factors for construction equipment assumptions. Actual construction equipment emissions would be less, and conditions were required of Project construction to use Tier 4 equipment emission controls and other BMPs to maintain emissions below BAAQMD criteria.

The 2023 analysis also indicated that traffic vehicle emissions would have emissions similar to those of No-Build conditions because the proposed Project would improve traffic congestion, thereby reducing travel time and vehicle idling. For these reasons, impacts related to the increase of criteria pollutants would be **less than significant**. There would be **no impact** related to the proposed Project conflicting with or obstructing implementation of applicable air quality plans, exposing sensitive receptors to pollutant concentrations, or introducing odors.

3.2.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Traffic-Related Emissions. Air quality emissions were evaluated in an addendum to the original air quality analysis (Illingworth & Rodkin 2024a). Emissions associated with vehicle traffic would be the same as that reported in the 2023 Final EIR/EA. There would be no change in the transportation-related highway air quality emissions or impacts associated with the proposed SME enhancement or updates to the Project Description. This is because SME is limited to marsh restoration at the Refuge, and neither SME or the minor modifications to the design of the highway proposed in this Final SEIR would add any new through lanes or alter the traffic volume projections that were determined in 2023.

Construction-Related Emissions. There would be temporary construction air quality emissions from the grading, earth-moving, channel construction, and placement of fill and grading for the restoration and enhancement of SME (Table 3-1). These changes were evaluated in a supplemental air quality analysis using the California Emissions Estimator Model (CalEEMod – Version 2022.1.1.25) to estimate construction emissions, based on the information provided in the SME Design Study Report and direction provided by AECOM.

Table 3-1 Construction Air Quality Emissions for Strip Marsh East Enhancement and Restoration

	ROG	CO	NO_X	Exhaust PM_{10}	Exhaust $PM_{2.5}$	CO_2e
Average Daily Emissions (pounds/day)	1.05	9.43	13.3	0.38	0.36	6,686
BAAQMD Thresholds (pounds/day)	*< 54*	*None*	*< 54*	*< 82*	*< 54*	*None*
Exceed Threshold?	No	No	No	No	No	No
Total/Annual Emissions (tons/year)	0.19	1.72	2.43	0.07	0.07	1,107 MT
BAAQMD Thresholds (tons/year)	*< 10*	*None*	*< 10*	*< 15*	*< 10*	*None*
Exceed Threshold?	No	No	No	No	No	No

Source: Illingworth & Rodkin 2024a

Notes:

BAAQMD = Bay Area Air Quality Management District
CO = carbon monoxide
CO_2e = carbon dioxide equivalent
MT = metric tons
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
PM_{10} = particulate matter less than or equal to 10 microns in diameter
ROG = reactive organic gas

Construction was assumed to begin in June of 2026 and last for approximately 6 months, with 22 workdays available per month. Equipment quantities for the Project were provided in the Design Study Report and matched up with the equipment types included in CalEEMod. It was assumed that equipment would operate no more than 6 hours per day. The Design Study Report also provided the estimated Project length (in miles), Project area (in acres), and amount of material to be exported off site. Because the Project Area is a marsh, it was assumed to have at least 15 percent moisture. Thus, it would not generate fugitive particulate matter during construction like a typical roadway or development Project, it would be consistent with the BAAQMD BMPs for controlling fugitive dust. Maximum estimated quantities of earth fill and grading were assumed (up to 196,000 cubic yards) over a 1,400-acre area. Because of limitations of assumptions and inputs to the CalEEMod model, this evaluation assumed a worst-case scenario of up to 186 truck trips, based on a capacity of 20 cubic yards per truck trip (these trips could also be equivalent barge transport trips rather than off-haul of earth by trucks). Other vehicle trips were assumed at 30 one-way worker trips per day and four onsite one-way dump truck trips per day. CalEEMod default trip lengths were used for worker trips and haul trips, and the site's length was used to provide a 3-mile-long onsite length for dump truck trips. A 6-month seasonal construction duration was assumed (132 days).

The Project Area is on San Pablo Bay. Soils will have a relatively higher amount of moisture than typical in land construction sites and will therefore minimize fugitive dust during construction. In accordance with the BMPs required, construction contractor must comply with Caltrans' Standard Specifications in Sections 13 – Water Pollution Control; and 14-9 – Air Quality (2022). Section 13 requires a Storm Water Pollution Prevention Plan (SWPPP) and use of BMPs that manage fugitive dust and material track-out from construction sites. Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

The 2023 Final EIR/EA PFs PF-AIR-01 and PF-AIR-02 are already required of the Project and Project Contractor. These PFs would minimize fugitive dust emissions during construction of SME and are already Project requirements that would minimize dust and construction equipment emissions.

Air Quality Conformity. The SME marsh enhancement and restoration is not a transportation component. Therefore, the transportation conformity regulations do not apply to this element of the proposed Project. Because federal funding will be used, general conformity regulations could be applicable. General conformity ensures that the actions taken by federal agencies do not interfere with a state's ability to attain and maintain the National Ambient Air Quality Standards. U.S. EPA has established emissions thresholds for criteria pollutants, in tons per year, for nonattainment areas. The Bay Area is designated as a "Marginal" nonattainment area for ozone and a "Moderate" nonattainment area for particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$). Accordingly, *de minimis* emissions thresholds for general conformity are 100 tons per year of volatile organic compounds (i.e., reactive organic gas [ROG], NO_X, and $PM_{2.5}$). The SME enhancement work would not generate emissions once complete, and construction is anticipated to generate less than 100 tons per year of volatile organic compounds (i.e., ROG, NO_X, and $PM_{2.5}$). Therefore, general conformity would not apply to the SME component.

The SME enhancement work would therefore not change the SR 37 Project with respect to air quality conformity.

The proposed SME construction and highway modifications would a have **less than significant** impact related to air quality emissions and air quality conformity, consistent with the findings for the original Project. There would be no new significant air quality impacts beyond those identified in the 2023 Final EIR/EA.

3.3 Biological Resources

3.3.1. Summary of Prior Biological Resources Analysis

Several biological studies and updates have been completed for the proposed Project since initiation of environmental review. A comprehensive Natural Environment Study (NES) was originally completed in 2022 (AECOM 2022). A first addendum to the NES was completed in 2024 that addressed changes to the Project to replace and lengthen Tolay Creek Bridge (AECOM 2024h). An Aquatic Resources Delineation Report was also completed that identified and assessed the presence of wetlands and waters in the Project's study area (AECOM 2024i).

3.3.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The proposed Project changes at SME would expand the Project's footprint (i.e., the work area where permanent and temporary ground-disturbing impacts have potential to occur) and the original Biological Study Area (BSA) for the Project. The Project's footprint is shown layout sheets in Appendix A, Figure A-1 focused on the changes to the Project's highway design. Figure A-2, also in Appendix A, shows the Project layout sheets within the Project limits. Figure 2-2 shows the SME enhancements. Table 3-2 and Table 3-3 list the temporary and permanent impacts associated with the original approved Project, the changes with Tolay Creek Bridge replacement, highway design modifications, and the SME enhancement. Temporary impacts are anticipated to be minimized directly on site by proposed Project measures or enhancement activities. No additional mitigation or compensation is proposed for temporary impacts. Permanent impacts realized by the proposed roadway expansion into regulated natural resource habitats would be minimized by implementation of the SME enhancement and Tolay Creek Bridge replacement activities. The substantial enhancement, ecosystem uplift, and creation of new tidal wetland and surface waters habitats is anticipated to completely minimize permanent impacts to all biological resources that occur in tidal and brackish marsh habitats in the Project area, and no additional mitigation or compensation is proposed for those resources. The California red-legged frog is the single exception, and the mitigation measure proposed in the original NES and 2023 Final EIR/EA to purchase mitigation bank credits in the Project service area remains in place to fully compensate for habitat loss for that species.

Table 3-2 Estimated Area of Temporary Impact Area (acres) for Jurisdictional Waters and Threatened and Endangered Species Summary

Focal Resource	Original Alternative 3B	Tolay Creek Bridge Replacement	Highway Design Modifications	SME Enhancement	Total[1]
Wetlands and Waters	12.76	0.30	0.01	89.0	102.07
Ridgway's Rail (potential marginal forage habitat)	3.11	0.28	0	17.08	20.47
California Black Rail (potential forage and dispersal habitat)	3.11	0.28	0	17.08	20.27
Salt Marsh Harvest Mouse (potential foraging habitat)	3.24	0.25	0	17.08	20.57
Fish (potential prey production habitat)	1.98	0	0	2.82	4.80
Fish (potential forage habitat)	3.00	0.23	0	5.64	8.87
California Red-Legged Frog (Nonbreeding Aquatic Dispersal/Foraging Habitat)	0.10	0	0	0	0.10
California Red-Legged Frog (Upland Dispersal/Foraging/ Refugia)	0.68	0	0.03	0.00	0.71

Notes:

[1] There is substantial geographic overlap among resource areas, and values are not intended to be summed across them. Potential impacts on other special-status species habitats occur in the focal resource areas considered in this summary table.

SME = Strip Marsh East

Table 3-3 Estimated Area of Permanent Habitat Loss (Acres) of Jurisdictional Waters and Threatened and Endangered Species Summary

Focal Resource	Original Alternative 3B	Tolay Creek Bridge Replacement[1]	Highway Design Modifications	SME Enhancement[1]	Total[1,2]
Wetlands and Waters	9.02	-1.21	0.05	-11.10	-3.24
Ridgway's Rail (potential marginal forage habitat)	1.65	-0.09	0	-230.00	-228.44
California Black Rail (potential forage and dispersal habitat)	1.65	-1.3	0	-230.00	-229.65
Salt Marsh Harvest Mouse (potential foraging habitat)	1.67	-0.09	0	-230.00	-228.42
Fish (potential prey production habitat)	2.08	0.00	0	-529.73	-527.65
Fish (potential forage habitat)	1.70	-0.12	0	-70.13	-68.55
California Red-Legged Frog (Nonbreeding Aquatic Dispersal/Foraging Habitat)	0.17	0	0	0	0.17
California Red-Legged Frog (Upland Dispersal/Foraging/ Refugia)	1.35	0	0.01	0	1.36

Notes:

[1] Where Project activities result in net creation of new habitats, they are shown as a negative value.

[2] There is substantial geographic overlap among resource areas, and values are not intended to be summed across them. Potential impacts on other special-status species habitats occur in the focal resource areas considered in this summary table.

SME = Strip Marsh East

The expanded BSA supports habitat for several special-status species, a diversity of landcover types, and aquatic resources (AECOM 2024b) that would be temporarily and permanently impacted by the proposed Project activities. The Project's expansion resulted in one new aquatic plant species requiring assessment.

The original EIR considered potential impacts from the overall Project's highway construction on these resources, and the potential for species to occur with new highway design modifications has not changed. The change in impacts from the highway design modifications are relatively minor and are not anticipated to require any new AMMs beyond those presented in the original EIR. Table 3-2, Table 3-3, and Table 3-4 provide a summary of the resource impacts from the design changes to the highway and effects on protected resources (refer to columns "Highway Design Modifications" and "Change in Impacts from Highway Design Modifications").

Table 3-4 Summary of Change in Impact by Resource for SME Enhancement and Highway Design Modifications

Resource and Species Status	Potential to Occur at SME Enhancement Project	Change in Impacts from Highway Design Modifications	Change in Impact from SME Enhancement	New Avoidance, Minimization, or Mitigation Proposed?
Wetlands and Other Waters	Known to Occur	Relatively minor increase in temporary impacts on nontidal wetlands (0.01 acre) and permanent loss of nontidal wetlands and waters (0.05 acre)	Enhancement of degraded tidal salt marsh wetlands. Net gain in waters during creation of tidal channels to improve drainage in progressively degraded salt marsh habitats	Yes, AMM-BIO-41a and AMM-BIO-41b is proposed to minimize permanent impacts to waters for the overall Project
California Red Legged Frog (*Rana draytonii*; FT, SSC)	No potential to occur	Relatively minor increase in permanent impacts on upland dispersal/foraging/ refugia habitat (0.01 acre)	No change, no new impacts	No
salt marsh harvest mouse (*Reithrodontomys raviventris*; FE, SE, FP)	Known to Occur	No change, no new impacts	Net gain in habitat, cover forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to species habitat for the overall Project
Northwestern Pond Turtle (*Actinemys marmorata; FT (proposed))*	Low	Subsequent to original 2023 EIR/EA, species is under review for potential listing. Low potential to occur in freshwater wetlands, riverine and uplands at Sonoma Creek, Tubbs Island.	No change, no new impacts.	Yes. AMM-BIO-44 and AMM-BIO-45 are proposed as avoidance measures during construction.
Suisun shrew (*Sorex ornatus* sinuous; SSCs)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat and cover; net reduction in permanent adverse effects; and increase in temporary impact area during construction	No

Resource and Species Status	Potential to Occur at SME Enhancement Project	Change in Impacts from Highway Design Modifications	Change in Impact from SME Enhancement	New Avoidance, Minimization, or Mitigation Proposed?
California black rail (*Laterallus jamaicensis coturniculus*; ST,FP)	Moderate	No change, no new impacts	Net gain in new permanent potential forage, dispersal and breeding habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to species habitat for the overall Project
California Ridgway's rail (*Rallus obsoletus*, FE, SE, FP)	Moderate	No change, no new impacts	Net gain in new permanent potential forage, dispersal and breeding habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to species habitat for the overall Project
Northern harrier (*Circus hudsonius*, SSC)	Known to occur	No change, no new impacts	Net gain in new permanent potential forage and dispersal habitat; net loss in new potential breeding habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	No
saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*; SSC)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	No
San Pablo song sparrow (*Melospiza melodia samuelis*: SSC)	Moderate	No change, no new impacts.	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	No
Western burrowing owl (*Athene cunicularia; SSC,* CESA Candidate)	Moderate	Potential for minor increase in impacts.	No change. No new impacts.	No

Resource and Species Status	Potential to Occur at SME Enhancement Project	Change in Impacts from Highway Design Modifications	Change in Impact from SME Enhancement	New Avoidance, Minimization, or Mitigation Proposed?
western snowy plover (*Charadrius nivosus nivosus*; FT; SSC*)*	Moderate	No change, no new impacts	Net loss in potential marginal nesting and foraging habitat during the dry periods in seasonal lagoon areas	No
Delta smelt (*Hypomesus transpacificus*; FT, SE)	Moderate	No change, no new impacts.	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project
longfin smelt *Spirinchus thaleichthys*; PE, ST)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project
North American Green Sturgeon, Southern DPS (*Acipenser medirostris*; FT SSC)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41 a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project

Resource and Species Status	Potential to Occur at SME Enhancement Project	Change in Impacts from Highway Design Modifications	Change in Impact from SME Enhancement	New Avoidance, Minimization, or Mitigation Proposed?
White Sturgeon (*Acipenser transmontanus*; SSC, CESA Candidate)	Moderate	Species was recently listed as CESA Candidate species on July 12, 2024, and is added into this document; impacts to this species are the same as Green Sturgeon for Alternative 3B, Tolay Creek Bridge Replacement, and highway design modifications	See results above for North American Green Sturgeon	Yes, AMM-BIO-41a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project
Sacramento splittail (*Pogonichthys macrolepidotus*; SSC)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41 a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project
Steelhead, California central valley DPS (*Oncorhynchus mykiss irideus* pop. 11)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41 a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project
Steelhead – central California coast DPS (*Oncorhynchus mykiss irideus* pop. 8)	Moderate	No change, no new impacts	Net gain in new permanent potential forage habitat; net reduction in permanent adverse effects; and increase in temporary impact area during construction	Yes, AMM-BIO-41a, AMM-BIO-41b, and AMM-BIO-42 are proposed to minimize permanent impacts to species habitat for the overall Project.

Resource and Species Status	Potential to Occur at SME Enhancement Project	Change in Impacts from Highway Design Modifications	Change in Impact from SME Enhancement	New Avoidance, Minimization, or Mitigation Proposed?
Point Reyes salty bird's-beak (*Chloropyron maritimum* ssp. *palustre*)	Moderate	No change, no new impacts	Net gain in suitable salt marsh habitat. Potential increase in temporary impact area during construction	No
soft bird's-beak (*Chloropyron molle* ssp. *Molle*; 1B.2)	Moderate	No change, no new impacts	Net gain in suitable salt marsh habitat. Potential increase in temporary impact area during construction	No
Sensitive Plant Community: Widgeon grass (*Ruppia maritima*; G4?S2)	Known to Occur	No change, no new impacts	Loss of widgeon grass habitat would occur in SME interior where emergent marsh establishes after implementation of enhancement elements. Abundant widgeon grass is anticipated to remain in SME after restoration	No
Sensitive Plant Community: Ashy ryegrass – creeping ryegrass turfs (G3S3)	Known to Occur	Approximately 0.02 acre of permanent loss and 0.05 acre of temporary impacts	No new impacts	Yes, AMM-BIO-44 is proposed to compensate for permanent loss of ashy ryegrass – creeping ryegrass turfs
Sensitive Plant Community: Pickleweed mats (G4S3)	Known to Occur	No change, no new impacts	Temporary impacts on approximately 15.36 acres of habitat	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to salt marsh habitat for the overall Project
Sensitive Plant Community: California cordgrass marsh (G3S3.2)	Known to Occur	No change, no new impacts	No change, no new impacts	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to salt marsh habitat for the overall Project

Resource and Species Status	Potential to Occur at SME Enhancement Project	Change in Impacts from Highway Design Modifications	Change in Impact from SME Enhancement	New Avoidance, Minimization, or Mitigation Proposed?
Sensitive Plant Community: Salt marsh bulrush marshes (G3S3.2)	Moderate	No change, no new impacts	No change, no new impacts.	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to salt marsh habitat for the overall Project
Sensitive Plant Community: Alkali Heath Marsh (G4S3)	Known to Occur	No change, no new impacts	Temporary impacts to 0.03 acre of habitat	Yes, AMM-BIO-41b is proposed to minimize permanent impacts to salt marsh habitat for the overall Project

Notes:

CESA = California Endangered Species Act
DPS = distinct population segment
FE = Federally Endangered
FP = State Fully Protected
FT = Federally Threatened
PE = Proposed for Federal Listing as Endangered
SME = Strip Marsh East
SE = State Endangered
SSC = State Special Species of Concern
ST= State Threatened

The proposed enhancement at SME would provide multiple ecosystem benefits. Caltrans is proposing SME enhancement to minimize Project impacts by creating new waters and wetlands from existing uplands (i.e., lowering elevations of existing upland berms on either side of the SME Pond 1/1A channel); increasing the abundance of emergent salt marsh vegetation; increasing aquatic habitat and access to new foraging areas for fish species; and improving the diversity of salt marsh habitat used by special-status species that are anticipated to be negatively impacted by the Project. The proposed enhancement at SME would provide multiple ecosystem benefits. SME enhancement activities would cause an increase in temporary impacts during its construction (e.g., excavation of channels). However, temporarily impacted areas considered would ultimately result in ecosystem uplift, creation of new habitats, or conversion of habitat types to best meet restoration goals. Because the SME area is anticipated to result in ecosystem uplift and create habitat for protected species, no additional avoidance, minimization, and mitigation (AMM) measures are needed for temporary or permanent impacts beyond those already committed to by the Project as discussed in Section 2.4.

Impacts resulting from new highway design modifications would occur in the original BSA considered in the 2022 NES and will increase the Project's estimated temporary and permanent impacts on sensitive biological and aquatic resources. The construction means and methods and their associated impacts for the new highway design modifications are of the same nature as those considered in the 2023 EIR/EA and would not require additional AMMs.

The analysis presents a detailed assessment of the Project change's potential impacts and benefits to species considered in the 2022 NES and 2024 NES addendum. It also reviews the efficacy of existing AMMs adopted in the Project's original and supplemental EIR/EA, supporting the results and conclusions detailed in this executive summary.

Additional or modified minimization measures were added to further reduce impacts and are updated in 0. **Section 2.4** summarizes the changes to the following measures for this Final SEIR:

- **AMM-BIO-07. Wetlands and Other Waters Minimization**
- **AMM-BIO-26. Minimization for Ridgway's Rail Habitat Effects**
- **AMM-BIO-30. Minimization for Salt Marsh Harvest Mouse and California Black Rail Habitat Effects**
- **AMM-BIO-35. Minimization for Chinook Salmon, Steelhead, Green Sturgeon, Longfin Smelt, and Delta Smelt Habitat**

Section 2.4 also includes the full text of new **AMMs BIO-41, BIO-42**, and **BIO-43** that incorporate the addition of the SME enhancement into the Project as an environmental commitment to minimize the permanent and temporary impacts of the Project on protected natural resources. AMMs BIO-44 and BIO-45 address avoidance measures added to avoid or minimize impacts to the western pond turtle, a species that is under review for potential listing as federally threatened.

3.3.3. Lighting Analysis

This section is intended to augment the discussion of potential impacts of artificial light at night (ALAN) to special-status species, including California black rail, Ridgway's rail, western burrowing owl, California red-legged frog, salt marsh harvest mouse, Suisun shrew, pallid bat, and migrating birds. ALAN describes the nighttime illumination of natural environments or wildlife habitats by artificial light. This section evaluates whether ALAN would result in ecological impacts, such as reducing habitat quality for special-status species due to indirect effects, which could lead to increased injury and/or mortality and behavioral and physiological response. As discussed in Section 2.3.6 and shown in Figure A-2 in Appendix A, lighting would be added along the SR 37 corridor at three locations, and existing lighting would be replaced at four locations. New lighting is proposed in advance of the tolling gantries and at CHP observational areas.

3.3.3.1. Modeled Lighting Effects on Suitable Habitat

New lighting impacts were calculated for lighting levels of one full moon (0.1 lux) or brighter (greater than 0.1 lux) (Longcore 2023). Lux is the unit of illuminance, or luminous flux per unit area. Two scenarios were explored for the lighting analysis: new/replacement lighting without shielding and with shielding, herein referred to as Without Shielding and With Shielding, respectively. Existing lighting features in the Project area do not use shielding (but will be updated to include shielding). The results of the light impact analysis demonstrate that the addition of shielding to new and replaced lighting fixtures would reduce the projected lighting impacts for all special-status species habitats. Table 3-5 summarizes the area of special-status species habitat that is currently impacted by ALAN (existing) and the projected net light impacts for the two scenarios. A negative net value indicates a reduction in area of habitat exposed to lux of 0.1 or greater. Based on the results of this analysis, the With Shielding scenario is proposed for new and replacement Project permanent lighting,

Table 3-5 Comparison of Existing Lighting and Projected Net Lighting Impacts of 0.1 Lux or Greater to Special-Status Species Habitat (without and with Shielding)

Special-Status Species	Habitat Type	Existing Lighting Impacts (acres)	Net Lighting Impacts – Without Shielding (acres)	Net Lighting Impacts – With Shielding (acres)[2]
California black rail[1]	foraging/dispersal habitat	1.85	6.24	2.91
California Ridgway's rail[1]	foraging/dispersal habitat	1.85	6.24	2.91
western burrowing owl	wintering/foraging habitat	1.48	0.82	-0.36
California red-legged frog	aquatic nonbreeding habitat	0.16	0.04	-0.01
California red-legged frog	upland habitat	2.24	1.29	-0.42
salt marsh harvest mouse[1]	foraging/dispersal habitat	1.85	6.24	2.91
Suisun shrew[1]	foraging/dispersal habitat	1.85	6.24	2.91
pallid bat	foraging habitat	12.19	23.51	10.32

Notes:

[1] Foraging and dispersal habitat for California black rail, California Ridgway's rail, salt marsh harvest mouse, and Suisun shrew is the same.

[2] Lighting Impacts – With Shielding is the scenario that has been proposed for the Project.

3.3.3.2. Effects of Lighting on Special-Status Species

California Black Rail and California Ridgway's Rail

ALAN from the Project has the potential to result in indirect effects on the California black rail and California Ridgway's rail. Potential indirect effects stem from the disruption of circadian rhythms caused by ALAN exposure, which can result in changes in behavior where the rails forage at night rather than during the day as they usually do. Foraging at night can increase vulnerability to nocturnal predation.

An increase in light at night, regardless of its artificial source, extends the time that these visual, daytime foragers can forage (Santos et al. 2010; Dwyer et al. 2013). Although increased foraging at night may be beneficial to these species, there may also be increased vulnerability to predation (Santos et al. 2010;

Dwyer et al. 2013; Zapata et al. 2018). Predation, including nighttime predation, is a major cause of California Ridgway's rail mortality in the San Francisco Bay Area (Casazza et al. 2016).

By contributing to changes in circadian rhythms and an increased risk of predation, new sources of ALAN indirectly reduce the quality of habitat for California black rail and California Ridgway's rail.

The existing lighting in the Project area affects approximately 1.85 acres of California black rail and California Ridgway's rail foraging/dispersal habitat. Under the proposed With Shielding scenario, a net value of approximately 2.91 acres of California black rail and California Ridgway's rail foraging/dispersal habitat are projected to be lit to some extent by new Project-related ALAN of 0.1 lux or greater (Table 3-5). The increase in light impacts to California black rail and California Ridgway's rail habitat would occur at Tolay Creek, east of Sonoma Creek, at the SR 37/Skaggs Island Road intersection, and at the Mare Island Interchange. Habitat for these species in these locations is marginally suitable and assumed to be used for foraging and dispersal only due to the proximity to SR 37 and the existing level of disturbance in the area.

Western Burrowing Owl

ALAN from the Project has the potential to result in indirect effects on the western burrowing owl. Potential indirect effects of ALAN on the western burrowing owl include negative effects, such as the disruption of circadian rhythms; and positive effects, such as increased availability of invertebrate prey in lit areas. ALAN may facilitate burrowing owl movement into urban environments because the species' invertebrate prey is attracted to streetlights (Rodriguez et al. 2020). In a suburban environment, burrowing owls selected nest sites near artificial light sources, which is energetically efficient for the species due to their sit-and-wait invertebrate capture strategy (Rodriguez et al. 2020). Although these results suggest a positive effect of ALAN on individuals of this species in certain environments, population-wide effects are unclear and potentially negligible. Sufficient data are not available to determine whether the positive and negative effects of ALAN on western burrowing owl are balanced, and some studies suggest that the effects are minor and may be negligible when compared to larger-scale landscape changes.

The existing lighting in the Project area affects approximately 1.48 acres of western burrowing owl foraging habitat. Under the proposed With Shielding scenario, approximately 0.49 acre of suitable western burrowing owl foraging habitat is projected to be affected by ALAN as a result of new Project lighting features. However, there will be a reduction of light from approximately 0.85 acre of western burrowing owl foraging habitat due to the addition of shielding to replacement light features. Overall, the Project will have a net reduction of ALAN effects of 0.1 lux or greater on western burrowing owl foraging habitat of 0.36 acre (Table 3-5). All new light impacts and the removal of ALAN from western burrowing owl foraging habitat would occur at the SR 121/SR 37 Interchange.

California Red-Legged Frog

ALAN from the Project has the potential to result in indirect effects on the California red-legged frog. Potential indirect effects of ALAN on the California red-legged frog include attraction to lighted areas, leading to aggregation at lights; changes in foraging ability due to increased visibility in lit areas; changes in reproductive behavior, such as mate choice (i.e., selecting different mates under lighted or dark conditions) or oviposition site choice; changes in risk of predation and antipredator behavior; and disruption of circadian rhythms and subsequent nocturnal behaviors (multiple sources, summarized in Rich and Longcore 2006). Some of these effects, such as aggregation in lighted areas where frogs may encounter greater foraging opportunities due to increased invertebrate prey availability, may have positive effects. On the other hand, gathering in visible areas at night may put frogs at greater risk of mortality (Perry et al. 2008).

The existing lighting in the Project area affects approximately 2.40 acres of California red-legged frog habitat. Under the proposed With Shielding scenario, approximately 0.70 acre of suitable California red-legged frog habitat is projected to be affected by ALAN as a result of new Project lighting features. However, existing lighting impacts in California red-legged frog habitat at the SR 37/SR 121 Interchange

would be reduced due to the addition of shielding to existing lighting features in this area. With the reduction of light from approximately 1.13 acres of California red-legged frog habitat, the Project will have a net reduction of ALAN effects of 0.1 lux or greater on California red-legged frog habitat of 0.44 acre (Table 3-5). Light impacts to California red-legged frog habitat would occur at the SR 37/SR 121 Interchange.

Salt Marsh Harvest Mouse and Suisun Shrew

ALAN from the Project has the potential to result in indirect effects on the salt marsh harvest mouse and Suisun shrew. Potential indirect effects on salt marsh harvest mouse and Suisun shrew stem from behavioral responses to ALAN, such as avoidance of lit areas and changes in foraging behavior, which can in turn reduce foraging success or increase vulnerability to nocturnal predation. By contributing to avoidance behaviors or an increased risk of predation, new sources of ALAN indirectly reduce the quality of foraging habitat for salt marsh harvest mouse and Suisun shrew. Data suggest that ALAN is known to reduce nocturnal activity in some species of mice (Russart and Nelson 2019). This reduction in behavior under lit conditions is well documented and is likely a predator avoidance strategy (multiple sources, summarized in Rich and Longcore 2006). In a species of beach mice, ALAN altered foraging behavior in a few ways—the mice foraged less often and for shorter periods of time in lit areas (Bird et al. 2004). This disruption in foraging behavior or potential reduction of suitable foraging sites may impact individual animals' fitness. In the Project's light impact areas, salt marsh harvest mouse and Suisun shrew may reduce their foraging activity or travel further to reach suitable foraging sites, expending additional energy. If these species do continue to use lit areas for foraging, they may be at greater risk of predation, a phenomenon noted in studies conducted on other mammals (Rich and Longcore 2006).

The existing lighting in the Project area affects approximately 1.85 acres of salt marsh harvest mouse and Suisun shrew foraging/dispersal habitat. Under the proposed With Shielding scenario, a net value of approximately 2.91 acres of salt marsh harvest mouse and Suisun shrew foraging/dispersal habitat are projected to be lit by new Project-related ALAN of 0.1 lux or greater (Table 3-5). The increase in light impacts to salt marsh harvest mouse and Suisun shrew habitat would occur at Tolay Creek, east of Sonoma Creek, at the SR 37/Skaggs Island Road intersection, and at the Mare Island Interchange.

Pallid Bat

ALAN from the Project has the potential to result in indirect effects on the pallid bat. Potential indirect effects would stem from attraction to or repulsion from lit areas, either outcome having potentially negative cascading effects. ALAN attracts insects and facilitates bat foraging in concentrated areas (Stone et al. 2015; Russart and Nelson 2019; Longcore 2023). Although this may be beneficial for some species, if bats are drawn to lit areas along roadways, they may be at increased risk for injurious collisions with vehicles (Stone et al. 2015). On the other hand, in some species, light illuminating commuting routes or flyways causes avoidance behavior, impeding movement into foraging or roosting areas (Patriarca and Debernardi 2010; Stone et al. 2015). This may require bats to use suboptimal routes to get to foraging areas, potentially causing them to fly farther and expend additional energy, or be vulnerable to predators if alternative routes are more exposed (Stone et al. 2015).

The existing lighting in the Project area affects approximately 12.19 acres of pallid bat foraging habitat. Under the proposed With Shielding scenario, a net value of approximately 10.32 acres of pallid bat foraging habitat is projected to be lit by new Project-related ALAN of 0.1 lux or greater (Table 3-5). The increase in light impacts to pallid bat habitat would occur at all Project lighting impact areas. Foraging habitat for this species is present throughout the Project area but may vary in suitability due to the availability of invertebrate prey.

Migratory Birds

Bird migration is known to be negatively impacted by high-intensity lighting that reaches into the night sky, such as lighthouses, tall city buildings, beams, and towers (Evans et al. 2007; Van Doren et al. 2017). In the western United States, fall migratory flight paths average approximately 2,600 feet high, well above

the reach of the Project's expected light impacts (Axelson 2021). Project-related light impacts discussed in this study would occur as a result of relatively limited distances of new but shielded roadway lighting that is aimed toward the ground and would not be broadcast toward the sky into the path of migratory birds. Existing lighting would have shielding added. Additionally, warm-toned light has been selected for light fixtures, which reduces skyglow effects (Longcore 2023). Therefore, the Project-related increase in artificial lighting is not expected to have an effect on migratory birds passing through lighting impact areas, including special-status species such as the saltmarsh common yellowthroat.

3.4 Cultural Resources

3.4.1. Summary of Prior Cultural Resources Analysis

The 2023 Final EIR/EA evaluation concluded that there would be **no impact** to cultural resources. PF-CUL-01: Discovery of Human Remains and PF-CUL-02: Discovery of Archaeology Materials would be implemented during construction and excavation activities. The proposed Project was also found not to affect any historical resources in the area of potential effect (APE).

3.4.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The proposed modifications to the highway design are all in the previously evaluated cultural resources APE. This includes the relocated tolling facility; MVP and CHP areas; signage, including CMS and EMS overhead and roadside signs; additional lighting in the median; and utility relocations and power connections. These features would not introduce any new impacts to any known cultural resources in the Project's APE.

The SME is in a marsh area that has been added to the Project's APE. There are no built structures in SME, and it is in the Refuge. Work in SME would involve grading, soil placement, trenching to enhance circulation with the bay, and other marsh restoration measures. With the maximum restoration scenario, interior channels would be excavated in the marsh to a depth of approximately 1 to 2 feet NAVD88, and the larger intake channel could be excavated up to -4 feet NAVD88 (a 10.5-foot tapered channel depth).

The accessible area of SME was surveyed by Caltrans Archaeologist, together with FIGR monitor on June 24, 2024. A second field review was conducted with representatives from the Yocha Dehe Winton Nation on August 30, 2024. There were no historic-era or pre-contact artifacts or materials identified as a result of the two surveys. The highway APE had been previously surveyed, as documented in the 2021 Archaeological Survey Report for the Project (Beck 2021). An Extended Phase 1 was completed for the Project, also in 2021. No archaeological resources were identified during these evaluations. Refer to Section 3.16 regarding tribal cultural resources.

Consistent with the 2023 Project, the Project would have **no impact** to cultural resources and PFs CULT-1 and CULT-2 discovery of archeological resources and human remains during construction and excavation activities would be implemented. Additional AMMs to minimize impacts to Tribal Cultural Resources are described in Section 3.16.2. With the PFs, **no impact** to cultural resources are expected.

3.5 Energy

3.5.1. Summary of Prior Energy Analysis

The 2023 Final EIR/EA identified an increase in energy consumption that would occur temporarily during Project construction and maintenance. Energy consumption during construction would be conserved and minimized to the maximum extent feasible. During Project operation, stop-and-go traffic conditions would

be reduced. This would result in a commensurate decrease in energy consumption. The Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. Furthermore, the Project would not conflict with any state or regional Energy Conservation Plans. Therefore, there would be **no impact**.

3.5.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The 2023 Final EIR/EA identified an increase in energy consumption that would occur temporarily during Project construction and maintenance. The Project would not result in wasteful, inefficient, or unnecessary energy resource consumption during Project construction or operation. Furthermore, the Project would not conflict with any state or regional Energy Conservation Plans, and there would be **no impact**.

Energy consumption associated with the changes to the highway project and enhancement of SME were evaluated in an Energy Analysis Technical Memorandum (AECOM 2024c). An assessment was made of the total temporary energy consumption associated with construction activities for the proposed restoration. The other components of the SR 37 Sears Point to Mare Island improvements include bridge construction (the Tolay Creek Bridge replacement) and the overall construction work necessary to add the additional travel lanes in each direction (evaluated in the 2023 Final EIR/EA). The cumulative total construction energy is summarized in Table 3-6.

Table 3-6 Construction Energy

SR 37 Project Component	Total BTU
SME Enhancement	14,939.17
Roadway Construction	24,325.43
Bridge Construction	21,193.47
Total	**60,458.06**

Notes:
BTU = British Thermal Units
SME = Strip Marsh East
SR = State Route

This increase in energy use would be temporary because this change would not alter vehicle capacity, traffic forecasts, or speed profiles, and there would be no change to operational energy consumption. The proposed enhancements at SME and other highway improvements would not result in wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation, or conflict with any state or regional Energy Conservation Plans. Therefore, implementation of the proposed enhancements at SME and other highway improvements would not result in any new significant impacts or a change to the conclusions identified in the 2023 Final EIR/EA. This topic is not discussed further in this Final SEIR.

3.6 Geology, Soils, and Paleontology

3.6.1. Summary of Prior Analysis

As discussed in the 2023 Final EIR/EA, the proposed Project is in a seismically active area, but it is not in a Alquist-Priolo Earthquake Fault Zone and would not exacerbate the potential for seismic shaking nor expose the public to increased risks associated with seismic events. Caltrans' design and construction guidelines incorporate engineering standards that minimize seismic risks, including ground failure related to liquefaction, landslides, and lateral spreading. Caltrans also requires that additional geotechnical

subsurface and design investigations be performed during the final Project design and engineering phase. Because the Project study area is generally flat and there are no adjacent hillsides or steep areas, exclusive of the bridge approach embankment, there is a low potential for landslides and soil erosion. For steeper areas such as the bridge approach embankment, BMPs such as stabilization by rock slope protection and other erosion control measures would be implemented to reduce erosional impacts during construction activities. The 2023 Final EIR/EA found that there would be no significant impacts.

3.6.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Implementation of the enhancements at SME and other highway improvements would not introduce any new direct or indirect adverse effects on existing geologic units, features, and soils compared to that already disclosed in the 2023 Final EIR/EA. The enhancements at SME and other highway improvements were evaluated in a technical memorandum (AECOM 2024d), and the Project changes would not result in seismic, geologic, or paleontological related hazards or impacts in areas beyond what was considered in the 2023 Final EIR/EA. Pertinent policies and standards would continue to apply to the implementation of the enhancements at SME and other highway improvements. Therefore, implementation of the proposed Project would not result in any new significant impacts or a change to the conclusions identified in the 2023 Final EIR/EA with respect to geology, soils, and paleontological resources, and this topic is not discussed further in this Final SEIR.

3.7 Greenhouse Gas Emissions

3.7.1. Summary of Prior Greenhouse Gas Analysis

As discussed in the 2023 Final EIR/EA, construction activities for the proposed Project would result in increases of greenhouse gas (GHG) emissions related to equipment exhaust and worker and vendor vehicle trips. The carbon dioxide equivalent (CO_2e)[1] emissions associated with the Project for each construction activity were estimated to be 3,373 metric tons. However, emissions reduction measures would be implemented that would require contractors to comply with all California Air Resources Board emission reduction regulations and other regulations that deal with air pollution. Therefore, construction impacts were found to be **less than significant**. Long-term operational emissions were also found to be **less than significant** because the proposed Project would result in a reduction of GHG emissions compared to the existing conditions and No Build conditions. This is because the proposed Project would encourage ridesharing, carpooling, and mass transit use; this would reduce trips during AM and PM peak hours, which would help reduce GHG emissions from vehicle exhaust. The proposed Project was found to have a **less than significant** impact with respect to conflicts with GHG plans and regulations because it would comply with local, state, and federal regulations, ordinances, and statutes that apply to GHG emissions.

3.7.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

GHG emissions during the operation of the proposed Project would be the same as those evaluated in the 2023 Final EIR/EA (Illingworth & Rodkin 2024a). There would be no change in traffic volumes or traffic operations with either the highway project modifications described in Section 1.5 of the 2023 EIR/EA, or the SME marsh restoration. There would therefore be no change in on-road vehicle emissions, including vehicle-related GHG emissions, which were described in the 2023 Final EIR/EA impact determinations.

[1] CO_2e means the number of metric tons of carbon dioxide emissions with the same global warming potential as one metric ton of another greenhouse gas,

The SME enhancement would, however, involve earth-moving activities that were evaluated for air quality impacts described in Section 3.2. GHG emissions from SME construction would occur over one to two seasons of work and are listed in Table 3-1 as "CO_2e." Total CO_2e would be 6,686 pounds/day (average), with a total of 1,107 metric tons over the course of construction. There is no BAAQMD threshold for these emissions. These impacts would be temporary and short-term during construction activities. The same minimization measures for air quality and GHG emissions would apply to the construction equipment, including Tier 4 off-road emission standards, idling and operational restrictions, equipment maintenance, and other measures. The 2023 Final EIR/EA for the overall highway construction Project included the identification of construction-related GHG emissions. Although the enhancements at SME would add to that temporary impact, it would not result in a new or substantial change from what was originally determined for the 2023 Final EIR/EA.

3.8 Hazards and Hazardous Materials

3.8.1. Summary of Prior Hazards and Hazardous Materials Analysis

As discussed in the 2023 Final EIR/EA, adherence to federal and state regulations during Project construction and maintenance reduces the risk of exposure to hazardous materials and accidental hazardous materials releases. Because compliance with existing regulations is mandatory, Project construction is not expected to create a hazard to construction workers, the public, or the environment. Furthermore, the implementation of PFs for hazardous materials (summarized in Table 4-1 in the 2023 Final EIR/EA) would avoid and/or minimize impacts associated with hazardous materials, and impacts would be **less than significant**. There are also no existing or proposed schools within 0.25 mile of the Project limits.

Although the Project Area is not in a contaminated site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962, the California Department of Toxic Substances Control's EnviroStor database identified 15 potential contaminated sites and/or investigated sites within a 0.5-mile radius of the Project limits. However, thirteen of these sites are listed as closed cases, which indicates that hazardous materials have been addressed to the satisfaction of the applicable regulatory authority, and a formal closure decision document has been issued.

Two sites were identified as Recognized Environmental Conditions in the 2023 Final EIR/EA. These sites are the former Tubbs Island Gunnery Range (Southern Tip of Sonoma County, approximately 0.5 mile south of the Project Limits) and Sears Point Farming Company (5400 Sears Point Road). Implementation of PFs for hazardous materials (summarized in Table 4-1 in the 2023 Final EIR/EA), including site investigations and adherence to safety plans, would avoid and/or minimize impacts associated with hazardous materials, and impacts would be **less than significant**.

3.8.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The proposed highway modifications would be in the study area of the Caltrans right-of-way and adjacent areas previously considered in the 2023 Final EIR/EA Initial Site Assessment (AECOM 2020). The highway changes would not change the findings of that study.

SME did not have previously recorded sites of concern, based on the records search performed in 2020, which extended 0.5 mile outside of SR 37 and therefore included the SME area. An Addendum Initial Site Assessment was completed, addressing the changes to the highway design and addition of the SME minimization measure to the Project (AECOM 2024e). Audubon et al (2024) identified a potential for contaminants in SME that would be tested regarding their suitability for beneficial reuse on site when the marsh is restored. Planned restoration at the site would therefore involve testing of materials that might be excavated or moved—and, if unsuitable for reuse, would be left on site (not disturbed) or transported

for disposal if necessary. Adherence to these steps would prevent spread of potentially contaminated soils, if any are present at SME, and would avoid impacts. This finding is consistent with the treatment of graded or excavated soils along the SR 37 Project as previously identified in the 2023 Final EIR/EA and would not introduce new adverse impacts.

Implementation of the of the proposed enhancements at SME and other highway improvements would not result in any new significant impacts or a change to the conclusions as they relate to hazards and hazardous materials identified in the 2023 Final EIR/EA. This topic is not discussed further in this Final SEIR.

3.9 Hydrology and Water Quality

3.9.1. Summary of Prior Hydrology and Water Quality Analysis

The 2023 Final EIR/EA indicated that impacts to water quality and groundwater supplies would be **less than significant** during Project construction and operation. Construction site BMPs for erosion and sediment control and material management would be specified in the SWPPP and implemented and monitored during construction. Permanent impacts to water quality and groundwater supplies could result from the addition of impervious area, which can prevent runoff from naturally dispersing and infiltrating into the ground and recharging groundwater. However, the Project would require Section 401 Water Quality Certification and permanent stormwater treatment measures that would allow for stormwater infiltration to minimize impacts from runoff and to groundwater supplies. Additionally, because some of the Project location is in an area with a moderate to high Trash Generation Rating (Caltrans District 4 Regional Board 2 Trash Generation Map; Caltrans no date), adequate full trash capture systems will be installed to collect or contain trash. Drainage and flooding impacts were determined to be **less than significant**. However, mitigation would be incorporated to minimize the Project Area's limited onsite stormwater treatment capacity. The proposed Project was found to have **no impact** related to conflicts with a water quality control plan or sustainable groundwater management plan.

3.9.2. Updates to the Environmental Setting

The hydrology and water quality setting would be similar to what was described in the 2023 Final EIR/EA because SME is in the same watershed of San Pablo Bay, which connects to San Francisco Bay. The SME unit of the Refuge is between SR 37 on the north, San Pablo Bay on the south, the Pond 1/1A Intake Channel on the west, and Mare Island on the east. The SME unit is salt marsh, which is wetland that is flooded and drained by salt water from tides.

3.9.3. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The changes to the highway design and addition of the SME marsh enhancement were evaluated in an addendum to the Project's Water Quality Assessment Report (AECOM 2024f). The following paragraphs summarize these updates.

Water Quality Standards, Waste Discharge, or Impacts to Water Quality. During the implementation of SME and other highway improvements, temporary water quality impacts would occur as a result of construction activities such as grading, excavation, and dredging near water sources; use of construction vehicles and equipment; and drainage facilities that discharge to water bodies. The enhancements at SME would require up to 196,000 cubic yards of soil disturbance over an area up to 1,400 acres, although it will likely be much less, depending on the final design and the option chosen for restoration of the marsh. Because of this additional soil disturbance, temporary water impacts related to sediment discharges would be greater than what was analyzed for the 2023 Project.

As discussed in the 2023 Final EIR/EA, construction site BMPs for erosion and sediment control and material management are considered PFs; they would be specified in the SWPPP prior to construction and monitored during construction. These same PFs would be implemented with the SME enhancement component and highway design changes. Furthermore, following construction of these elements, permanent erosion control measures would be applied to all exposed areas, which would prevent sediments from entering waterways and storm drains.

Because the Project would add additional impervious surfaces for MVPs, the paved area for the maintenance building, and the maintenance parking area, there may be some additional areas of permanent water quality impacts during rain events related to runoff from impervious surfaces into adjacent bodies of water and storm drains. As discussed in the 2023 Final EIR/EA, the Project would require a Section 401 Water Quality Certification from RWQCB. AMM WQ-2 would implement permanent stormwater treatment measures. As with the 2023 Final EIR/EA conclusion, the impact would be **less than significant**.

Effects to Groundwater. Elements that would be added include approximately six 8-foot-wide MVPs, along with a paved area that would house a maintenance building for the tolling gantry and pullout for maintenance vehicles. These additions would result in slightly more impervious area to the watershed, although the highway lanes have also been reduced in width. Any additional fill placed in the floodplain is relatively minor in the context of the greater floodplain area and is not anticipated to impede flood waters, affect bay-level floodplains, or substantially reduce the area available to convey floodwaters or groundwater recharge. As discussed in the 2023 Final EIR/EA, the Project would require stormwater treatment BMPs, which would allow for stormwater infiltration to minimize impacts to runoff and groundwater. However, because there is limited area along the route for new treatment options, offsite mitigation for runoff is also proposed as part of the Project. As with the 2023 Final EIR/EA conclusion, the impact would be **less than significant**.

Federal Emergency Management Agency Floodplains. As discussed in the 2023 Final EIR/EA, the amount of new impervious surface added would not be substantial enough to have an impact to the flows within the Project's limits and would not impact existing floodplain conditions. The additional impervious surfaces proposed would be minimal related to the other highway improvements. Enhancements at SME would have beneficial impacts on the drainage conditions of the marsh; this is the point of the SME enhancement element of the Project. As with the 2023 Final EIR/EA conclusion, neither the increase in impervious area nor the fill placed in the floodplain would result in an impact.

Risks of Flooding/Inundation. As discussed in the 2023 Final EIR/EA, the Project Area is in a Tsunami Inundation Area and could be subject to flood waters from a tsunami event. The enhancements at SME are expected to provide more flood protection to SR 37. Therefore, SME would have beneficial impacts related to flooding and pollutant release from flooding. As with the 2023 Final EIR/EA conclusion, impact would be **less than significant**.

Water Quality Control Plan Consistency. Implementation of the of the proposed enhancements at SME and other highway improvements would not conflict with or obstruct implementation of a water quality control plan. As discussed in the 2023 Final EIR/EA, the Project is required to adhere to the Clean Water Act, the Porter-Cologne Water Quality Control Act, Caltrans' Municipal Separate Storm Sewer System Permit, and the other laws and regulations. Therefore, there would be **no impact**.

3.10 Land Use

3.10.1. Summary of Prior Land Use Analysis

The 2023 Final EIR/EA concluded that the Project would be constructed in and along Caltrans' right-of-way and would not physically divide an established community. Therefore, there would be **no impact**.

The Build Alternative (Alternative 3B) was determined to be generally consistent with the general plans, regional plans, and transportation plans.

3.10.2. Updates to the Environmental Setting

The entire SME area is in the Refuge (the San Pablo Bay National Wildlife Refuge). This 19,000 -acre refuge was established in 1974 to support migratory birds, wetland habitat, and endangered species. It consists of a series of parcels and land that are owned and managed by USFWS. SME is one portion of the Refuge, situated between SR 37 and San Pablo Bay. Over time, this portion of the Refuge has evolved from a perennial emergent tidal marsh into lagoon habitats, which during dry seasons have become increasingly barren. As a result of these ecological changes, this portion of the Refuge was identified as a candidate for restoration in cooperation between the managing land use agencies and the SR 37 Project sponsors, including MTC and Caltrans.

3.10.3. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Temporary right-of-way use during construction was evaluated in an Addendum to the Project's Community Impact Assessment (AECOM 2024g).

No additional permanent property acquisition would be required for the Tolay Creek Bridge replacement construction area. TCEs, which were assessed in the original 2021 Community Impact Assessment and 2023 Final EIR/EA, would continue to be required for equipment access and staging for the overall Project, as evaluated in the 2023 Final EIR/EA. The addition of the Tolay Creek Bridge replacement would not change that assessment of temporary or permanent right-of-way needs.

The SME element of the Project is outside of the existing Caltrans right-of-way and will require temporary use or access to the refuge lands at SME for grading, import or export of fill, hydrological and drainage changes, and other temporary construction activities and use. These temporary and relatively short-term activities are necessary to achieve the beneficial restoration goals at SME. The Project Team has had preliminary coordination with CDFW and USFWS, who manage SME. Once the marsh restoration activities are completed at SME, the affected area will be a restored or enhanced marsh that will provide enhanced ecological benefits. Therefore, the long-term use of SME will not change with respect to ownership and management, and the only use of SME by the Project will be for the necessary activities related to marsh enhancement and restoration.

As stated in the 2023 Final EIR/EA, local residents and businesses could experience temporary access impacts from the construction closures. However, property access would continue to be maintained throughout Project construction. No full closures of SR 37 or SR 121 are anticipated. Implementation of a Transportation Management Plan (TMP), which is part of standard Caltrans practice, would include outreach to inform the agencies and the public of the times and locations of upcoming construction, construction signs in and approaching the Project Area, and incident management for traffic control in the vicinity of construction activities. Therefore, implementation of the TMP would minimize the potential for short-term construction impacts.

No additional parcels would be permanently affected beyond those identified in the 2023 Final EIR/EA. As discussed above, the expanded area outside of Caltrans right-of-way for the restoration of the SME area is required for grading, import or export of fill, hydrological and drainage changes, and other temporary construction activities and use. With respect to any necessary highway-related TCE parcel expansion, it would not affect the existing land use of the rest of the properties or preclude the use or development of the parcel.

The modified Project would not result in any new permanent land use impacts beyond those identified in the 2023 Final EIR/EA or result in a substantial increase in the severity of any previously identified impact.

Refer to Appendix B regarding the Section 4(f) evaluation.

3.11 Noise

3.11.1. Summary of Prior Noise Analysis

The 2023 Final EIR/EA determined that the proposed Project would have **no impact** related to ambient noise, because the Project would not increase ambient noise levels by more than 2 A-weighted decibels (dBA).[2] Noise related to construction would be similar to existing highway conditions, or a bit higher during pile driving, but would be short-term and intermittent. Vibration impacts were determined to be **less than significant** due to pile driving during construction, and the analysis of pile driving determined that it would not exceed Caltrans standards for vibration. There is no airport in the Project vicinity, so there would be no Project-related impact related to exposure of people residing or working near an airport.

3.11.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Traffic operational impacts with the Project would be the same as those discussed in the 2023 Final EIR/EA because there would be no changes to traffic patterns and volumes, nor would any new noise-sensitive receptors be introduced (Illingworth & Rodkin 2024b). Similarly, none of the proposed updates to the highway design (e.g., revised location of the tolling facilities, maintenance vehicle and CHP pullouts, and traffic operations system or traffic monitoring system elements) would change the noise findings of the 2023 Final EIR/EA.

Temporary construction at SME would involve heavy construction equipment at the marsh for one to two seasons of work. SME is more than 1,000 feet distant from sensitive human uses but does support wildlife at the Refuge. A noise assessment was therefore completed for construction noise at SME. Examples of equipment potentially involved in the restoration work would be excavators, bulldozers, off-highway trucks, pumps, and dredging equipment. Hourly average noise levels were calculated at 87 dBA at 50 feet distance and 81 dBA at 100 feet distance. Because the nearest noise-sensitive receptors are more than 1,000 feet from the construction area, the noise levels would be much lower. Construction levels would not be expected to exceed quantitative noise limits established by Caltrans. Noise minimization measures were included in the Project's 2021 Noise Study Report and 2023 Final EIR/EA, and these measures are applicable to the work at SME with no necessary changes.

The SME construction noise study also considered adverse noise effects to local bird habitat. Caltrans studies on effects of traffic and road construction noise on birds (Caltrans 2016) indicate that construction noise levels would not result in permanent loss of hearing, but temporary impacts or loss can occur at levels above 93 dBA (calculated construction noise would not exceed 93 dBA for sustained periods, and therefore the risk of hearing loss would be avoided). However, where construction noise levels exceed ambient levels, communication signals of birds could be potentially masked, potentially resulting in behavioral or other effects. Therefore, construction noise levels were compared to ambient conditions.

Existing daytime ambient noise levels at the marsh region would be represented by receptor #LT-2, described in the September 2021 Noise Study Report. LT-2 was just north of SR 37 at 5400 Sears Point Road, and existing traffic along SR 37 was the dominant noise source at this measurement site. Hourly average noise levels at LT-2, which was positioned approximately 95 feet from the centerline of SR 37, ranged from an hourly equivalent sound level (Leq[h]) of 71 to 76 dBA during daytime hours. At 200 feet from the centerline of SR 37, daytime ambient noise levels would range from 66 to 71 dBA Leq(h) and would further reduce to below 50 dBA Leq(h) at distances of 2,500 feet or more from the centerline. Each of the five elements included in the construction of the proposed restoration and enhancement work would include the same type of equipment, generating levels of up to 87 dBA at 50 feet distance. This maximum noise level would decline over distance from the construction equipment source, dropping to

[2] "A" weighting is a decibel scale that is considered most representative of human response at lower sound levels.

60 dBA at 1,100 feet away and 45 dBA at 6,000 feet distance. These levels are within the ambient conditions, and the SME construction work would not result in a significant change in noise levels not already experienced by birds and animals using the SME marsh area.

Vibration levels at the buildings nearest to the marsh lands would be lower than the levels reported in the 2021 Noise Study Report and the 2023 Final EIR/EA. The original noise and vibration study analyzed construction vibration levels along the entire Project alignment. The structure nearest to the Project alignment was 80 feet away, whereas the structure nearest to the marsh lands where the proposed Project would occur is 930 feet away. Vibration levels would not exceed established Caltrans vibration limits, and the findings of the original study would not change.

No additional noise or vibration measures are necessary. The changes to the highway or construction of SME would not result in any new significant noise or vibration impacts beyond those identified in the 2023 Final EIR/EA or result in a substantial increase in the severity of any previously identified significant impact.

3.12 Mineral Resources

3.12.1. Summary of Prior Mineral Resources Analysis

The 2023 Final EIR/EA determined that there would be **no impact** to mineral resources.

3.12.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The enhancements at SME and other highway improvements would not introduce any new areas for development, including areas that may otherwise be available for mineral resource extraction. Therefore, the proposed Project would not result in any new significant impacts or a change to the conclusions identified in the 2023 Final EIR/EA with respect to mineral resources. This topic is not discussed further in this Final SEIR.

3.13 Population and Housing

3.13.1. Summary of Prior Population and Housing Analysis

The 2023 Final EIR/EA determined that there would be **no impact** related to substantial population growth.

3.13.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The enhancements at SME and other highway improvements would not propose any direct changes to existing land use designations or zoning that would result in additional population growth or any displacement. Implementation of the proposed Project would not result in any new significant impacts or a change to the conclusions identified in the 2023 Final EIR/EA with respect to population and housing. Therefore, this topic is not discussed further in this Final SEIR.

3.14 Public Services

3.14.1. Summary of Prior Public Services Analysis

The 2023 Final EIR/EA concluded that there would be **no impact** associated with the provision of new or physically altered governmental facilities.

3.14.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The enhancements at SME and other highway improvements would not propose any direct changes to existing land use designations or zoning that would result in any increased demand for fire, police, school, park, or library facilities or services. Therefore, implementation of the proposed Project would not result in any new significant impacts or a change to the conclusions identified in the 2023 Final EIR/EA with respect to public services, and this topic is not discussed further in this Final SEIR.

3.15 Transportation

3.15.1. Summary of Prior Transportation Analysis

The 2023 analysis determined that impacts would be **less than significant** as a result of the Project conflicting with a program, plan, ordinance, or policy related to transportation. The Project would improve traffic conditions along SR 37 by adding HOV lanes, which would improve the person-carrying capacity of the corridor, as well as the traffic flow and travel times in the peak direction. Bicycle access will still be allowed along the highway shoulders.

The 2023 analysis found that the impact would be **less than significant** related to increasing VMT compared to the No Build Alternative. Performance measures would be implemented to evaluate whether tolling is performing to reduce VMT as intended. **AMM-VMT-1: Bus Service, Ride Sharing** was included in the 2023 Final EIR/EA, but the title has been modified to **AMM-VMT-1: Ride Sharing and Possible Bus Service**, as discussed in Section 2.4.1. This AMM would be implemented beyond tolling, if necessary, to further reduce any potential increases in VMT. Finally, the 2023 analysis found that the proposed Project would have **no impact** related to hazards due to a geometric design feature, and the Project would maintain emergency vehicle access along the roadway shoulders.

3.15.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

The use of staged construction would keep the traffic operational where traffic would be shifted around construction zones. If a temporary lane closure is necessary, every effort would be made to conduct that task at night or nonpeak periods to minimize traffic delays. Consistent with what was presented in the 2023 Final EIR/EA, a TMP would be prepared to define the staging and lane transitions during construction. As a result, work at SME and at other locations for the highway improvements would only occur temporarily during construction activities; it is not considered a new impact, because construction delays were already identified in the original EIR/EA associated with construction activities and adding the new lanes in each direction. The proposed Project would not result in any new transportation impacts beyond those identified in the 2023 Final EIR/EA, nor would it result in a substantial increase in the severity of any previously identified significant impact.

Traffic operations as proposed in the 2023 Final EIR/EA would not change with SME and other highway Project improvements. The proposed Project would not result in changes to the number of lanes, HOV lanes, or overall geometric design features of the bridge or corridor. Bicyclists would continue to be able to use the highway shoulders. Therefore, impacts related to traffic circulation, VMT, and transportation hazards would be the same as with the original Project.

3.16 Tribal Cultural Resources

Would the project 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:	**Significant and Unavoidable Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No	No	Yes	No

3.16.1. Summary of Prior Tribal Cultural Resources Analysis

In the course of consultation with the Native American Heritage Commission and FIGR, the Yocha Dehe Wintun Nation (Yocha Dehe), and the Mishewal-Wappo Tribe of Alexander Valley (Mishewal-Wappo) for the 2023 Final EIR/EA, no Tribal Cultural Resources (TCRs) were identified in or near the APE, and it was determined that there would be no impact to TCRs. Letters initiating AB 52 (CEQA) and Section 106 of the National Historic Preservation Act consultation on the Project were sent to FIGR and Yocha Dehe on October 31, 2019. Follow-up phone calls were placed to both tribes on December 23, 2019. On January 2, 2020, FIGR requested consultation moving forward with the Project. Consultation regarding the Project continued between 2020-2023, when additional outreach to continue consultation on the Tolay Creek Bridge Addendum and the Strip Marsh East Supplemental were sent on December 27, 2023, and March 11, 2024, to both FIGR and Yocha Dehe. On January 26, 2024, Yocha Dehe sent a letter to Caltrans deferring to FIGR for the Tolay Creek Bridge Addendum, as it was not located in their traditional ancestorial territory. Both tribes have identified ancestral territories within the Project Area.

On April 26, 2024, Yocha Dehe sent a letter to Caltrans in response to the Strip Marsh East scope of work, noting that portions of the Project are within their traditional ancestorial territories and requested continued consultation on the Project. As a result of continued consultation between Caltrans and both tribes, tribal monitoring has been requested during all ground-disturbing Project activities and cultural resource identification efforts (including reviews by both Tribes of drafted cultural technical reports in support of the Project). Consultation is ongoing throughout the life of the Project with both FIGR and Yocha Dehe. No responses have been received to date from the Mishewal-Wappo.

Based on continued discussions with both FIGR and the Yocha Dehe, the conclusion for CEQA checklist item b has been revised from no impact in the 2023 Final EIR/EA to **less than significant** in this Final SEIR. Two PFs were included in the Project requirements. **CULT-01: Discovery of Human Remains** and **CULT-02: Discovery of Archaeology Materials** would minimize impacts to archeological resources and human remains during construction and excavation activities (Caltrans 2024).

3.16.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Impacts to Tribal Cultural Resources from the modifications to the highway design and the addition of SME to the Project would be similar to what was evaluated in the 2023 Final EIR/EA. The highway modifications are in the APE that was originally evaluated for the Project. SME is a marsh area in the Refuge and has no existing structures or known past development. Archaeological surveys conducted of SME revealed no known resources.

Consistent with the 2023 Final EIR/EA, implementation of PFs CULT-01: Discovery of Human Remains and CULT-02: Discovery of Archaeology Materials would minimize impacts to archeological resources and human remains during construction and excavation activities. Continued consultation with FIGR and the Yocha Dehe identified the Project footprint as sensitive for Tribal Cultural Resources. Caltrans had tribal representation from both tribes present during the two supplemental field surveys in 2024. As a result of continued consultation, it was determined that there is still the potential for Tribal Cultural Resources to be discovered during construction. The implementation of PFs CULT-01: Discovery of Human Remains and CULT-02: Discovery of Archaeology Materials would reduce potential impacts by stopping work and requiring consultation with a qualified archaeologist, in consultation with the Yocha Dehe and FIGR, upon discovery of a new potential resource. With these PFs, the impact would be **less than significant**.

Additional measures were added to further reduce impacts and are described in Section 2.4.2. They include:

- **AMM-TCR-01. Post-Review Discovery and Tribal Monitoring Plan**;
- **AMM-TCR-02. Cultural Sensitivity/Awareness Training**;
- **AMM-TCR-03. Tribal Monitoring Area**;
- **AMM-TCR-04. Cultural Landscape Study;**
- **AMM-TCR-05. Plant Palette and Landscaping;** and
- **AMM-TCR-06. Tribal Review of Project Changes**.

3.17 Utilities and Service Systems

3.17.1. Summary of Prior Analysis

The 2023 Final EIR/EA indicated that impacts related to relocation of utilities would be **less than significant**, including impacts resulting from the relocation of some Pacific Gas and Electric Company (PG&E) overhead electrical distribution lines. There would be **no impact** related to insufficient water supplies, wastewater flows or wastewater treatment, or solid waste.

3.17.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Similar to the original Project, final verification of utilities would be performed during the Project's detailed design phase, and any needed relocations would be coordinated with the affected utility owner to minimize potential interruptions of service, resulting in impacts that are **less than significant**. The proposed SME enhancements and other highway improvements would not include new development or uses that would require water supplies; generate new wastewater flows or affect public utilities for wastewater treatment; or generate solid waste, other than during construction. During construction, the Project would not generate or require solid waste disposal that exceeds local standards or exceeds the

capacity of local infrastructure. Construction waste that could not be recycled would be disposed of at a certified facility based on the waste type; it is not anticipated to affect landfill capacity. The Project would also comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, implementation of proposed SME enhancements and other highway improvements would not result in any new significant impacts or a change to the conclusions identified in the 2023 Final EIR/EA with respect to utilities and service systems, and this topic is not discussed further in this Final SEIR.

3.18 Wildfire

3.18.1. Summary of Prior Analysis

The 2023 Final EIR/EA indicated that the Project would not impair implementation of an emergency response or emergency evacuation plan, such as during a wildfire, because no potential evacuation routes would be impeded or disrupted during Project construction and operation. A TMP would be implemented to maintain access on SR 37. Highway traffic could also be redirected to alternative routes in the event of a major north San Francisco Bay wildfire affecting SR 37. The Project would not change fire risk conditions, and it would not change the overall alignment of SR 37. PFs for minimizing fire risks would be incorporated, such as clearing vegetation from the work area; prohibiting the use of highly flammable chemicals; following locally changing meteorological conditions; and maintaining awareness of the possibility of increased fire danger during the time work is in progress, as documented in Table 4-4 in the 2023 Final EIR/EA. Furthermore, all Project construction would follow state and federal fire regulations during relocation of some PG&E overhead electrical distribution lines. These measures are incorporated into the Project design as a matter of Caltrans practice and are not mitigation. The 2023 Final EIR/EA concluded that the Project would not exacerbate wildfire risks, and there would be **no impact**.

3.18.2. Strip Marsh East and Other Highway Improvements Project Impact Analysis

Proposed SME enhancements and other highway improvements would not change fire risk conditions, and they would not change the overall alignment of SR 37. PFs for minimizing fire risks would be incorporated, such as clearing vegetation from the work area; prohibiting the use of highly flammable chemicals; following locally changing meteorological conditions; and maintaining awareness of the possibility of increased fire danger during the time work is in progress, as documented in Table 4-4 in the 2023 Final EIR/EA. Furthermore, all Project construction would follow state and federal fire regulations during relocation of some PG&E overhead electrical distribution lines. These measures are incorporated into the Project design as a matter of Caltrans practice and are not mitigation. The proposed Project would have **no impact** on exacerbating wildfire risk, and it would not result in any new significant impacts or a change to the conclusions identified in the prior 2023 Final EIR/EA with respect to wildfire risk. This topic is not discussed further in this Final SEIR.

3.19 Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed Project. The following analysis focuses on proposed Project changes associated with the highway and the addition of the restoration and enhancement of SME.

The “Guidance for Preparers of Cumulative Impact Analysis Approach and Guidance” describes how the cumulative impact analysis should focus on 1) those resources potentially significantly impacted by the project; or 2) resources currently in poor or declining health or at risk even if project impacts are relatively small (**less than significant**).

3.19.1. Resources Screened for Cumulative Impact Analysis

If a project would not result in a direct or indirect adverse effect on a resource, then it would not contribute to a cumulative impact on that resource and does not need to be further evaluated. As analyzed in Sections 3.1 through 3.18, the proposed Project changes would result in **no impact**, thus no cumulative impact, to the following resources:

- Agriculture and Forestry Resources
- Cultural Resources
- Geology and Soils
- Land Use
- Mineral Resources
- Population and Housing
- Public Resources
- Utilities and Service Systems
- Wildfire

Furthermore, as analyzed in Sections 3.1 through 3.18, the proposed Project changes would result in no adverse impact on the following resources:

- Aesthetics: The Project changes would add new transportation infrastructure such as signage, lighting, a tolling gantry and maintenance building, and restoration of the SME. This resource is not considered to be in poor or declining health or at risk. The infrastructure changes would be consistent with existing conditions along the SR 37 corridor and would not substantially affect or change the visual setting.

- Air Quality: There would be short-term and temporary construction air quality emissions from the implementation of SME enhancements and additional highway improvements, but these improvements were determined to not substantially contribute to air quality emissions within the regional Bay Area or North Bay.

- Energy: There would be short-term and temporary use of energy during the construction of SME enhancements and additional highway improvements, which would not result in wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with any state or regional Energy Conservation Plans. This resource is not considered to be in poor or declining health or at risk and there are no changes to transportation energy consumption associated with the proposed highway design changes.

- Greenhouse Gas Emissions: There would be short-term GHG emissions during the implementation of SME enhancements and construction of the additional highway improvements. As discussed in Section 3.7, Project construction is required to include minimization measures for air quality and GHG emissions, including Tier 4 off-road emission standards, idling and operational restrictions, equipment maintenance, and other measures that minimize GHG emissions. There would be no construction GHG emissions once the Project construction is completed.

- Hydrology: The overall Project would lengthen the Tolay Creek bridge, which will accommodate greater flow of runoff that is expected from planned upper watershed enhancements by others. Proposed highway improvements would not result in changes to the Sonoma Creek channel. The hydrology of the creeks crossed by the Project would not be adversely impacted by the Project and this resource was therefore not considered further for cumulative impacts.

- Water Quality: Grading and earthmoving construction impacts would be **less than significant** with required construction site BMPs specified in the SWPPP, which would be monitored during construction. Increased surface water runoff from additional pavement would be addressed by Section 401 Water Quality Certification and permanent stormwater treatment measures. This

resource is not considered to be poor or declining health or at risk and all other construction projects along SR 37 and in the north Bay region would be subject to the same requirements. The Project's regulatory requirements for construction and runoff treatment would therefore minimize contributions to Project-related water quality impacts; therefore, this resource was not further considered for cumulative impacts.

- Noise: As discussed in Section 3.11, noise levels from construction would temporarily increase during construction but would be within ambient conditions and would not result in a significant change in noise levels. This noise environment is not considered to be in poor or declining health or at risk. The highway design updates would not affect traffic operations or traffic-related noise previously analyzed for the Project, which was determined to be **less than significant** for the proposed Project and was therefore not further considered for cumulative impacts.

- Transportation: The implementation of SME enhancements and additional highway improvements would result in temporary construction impacts related to traffic, temporary lane shifts during construction, and construction vehicle access and parking. All construction staging will be planned and managed with the required TMP.

- Tribal Resources: No archaeological or cultural resources were identified within the SME Project area (refer to Section 3.4.2). However, as a result of continued consultation, it was determined that there is still the potential for a California Native American tribal resource to be discovered during construction. The implementation of PFs **CULT-01: Discovery of Human Remains** and **CULT-02: Discovery of Archaeology Materials** would reduce potential impacts by stopping work and requiring consultation with a cultural or tribal resources specialist upon discovery of a new potential resource. With these PFs, the impact would be **less than significant**. Additional measures were added to further reduce impacts and are described in **Section 2.4.2**. They include:

    - **AMM-TCR-01. Post-Review Discovery and Tribal Monitoring Plan**;
    - **AMM-TCR-02. Cultural Sensitivity/Awareness Training**;
    - **AMM-TCR-03. Tribal Monitoring Area**;
    - **AMMTCR-04. Cultural Landscape Study**;
    - **AMMTCR-05. Plant Palette and Landscaping**; and
    - **AMMTCR-06. Tribal Review of Project Changes.**

AMM-TCR-01, 02, 03, 04, 05, and 06 would be required as part of the Project to avoid Project-related impacts and therefore this resource was not further considered for cumulative impacts.

The impacts of the proposed Project changes on the resource areas listed above would be **less than significant**. Most potential impacts would occur during the construction period, which is temporary by nature. Furthermore, there would be AMMs in place to further avoid or minimize impacts to the listed resource areas above. For more details, please refer to 0, ECR. For these reasons, those resources have been screened out from the cumulative impacts' discussion, as there would be little to no anticipated contribution to cumulative impacts.

3.19.2. Resources Considered in the Cumulative Impact Analysis

Given the information above, the resources that are considered in this Cumulative Impact Analysis are Biological Resources. The analysis is focused on wetlands and waters, followed by the biological species that are the most sensitive to potential biological cumulative impacts, including salt marsh harvest mouse, California Ridgway's rail, California black rail, and California red-legged frog. A brief description of the biological Resource Study Area (RSA) is provided, followed by the historic and current health of the resource, and the potential for cumulative impacts.

3.19.3. Define the Resource Study Area

Table 3-7 summarizes the biological resources considered for potential cumulative impact analysis, and their respective study areas.

Table 3-7 Resource Study Areas (RSAs)

No.	Resource	Resource Study Area
1	Wetlands and waters	Wetlands and other waters of the San Pablo Bay. Restored baylands, tidal brackish marsh, naturally meandering sloughs, and perennial and intermittent streams supported by the Napa River, Petaluma River, Sonoma Creek, and Tolay Creek
2	Salt marsh harvest mouse, California black rail, and California Ridgway's rail	Tidal marsh areas of the San Pablo Bay
3	California red-legged frog	Freshwater marshes, streams, ponds, and vegetated upland areas bordering San Pablo Bay

3.19.4. Describe the Resource Trends/Historical Context

The section focuses on describing the historical context, current health, and trend of each resource area above within its respective RSA.

Wetlands and Other Waters. Wetlands and other waters in the RSA consist of the San Pablo Bay, restored baylands, tidal brackish marsh, naturally meandering sloughs, and perennial and intermittent streams. Surface waters in the RSA include the Bay, manufactured maintained tidal ponds, creek channels, manufactured freshwater riverine channels and emergent wetlands, roadside ditches, and excavated roadside stormwater catchment depressions. Primary channels draining the watersheds within the RSA include the Petaluma River, Sonoma Creek, Napa River, and Tolay Creek. Vegetation communities and tidal data indicate saltwater intrusion, and the MHW extends from the Bay into most of the marshes, sloughs, and creeks.

Historically, brackish marshes stretched upstream for several miles from the San Pablo Bay shoreline mouths of the Petaluma and Napa Rivers (BCDC 1997). Tolay Creek was historically part of a series of more extensive tidal sloughs that surrounded marsh islands receiving freshwater input from upstream Tolay Lake and runoff from the Sonoma Mountains. Between 1800 and 1998 most of the original naturally occurring wetlands and tidal flats in the north San Pablo Bay were converted to agricultural lands, salt ponds, diked wetlands, managed ponds, or other developed areas (Goals Project 2015). Since 1998, substantial efforts have been implemented and planned to reverse the historical trend and restore and enhance wetlands and lagoons that were lost to, or functionally altered by development. The historical development in the region has contributed to the relatively poor health of wetlands and waters in the RSA.

The RSA in recent decades has experienced a trend towards increasing enhancement and restoration of the historically degraded North Bay wetlands. Approximately fifteen thousand acres of tidal wetlands and waters have been restored, enhanced, or improved within the RSA. Large areas that were formerly managed as agricultural lands, military facilities, duck hunting clubs, or for solar salt production have been restored to tidal function or converted to managed wetlands providing habitat for waterfowl and other wildlife. Just under ten thousand acres of additional tidal wetlands and water restoration efforts are planned in the RSA and nearby the Project that would contribute to the improved ecosystem health and would increase the area of wetlands and waters in and around the San Pablo Bay.

At the Project site in the SME, as sea levels rose in the twentieth century, the impoundment of rainwater, spring tide flooding, and intermittent wave overtopping of the bayfront high salt marsh berm increased, and the duration of marsh flooding into the spring-summer growing season increased. Marsh drowning and dieback began its severe trajectory in the 1990s, after the end of severe drought that weakened interior SME salt marsh vegetation by hypersaline soil stress.

The current health of wetlands and other waters in the overall RSA is poor but improving with multi-agency efforts focused on restoration and enhancement.

Salt Marsh Harvest Mouse. The RSA for the salt marsh harvest mouse includes the tidal salt marsh of the northern subspecies where it overlaps with the northern San Pablo Bay. Habitat and populations occur along the Bay shoreline marshes, but the trend in their occurrence and populations over time has been more concentrated and isolated due to development and human activity. Of the 193,800 acres of tidal marsh existing in the 1850s, only about 30,100 remain (U.S. EPA 2010). Some of the marshes have been pared to remnants that are flooded by high tides, when useful habitat during such events is limited to high-ground retreat in which the salt marsh harvest mouse might take refuge (U.S. EPA 2010). The USFWS developed a recovery plan for the mouse in 1984 due to its declining habitat health, and this plan is directed at protecting and conserving habitat as well as providing enhanced refuge areas (higher ground) against flooding events and sea-level rise.

Typically, salt marsh harvest mouse is restricted to the saline or brackish marsh habitat. The largest population of the northern subspecies is found in the tidal marshes along northern San Pablo Bay (Petaluma River to Mare Island Strait). Preferred habitat includes pickleweed-dominated vegetation, as well as high tide/flood refugia, seasonal use of terrestrial grassland, and mixed-halophyte habitat (USFWS 2013).

As noted for wetlands in the north San Pablo Bay, substantial wetland areas have been historically degraded but is now characterized by active habitat enhancement, tidal function restoration, or establishment of managed wetlands in many areas that now provide improved ecosystem function and salt marsh harvest mouse habitat. The completed and planned efforts in the RSA have contributed to an overall increase in the general ecosystem health and abundance of habitat that supports this species population in the RSA. The trend within the RSA has been protection of habitat through expansion of the Refuge, purchase or acquisition of additional habitat areas when feasible, and habitat restoration. Mouse populations remain at risk due to habitat fragmentation, climate change, adjacent development, and invasive species, all of which threaten the mouse population's ability to thrive and expand.

An exception to the overall improvement of tidal marsh habitat in the RSA is at the SME. This area is protected from development as it is within the Refuge management area, however emergent salt marsh in the SME interior has experienced habitat degradation and loss of pickleweed marsh due to inadequate tidal exchange, poor site drainage causing inundation during wet season, and hypersaline soil conditions in the dry season.

Salt marsh harvest mouse populations and habitat conditions in the RSA remain poor but are trending towards improvement with proposed efforts to restore and enhance emergent salt marsh habitat. Conditions for this resource at the SME and in the Project area are currently poor and trending toward continued degradation due to poor hydrology that is causing loss of habitat and existing habitat fragmentation. Implementation of the Project to enhance conditions at SME would reverse that trend in the Project area.

California Ridgway's Rail. This species' RSA is based on its current range, which is restricted to the tidal salt and brackish marshes surrounding San Francisco Bay, where it overlaps the San Pablo Bay. Rails typically inhabit salt marshes dominated by pickleweed and California cordgrass (USFWS 2013). Nesting habitat must include sloughs to provide invertebrate prey items and escape from predators (USFWS 2013). Nests are built on elevated structures surrounded by vegetative cover at an elevation that does not become completely inundated during high tides. Small tidal channels with dense vegetation are important foraging areas (USFWS 2013). Habitat availability for Ridgway's is a major factor affecting the Bay Area's Ridgway's rail population. California Ridgway's rails are unlikely to be found in areas that do not contain both breeding

and foraging habitat. Mature and relatively young tidal wetlands displaying a high degree of channelization (tidal slough density and penetration into the interior extent), limited predator access routes (generally limited by dense vegetation and/or open channels), and a dense mosaic of mid- to upper-marsh-zone vegetation (used for cover from predators and nest building) provide the best habitat for this species.

Habitat loss associated with development and degradation has been a leading cause in Ridgway's rail decline. The population in the San Francisco Bay which includes the RSA historically declined with Bay fill, diking of wetlands, and degraded habitat. Loss of suitable breeding habitat has been cited as a widespread limiting factor of the populations (Zembal et al. 2015). Development at or near the Bay shoreline has also historically increased predation, with cause of rail deaths in one study attributed at over 90% to avian predators (Casazza et al. 2016). A 2023 Ridgway's rail survey (Olofson Environmental 2023) identified a five-year trend in decline of about 8% each year since 2018 in all subgroups (the population groups surveyed or inventoried) within the Bay Area. Thus, the health of the Bay Area Ridgway's rail population is poor with respect to the population of the species; historic trends have been in decline due to habitat loss; and the current trend of predation continues to impact the population within the north Bay portion of the RSA.

Within the RSA and in the vicinity of the Project area, the highest quality habitat for California Ridgway's rail occurs within Lower Tubbs Island, south of the Project, a unit of the Refuge which contains high channel complexity and large contiguous expanses of California cordgrass intermixed with bulrush. These areas have exhibited the highest rail detection rates. Surveys conducted in 2005 show San Pablo Bay populations are variable and represent some of the lowest densities in the Bay Estuary. California Ridgway's rail have not been detected at Cullinan Ranch or in the SME, despite previous survey efforts (USFWS 2011). Cordgrass within the SME is limited to small, isolated patches along the bay edge, and site geomorphology does not present tidal channel networks preferred by this species.

For these reasons, in addition to the presence of higher quality foraging habitat in the larger wetland complex nearby, use of the Project area by breeding rails is extremely unlikely. Presence of dispersing juvenile or adult rails is possible but unlikely during the post breeding dispersal period. Fledged juvenile California Ridgway's rails from nearby source populations may sporadically attempt to forage in the non-tidal wetlands but are unlikely to persist given the lack of suitable prey and the absence of protective vegetative cover, which would increase exposure to predators (Casazza et al. 2008).

Overall, habitat for the Ridgway rail has historically decreased due to fill and development in the Bay Area shoreline and marsh areas, but the marsh vegetative habitat in the north Bay is more protected from the trend within the Refuge and marsh restored marsh areas of this portion of the RSA. Ridgway's rail individuals continued to be impacted by predation, contributing to the trend in population decline. The northern portion of the RSA offers the potential for improved health of this species with improvements to vegetative cover and control of predation.

California Black Rail. The RSA for the California black rail includes the tidal marsh areas of San Pablo Bay. California black rail habitat is primarily found in salt marshes, and they may also use freshwater marshes, and wet meadows for forage and protection outside of the nesting season. Most populations are nonmigratory, and these habitat types serve for breeding, foraging, and overwintering. Near tidal areas, the rails also require dense cover of upland vegetation to provide protection from predators when the birds must leave marsh habitats during high tides. Typical vegetation includes pickleweed in salt marshes and bulrush (*Scirpus* spp.) in less saline habitats. California black rail forages in the same habitats that it uses for breeding. This species begins breeding in February and nesting occurs from March to June. Nests often are concealed in dense vegetation, often pickleweed, near upper limits of tidal flooding.

California black rail are rarely seen, scarce, yearlong residents of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and other locations (CDFW 1999). Degradation and loss of saltwater and freshwater wetland habitat across California and the American southwest in recent decades likely has contributed to the continued decline of this species. Historically, California black rails were found throughout the Bay area,

but recent surveys show breeding populations are largely in the northern Bay area and nearly absent from the south Bay (Tsao et al. 2009). Most breeding California black rails in the San Francisco Bay area are in the San Pablo Bay region (Evens et al. 1991), but the population trend is in decline and confined to continuous, relatively undisturbed mature tidal marshes (Tsao et al 2009). Black rail populations have shown incremental growth within recent years (San Francisco Estuary Partnership 2015).

California black rail populations and habitat within the RSA remain poor, but with implementation of recent tidal marsh habitat enhancement efforts in the RSA are trending towards improvement. Implementation of the Project to enhance conditions at SME would contribute to shifting the trend towards an increase in habitat area and habitat quality in the Project area.

California Red-Legged Frog. The RSA for the California red-legged frog includes freshwater marshes, streams, ponds, and upland areas bordering San Pablo Bay. The range of red-legged frogs is estimated to have once extended from Marin County to Mexico, but its population declined to about 30% of its original size due to overharvesting in the 1800's (as a food source), habitat destruction, and the introduction of invasive predators such as bullfrogs (National Park Service 2023). Prior to this species being listed as Federally Threatened in 1996, only 122 occurrences had been recorded (California Natural Diversity Data Base or CNDDB), and by the time of its 1996 listing, the species had lost 70 percent of its historical range (USFWS 2022). Following its listing, USFWS's 2002 Recovery Plan for the species indicated an increase in CNDDB recorded observations to 633, in an increased range of streams and drainages, and observations further increased in 2022. However, these recorded observations might also be attributed to increased survey efforts. The California red-legged frog is considered widespread in the San Francisco Bay Area region based on the recorded occurrence observations (USFWS 2022), but population data for the RSA was limited. A review of CNDDB listings for this Project, in the RSA bordering the San Pablo Bay, identified two recorded observations, north of the Sears Point area.

Habitat includes freshwater marshes, streams, ponds, and other permanent and temporary water sources dominated by dense riparian scrubby vegetation (e.g., willows, cattails, and bulrushes). They breed in aquatic habitat such as pools, ponds, marshes, springs, sag ponds, dune ponds, and lagoons; and in artificial impoundments, such as stock ponds (USFWS 2002). Freshwater is important and the salinity of the water is a determinant of whether California red-legged frogs have the potential to occur. Upland dispersal habitats with dense vegetation may be important sheltering habitat during winter and during dry periods, as this species is seldom found far from water. However, during wet weather, individuals may make overland excursions through upland dispersal habitats (Tatarian 2008).

Habitat restoration efforts by others are planned within the RSA that could benefit red-legged frog. These include a Sonoma Land Trust plan to restore portions of a parcel west of the SR 121 intersection, a potential Sears Point Restoration Project for a 40-acre seasonal wetland restoration north of SR 37, and portions of the Sonoma Baylands Strategy. Within the Project area, habitat conditions for the frog range from not present to poor and are trending towards degraded. The frog is not present at SME and its habitat is limited to marginal aquatic (non-breeding) and upland dispersal habitat at select locations west of the SR 37 and SR 121 interchange that would be directly impacted.

In summary, the historical population of the California red-legged frog was impacted by human use and habitat loss, resulting in substantial decline and current poor conditions in the RSA. Protection of the species since 1996 indicates at least a potential stable trend, although predation by competitors and habitat loss to development remains a continued threat to its population health.

3.19.5. Identify Other Projects or Actions that May Contribute to a Cumulative Impact

Table 3-8 summarizes current and reasonably foreseeable future projects in the defined RSA(s) and their potential impacts on applicable resource area(s) of concern.

Table 3-8 Current and Reasonably Foreseeable Future Projects and Biological Impacts

Restoration, Transportation, and Development Projects	Location	Description and Potential Biological Impacts	Status
Bel Marin Keys V Wetlands Restoration	Marin Project is in RSAs 1 and 2.	Implement tidal restoration by using dredged sediment to raise elevations prior to levee breaching and constructing an adjacent levee to protect neighboring communities from flooding. Bay Trail segments will also be completed. **Project Impacts:** This project would have an overall beneficial impact on waters, wetlands, and species included in this analysis.	Proposed
Lower Tolay Creek and Lower Tubbs Island Marsh Enhancement Project	Sonoma Project is in all three RSAs.	Enhancement of tidal marsh to benefit estuarine-dependent wildlife, plants, and fisheries. Objective is to improve tidal hydrology through enhancement and creation of tidal channels, breach through interior berms and a levee, and lower the elevation of isolated sections of levee/berms. 69 acres of estuarine wetland and other wetland habitat restoration. **Project Impacts**: This project would have an overall beneficial impact on waters, wetlands, and species included in this analysis.	Some portions of the project have been completed, while construction is planned for other parts of the project.
Tubbs Island Levee Improvement Project	Sonoma Project is in all three RSAs.	Maintain the integrity of the existing levee to provide muted tidal wetland habitat and provide safe pedestrian access for the public so they may participate in compatible wildlife-dependent recreation. **Project Impacts**: The Tubbs Island Restoration plan (USFWS) describes this as a levee maintenance project with minimal adverse habitat impacts, necessary to maintain an existing 248-acre tidal marsh area.	EcoAtlas identifies this as planned.
Restoring Wetland-Upland Transition Zone Habitat in the North Bay with Students and Teachers Restoring a Watershed Phase 2	American Canyon Wetlands, City of American Canyon, Napa County; Measure AA Region: North Bay Project is in RSA 1 and 2.	Restore 1.1 acres of critical wetland-upland transition zone habitat. **Project Impacts:** This project would have an overall beneficial impact on waters, wetlands, salt marsh harvest mouse, California Ridgway's rail and California black rail.	Funding awarded in May 2024.

Restoration, Transportation, and Development Projects	Location	Description and Potential Biological Impacts	Status
Skaggs Island and Haire Ranch Restoration	Sonoma Project area is mostly in RSA 1 and 2.	Restoration of the 3,300-acre Skaggs Island and the adjacent 1,100-acre Haire Ranch to wetlands to benefit endangered species and other wildlife, and the creation of recreational trails and public access for wildlife viewing. **Project Impacts**: This project would have an overall beneficial impact on waters, wetlands, salt marsh harvest mouse, California Ridgway's rail, and California black rail.	Some portions of the project have been completed; planning is in progress for other parts of the project.
Cullinan Ranch Restoration Project	Solano This project is in RSA 1 and 2.	Restore 1,549 acres of diked Bayland to tidal marsh through passive sedimentation and import of beneficially reused dredged sediments to create wetland and associated habitats for wildlife like salt marsh harvest mice. Project includes compensatory mitigation. **Project Impacts**: This project would have an overall beneficial impact on waters, wetlands, salt marsh harvest mouse, California Ridgway's rail, and California black rail.	Portions are completed, and other portions are in progress.
SR 37 Pavement Rehabilitation Project (2K740)	Marin SR 37 PM R11.2 to 14.6 (from US 101 to Sonoma County Line on SR 37) Project is in all three RSAs.	Pavement rehabilitation along highway mainline and ramps, replace guardrails, upgrade curb ramps. **Project Impacts**: This project is unlikely to have potential impacts to wetlands and waters or species included in this analysis.	In construction
Redwood Parkway-Fairgrounds Drive Improvement Project (4A441)	Solano SR 80 PM 4.0 to 4.9, and SR 37 PM 10.6 to 11.2 This project is in RSA 1.	Widen and improve 1.5 miles of Fairgrounds Drive, from SR 37 interchange to Redwood Parkway/I-80 interchange and implement a Diverging Diamond Interchange design to improve traffic flow and safety and reduce congestion. **Project Impacts**: This project is unlikely to have potential impacts to species included in this analysis. With mitigation incorporated, the impact on waters and wetlands would be less than significant.	Went into construction in October 2024.
SR 37 Petaluma River Bridge Preservation Project (2Q500)	Marin SR 37 PM 14.5 to 15.0. This project is in all three RSAs.	Resurface the bridge deck, replace bridge fender system, mitigate bridge scour, and upgrade bridge railings. **Project Impacts**: This project would have less than significant environmental impacts to wetlands and waters and to species included in this analysis. The main adverse effects are temporary and 0.01-acre loss of waters and in-water habitat, which is fully mitigated.	Construction expected to start in 2026.

Restoration, Transportation, and Development Projects	Location	Description and Potential Biological Impacts	Status
SR 37 Flood Reduction Project (4Q320)	Marin SR 37 PM R11.2 to 13.7 (US 101 to Atherton Avenue on SR 37) This project is in all three RSAs.	Construct a causeway in two phases to address flooding and year 2130 projected sea-level rise. Project Impacts: Phase 1 and Phase 2 construction could result in potential direct loss and indirect disturbance of California red-legged frog. Compensatory mitigation for California red-legged frog will be implemented. Phase 1 and Phase 2 construction could result in disturbance of California Ridgway's rails and California black rails, and could impact salt marsh harvest mouse. Phase 1 and Phase 2 could also have potential temporary and permanent impact to waters and wetlands.	Phase 1 (Novato Creek Bridge Replacement) is expected to go into construction in May 2027. Phase 2 (rest of causeway from US 101 intersection to Atherton Avenue) to be constructed by 2050.
SR 37 Safety Project (1Y600)	Solano SR 37 PM R7.073 to R8.971 (In and near Vallejo, from Walnut Avenue/Mare Island to 0.5 mile east of Sacramento Street). This project is in RSA 1 and 2.	Install Vehicle Message Signs, queue detection, and lighting along Westbound SR 37 in Solano County. **Project Impacts**: No quantitative environmental analysis is available for this project yet, and this is not meant to preclude such analysis. But due to the limited project scope, this project is unlikely to impact wetlands, waters, and species included in this analysis.	Construction is expected to start in 2028.
Sonoma SR 37 CAPM (4Q840)	Sonoma SR 37 PM 0/6.245 (along SR 37 in Sonoma County limit). This project is in all three RSAs.	Pavement Rehab. **Project Impacts**: No quantitative environmental analysis is available for this project yet, and this is not meant to supersede such analysis. But due to the limited project scope, this project is unlikely to impact wetlands, waters, and species included in this analysis.	In very early stage of development. Projected to go into construction in 2032.
Settlement Restoration (2X000)	Sonoma SR 37, PM 2.02/2.02 (0.3 mile east of Tolay Creek Bridge, 0.1 mile West of Sonoma Creek Bridge and at Lakeville intersection. This project is in all three RSAs.	Install sheet pile walls and use compaction grouting to address settlement along Lakeville Highway. **Project Impacts**: No quantitative environmental analysis is available for this project yet, and this is not meant to supersede such analysis. But due to the limited project scope, this project is unlikely to impact wetlands, waters, and species included in this analysis.	In very early stage of development. Projected to go into construction in 2037.

Restoration, Transportation, and Development Projects	Location	Description and Potential Biological Impacts	Status
SR 37 Planning and Environmental Linkages Study PEL Implementation Projects	Entire SR 37 Corridor from US 101 to I-80 Intersection. This group of projects are in all three RSAs.	The PEL study completed in December 2022 was a multi-stakeholder, collaborative long-range planning effort for SR 37 to address current and foreseeable future challenges. The Preferred Alternative would be constructed mostly on a causeway, although portions would be constructed at grade or on an embankment. It would have two travel lanes in each direction, a peak period shoulder running lane, and bicycle and pedestrian access. The Preferred Alternative would likely be implemented in phases due to its scope and cost required, with the PEL suggesting 8 potential segments. **Project Impacts**: No quantitative environmental analysis is available for this project, except for segment covered by the SR 37 Flood Reduction Project. This is not meant to preclude such analyses. Due to the large footprint and scope of work, there would likely be impacts to waters and wetlands and all species included to this analysis. However, after construction, there should also be substantial benefits to waters and wetlands and all species included in this analysis due to increased hydrologic connectivity and habitat enhancement.	To be completed by 2050.
SMART Passenger Rail Service Novato to Suisun City	Novato to Suisun City This project is in all three RSAs.	Passenger rail service in the corridor between Marin, Sonoma, Napa, and Solano counties, linking the existing Novato- Hamilton station near Novato on the SMART corridor with the existing Suisun-Fairfield station on the Capitol Corridor rail system. This new service would provide connectivity between existing SMART and Capitol Corridor passenger rail services, while also providing new transportation options between Novato, Sonoma, American Canyon, Cordelia, and Fairfield-Suisun. **Project Impacts**: No quantitative environmental analysis is available for this project yet, and this is not meant to preclude such analysis. Project may impact wetlands, waters, and species included in this analysis.	Project Initiation phase
South Vallejo Riverwalk Bay Trail Gap Closure	Vallejo This project would be in RSA 1.	This 1.78-mile gap closure appears on the Bay Trail Gap Closure Implemental Plan Prioritization. Project Impacts: quantitative environmental analysis is not available, and this is not meant to preclude such analysis. However, project is unlikely to impact waters and wetlands.	Planned

Restoration, Transportation, and Development Projects	Location	Description and Potential Biological Impacts	Status
Mare Island Causeway Bay Trail Gap Closure	Mare Island Causeway, Vallejo This project would be in RSA 1.	This 0.5-mile gap closure along the Mare Island Causeway appears on the Bay Trail Gap Closure Implementation Plan Prioritization. Project Impacts: quantitative environmental analysis is not available, and this is not meant to preclude such analysis. However, project is unlikely to have long-term adverse impact on waters and wetlands.	Included in Bay Trail Gap Closure Implementation Plan Prioritization
Adding units to 961 Porter Street Apartment Complex	961 Porter Street, Vallejo Project location is in RSA 1.	Adding an additional 122 units to an existing apartment complex. Project Impacts: quantitative environmental analysis is not available; however, project is unlikely to impact waters and wetlands.	In Building plan check

Sources: EcoAtlas, 2024; Caltrans Database; City of Vallejo 2023-2031 Housing Element

Notes:

I-80 = Interstate 80
PEL = Planning and Environmental Linkages Study
PM = post mile
RSA = Resource Study Area
SMART = Sonoma-Marin Area Rail Transit
SR = State Route
USFWS = United States Fish and Wildlife Service

3.19.6. Identify Project Impacts, Assess Potential Cumulative Impacts by Resource, and Report Results

This section focuses on identifying the Project's impacts that might contribute to a cumulative impact, assessing the impacts of other reasonably foreseeable actions, assessing potential cumulative impacts, and reporting the results. Table 3-3 summarizes the permanent impacts from the original Alternative 3B, Tolay Creek Bridge Replacement, and the Project changes considered in this Final SEIR (additional highway improvements and SME enhancement); all of these Project components are described as the "overall Project" in the discussion below. Temporary construction-related impacts from the overall Project and other projects in the RSA are assumed to be temporary, reversible, and would not contribute to long-term cumulative impacts, and therefore, the cumulative impact analysis focuses on permanent impacts.

3.19.6.1. Wetlands and Other Waters

The overall Project would result in a net gain of 9.3 acres of wetlands and other waters. Permanent loss of approximately 9.07 acres wetlands and other waters would be realized to widen the existing roadway; however, the overall Project would create approximately 12.31 acres of new wetlands and waters from existing uplands at Tolay Creek with the implementation of Tolay Creek Bridge Replacement and at SME. Additionally, SME enhancement is anticipated to improve ecosystem function, improve site drainage, and provide ecological uplift by converting approximately 600 acres of degraded seasonal lagoon to approximately 50 acres of fully tidal channels, 320 acres of tidal flats, and 230 acres emergent tidal marsh habitat.

The condition (health) of wetlands in the RSA is improving, with the protection and enhancement of large resource areas within the drainages and tidal areas connecting to San Pablo Bay. Implementation of reasonably foreseeable projects in the RSA, as summarized in Table 3-8, are not anticipated to have long-term adverse impacts on waters and wetlands. The overall long-term condition of wetlands and waters in the RSA is anticipated to continue to improve thanks to the various restoration efforts planned and in progress. While cumulative impacts have occurred within the RSA to this resource, the overall trend for cumulative impacts indicates beneficial cumulative impacts from many planned projects focused on restoring the health of this resource. The overall Project, with inclusion of the SME enhancement and Tolay Creek Bridge Replacement, would not contribute to an adverse cumulative impact on wetlands and other waters in the RSA.

3.19.6.2. Salt Marsh Harvest Mouse

The Project is anticipated to result in a net gain of habitat for the salt marsh harvest mouse. The Project's roadway widening is estimated to result in the permanent loss of approximately 1.58 acres of salt marsh harvest mouse habitat, most of which is marginal dispersal habitat near the roadside. SME enhancement is expected to result in the conversion of approximately 230 acres of degraded seasonal lagoon habitat (which provides no benefit to the mouse) and existing uplands to high quality emergent salt marsh habitat that would be suitable and a benefit to the mouse. The habitat enhancement included as part of the Project is expected to completely minimize and fully address the adverse impacts associated with roadway widening. Overall, the restoration of the SME will provide substantial area of new higher quality forage and dispersal habitat consisting of channelized emergent marsh and vegetated tidal marsh refugia contributing to new nesting habitat for this species.

The review of other potentially cumulative projects listed in Table 3-8 did not reveal any other specific projects affecting the mouse within the RSA. On the other hand, restoration and enhancement efforts in the north San Pablo Bay have improved the quality and availability of salt marsh and pickleweed habitat for the saltmarsh harvest mouse. An analysis of the reasonably foreseeable future projects shows that just under ten thousand acres of additional tidal wetlands and water restoration efforts are planned nearby that would contribute to the improved health and increased area of habitat for this species within the RSA.

Therefore, it appears that there is a cumulative net benefit to salt marsh harvest mouse with implementation of the reasonably foreseeable future projects identified in the RSA. The Project would not contribute to a cumulative adverse impact on the salt marsh harvest mouse.

3.19.6.3. California Ridgway's Rail and California Black Rail

The overall Project, with inclusion of impact minimization provided by the Tolay Creek Bridge replacement and the SME enhancement, would result in a net gain of approximately 228 acres of suitable habitat for the Ridgway's rail and the California black rail (as well as for other marsh bird species that use channelized salt marsh habitat). The proposed widening of SR 37 would result in the loss of approximately 1.54 acres of marginal forage habitat for the California black rail and the Ridgway's rail (as well as for other marsh bird species), but the inclusion of Tolay Creek Bridge replacement and SME enhancement into the Project is anticipated to result in approximately 230 acres of new and enhanced tidal marsh habitat (see Table 3-3) that would be of higher quality than the marginal roadside forage habitat lost and would contribute to the overall benefit these species within the RSA.

Of the current and reasonably foreseeable future summarized in Table 3-8 above, the SR 37 Flood Reduction Project was identified as potentially impacting the California Ridgway's rail and California black rail through disturbance. However, various AMMs would be implemented to avoid and minimize this potential impact. Furthermore, the majority of the identified projects in the RSA would result in restoration of tidal marsh habitat that would increase rail habitat once implemented. These restoration projects include the Bel Marin Keys V Wetlands Restoration; Lower Tolay Creek and Lower Tubbs Island Marsh Enhancement Project; Restoring Wetland-Upland Transition Zone Habitat in the North Bay with Students and Teachers Restoring a Watershed; and Skaggs Island and Haire Ranch Restoration. The SR 37 SME marsh enhancement is also expected to result in approximately 230 acres of habitat restoration that would benefit the rails by improving habitat quality for foraging, and may have potential to result in the establishment of new nesting areas where currently habitat conditions for nesting are not present.

Therefore, it appears that there is a cumulative net benefit to California black rail or Ridgway's rail with implementation of the reasonably foreseeable future projects identified in the RSA. The Project would result in a net gain in habitat with inclusion of SME enhancement and Tolay Creek Bridge replacement that would completely minimize and address of the loss of habitat to widen the existing SR 37 roadway. The Project would have no contribution to a cumulative adverse impact to California black rail or Ridgway's rail.

3.19.6.4. California Red-Legged Frog

As analyzed in Section 3.19.4, the California red-legged frog population has historically experienced a substantial decline and is currently in poor conditions in the RSA. Protection of the species since 1996 indicates at least a potential stable trend, although predation by competitors and habitat loss to development remains a continued threat to its population health.

The overall Project is anticipated to result in a net loss of approximately 1.54 acres of dispersal/foraging/refugia habitat for the California red-legged frog. However, the habitat impacts are limited to dispersal and foraging habitat mostly in upland roadside areas that likely provide limited facility to the species within the greater RSA.

Other current and reasonably foreseeable projects that could contribute to cumulative effects on California red-legged frog include those that may lead to an overall change or reduction in quantity and functionality of California red-legged frog habitat. All these projects went through, or are required to undergo, an environmental review and permitting process to identify, account for and compensate for potential adverse impacts to California red-legged frog and its habitat if necessary. The projects considered in the RSA are primarily within habitat that is not suitable to the frog, or are not anticipated to have permanent adverse impact on the California red-legged frog or its habitat.

Given the historical context, current health, and potential impacts of the overall Project along with other current and foreseeable future projects included in this analysis, there is a cumulative impact occurring to the California red-legged frog. There is limited information to fully conclude that impacts from current and reasonably foreseeable projects in the future would occur or coincide in time with the proposed Project. However, because each project that may impact the California red-legged frog would have its own avoidance, minimization, and/or mitigation measure, and because there are extensive restoration efforts to restore habitat for this species, the potential cumulative impact is not expected to be significant.

There is potential for the Project to contribute to a cumulative impact on the California red-legged frog. However, this contribution is not expected to be significant given the overall poor quality of the habitat that will be impacted, as well as the Project's proposal to compensate for loss of frog habitat through purchase of California red-legged frog habitat credits within the Project's service area.

3.19.7. Assess the Need for Mitigation or Action for Cumulative Impacts

No significant contribution to a cumulative impact was identified. This Final SEIR incorporates minimization measures at the SME that result in restoration that exceeds the Project's impacts that might contribute to a cumulative impact. One species, California red-legged frog, has impacts not covered by the SME but the impacts will be offset through the purchase of credits from an approved conservation bank, resulting in no significant contribution to cumulative impacts. Based on these findings, no further mitigation for cumulative impacts is proposed or required.

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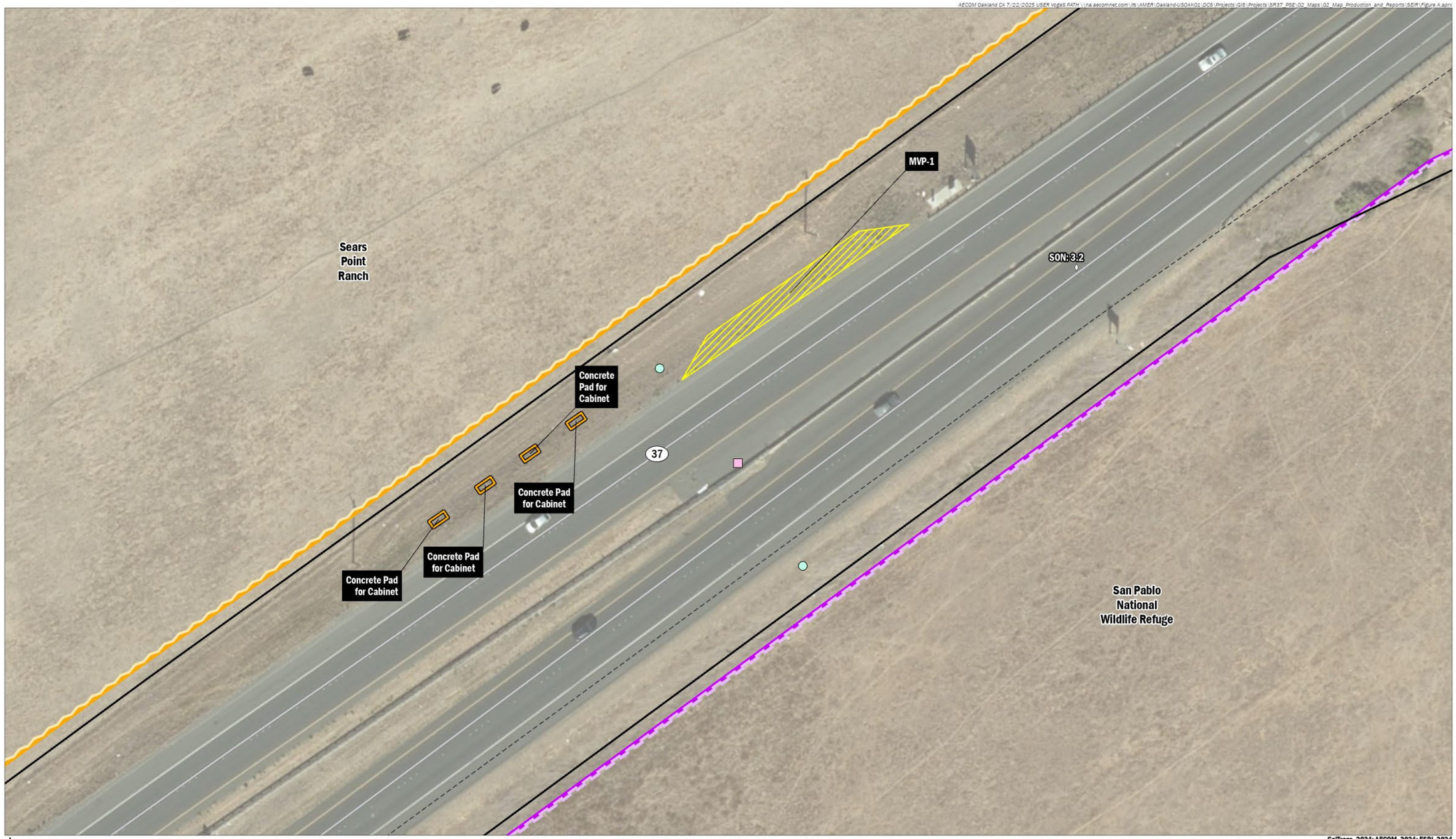
Appendix A Map Book

This Map Book appendix contains two multi-page figures.

Figure A-1 shows the changes to the highway Project footprint. These figures show selected sheets at a larger scale where the messaging signs and maintenance vehicle pullouts, equipment cabinets, and the relocated toll gantry have been changed or added.

Figure A-2 shows the Project layout area for the entire highway Project limits, with proposed Project changes.



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public
Original NES Edge of Pavement

Signage
Extinguishable Message Sign (EMS)
Changeable Message Sign (CMS)

Construction Features
Concrete Pad for Cabinet
Maintenance Vehicle Pullout

AECOM
SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

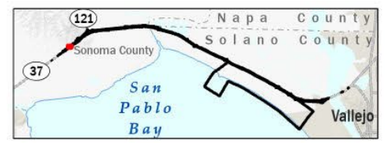
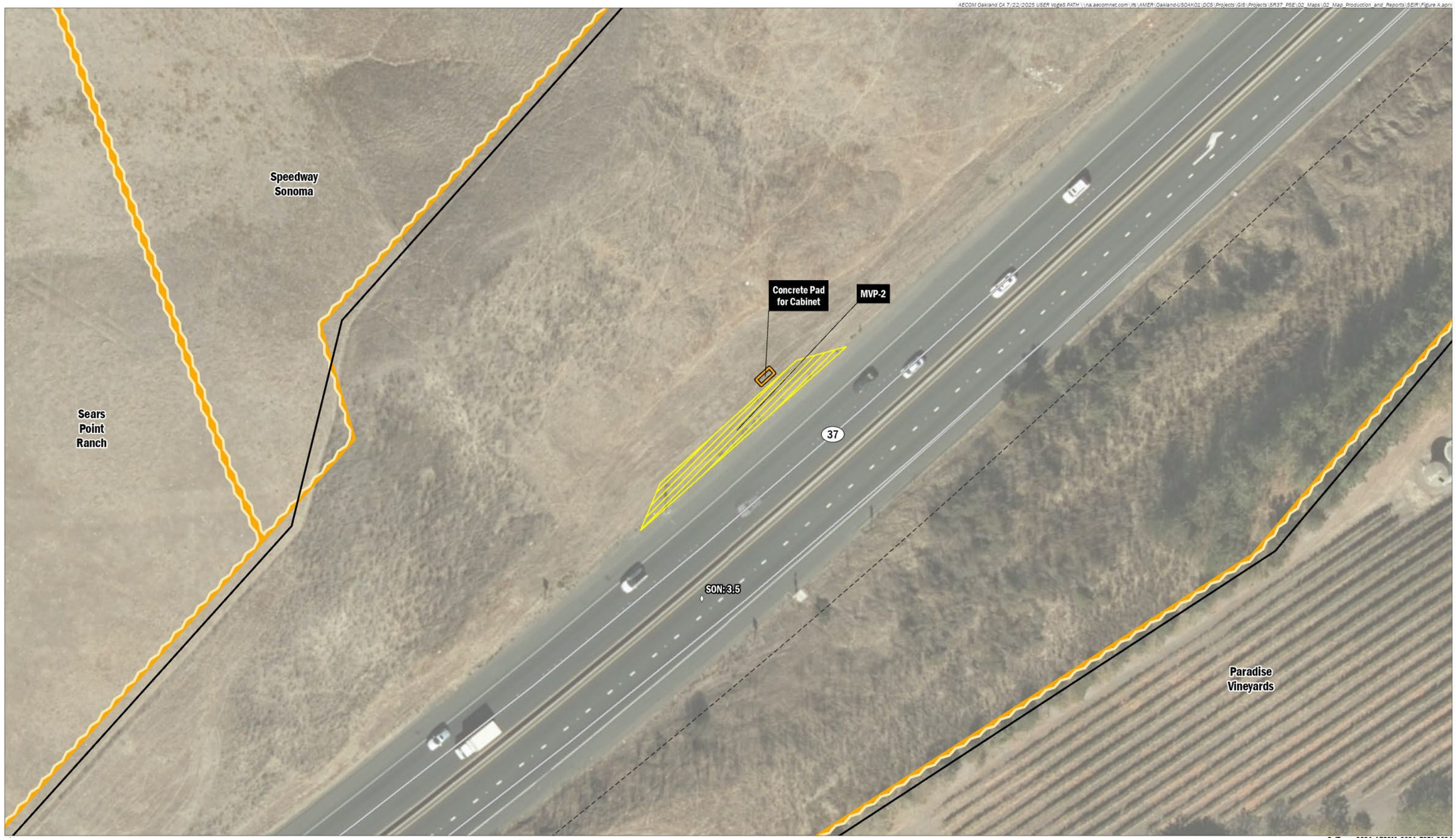


FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 1 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

Original NES Edge of Pavement

Construction Features
Concrete Pad for Cabinet
Maintenance Vehicle Pullout

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 2 of 22

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

◊ Postmile 10th (County: PM)

Original Study Area

Land Ownership

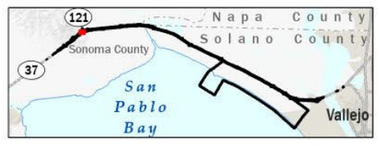
Private

Public

--- Original NES Edge of Pavement

Construction Features

Maintenance Vehicle Pullout



AECOM

SR 37 Sears Point to Mare Island Improvement Project

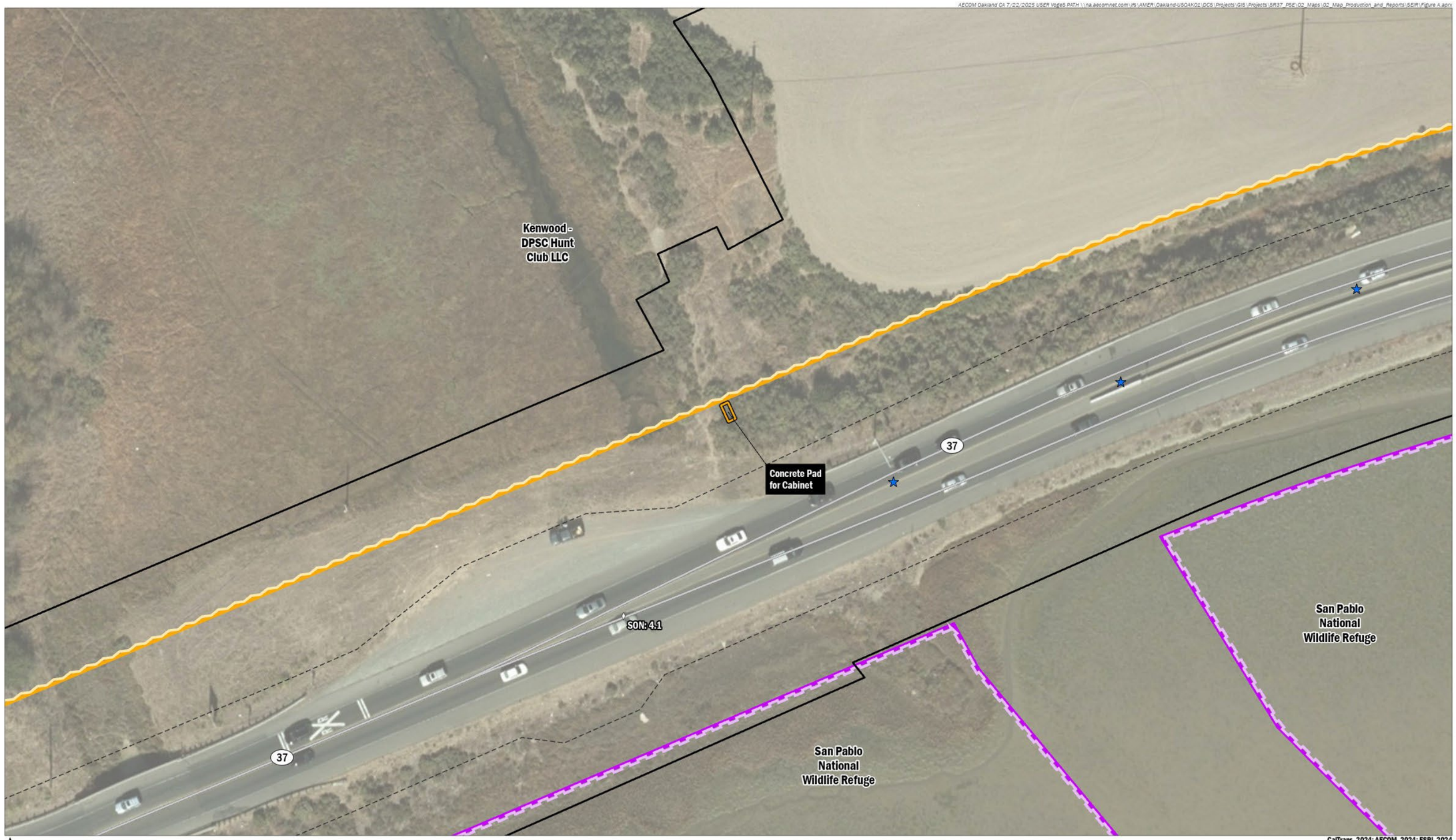
EA – 04-1Q761: EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A

Project Layout (Focused Highway Design Change Details)

Sheet 3 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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0 100 Feet

◊ Postmile 10th (County: PM)

Original Study Area

Land Ownership

Private

Public

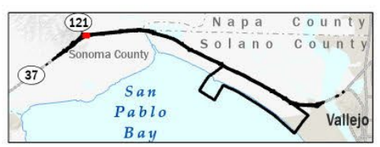
Original NES Edge of Pavement

Signage

New lighting pole

Construction Features

Concrete Pad for Cabinet



AECOM

SR 37 Sears Point to Mare Island Improvement Project

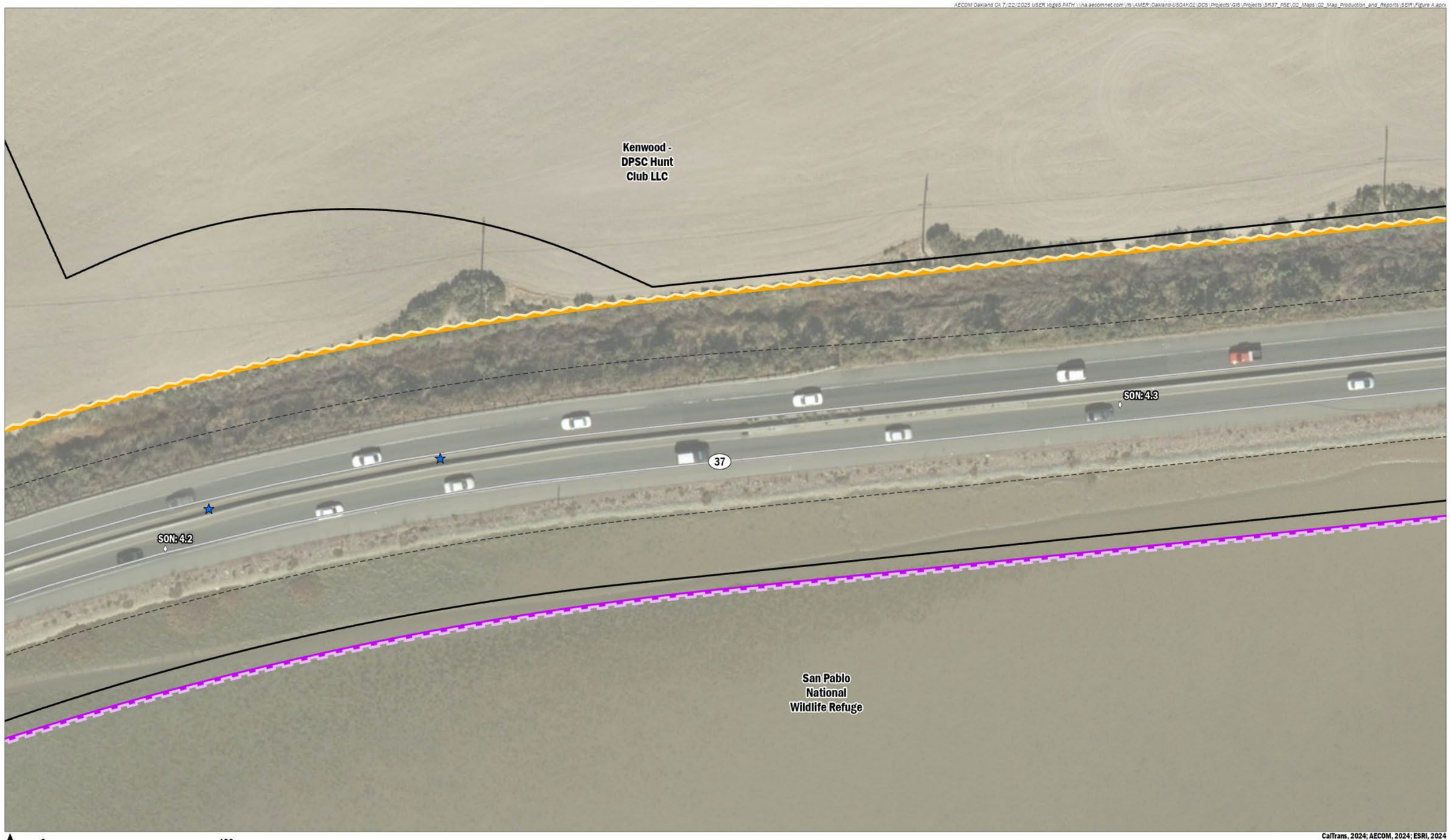
EA – 04-1Q761: EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A

Project Layout (Focused Highway Design Change Details)

Sheet 4 of 22



N

0 100
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

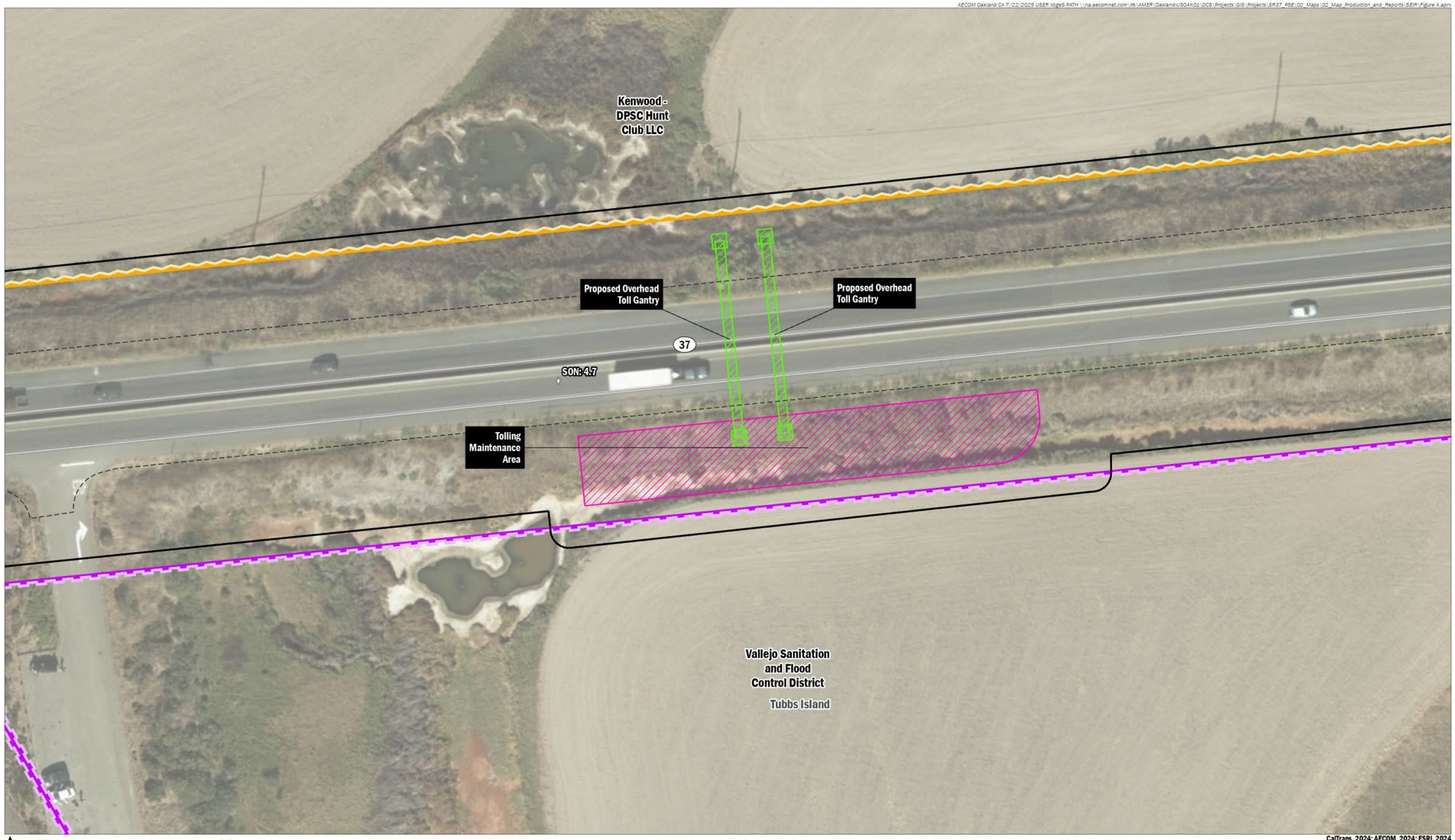
--- Original NES Edge of Pavement

Signage
New lighting pole

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 5 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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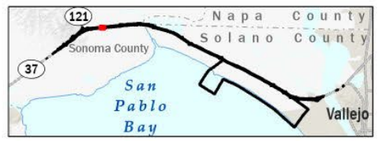
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public
Original NES Edge of Pavement

Construction Features
Overhead Toll Gantry
Tolling Maintenance Area



AECOM

SR 37 Sears Point to Mare Island Improvement Project

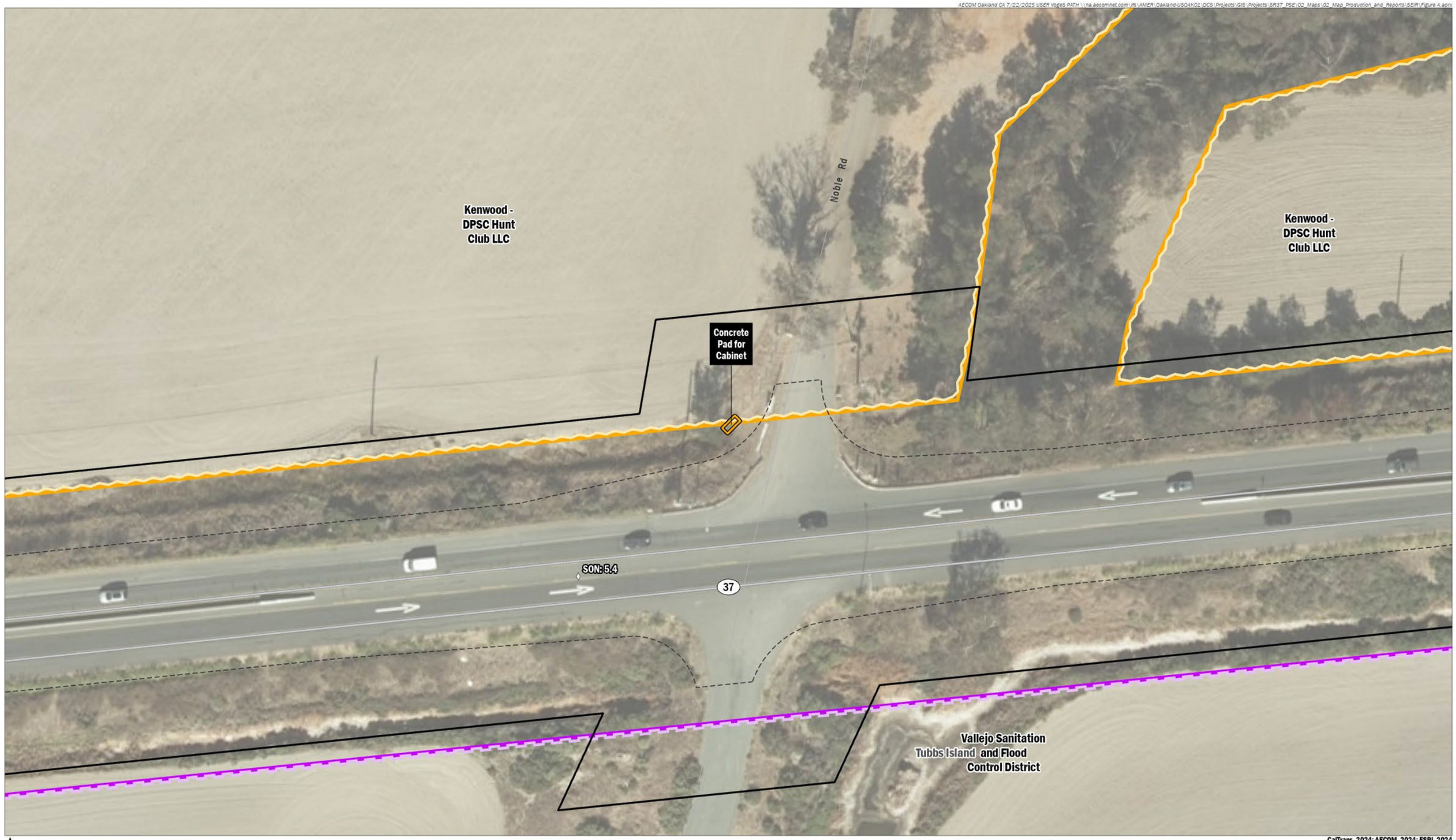
EA – 04-1Q761; EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A

Project Layout (Focused Highway Design Change Details)

Sheet 6 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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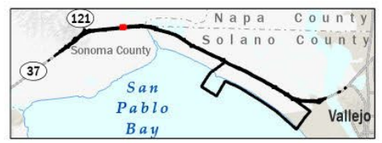
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

--- Original NES Edge of Pavement

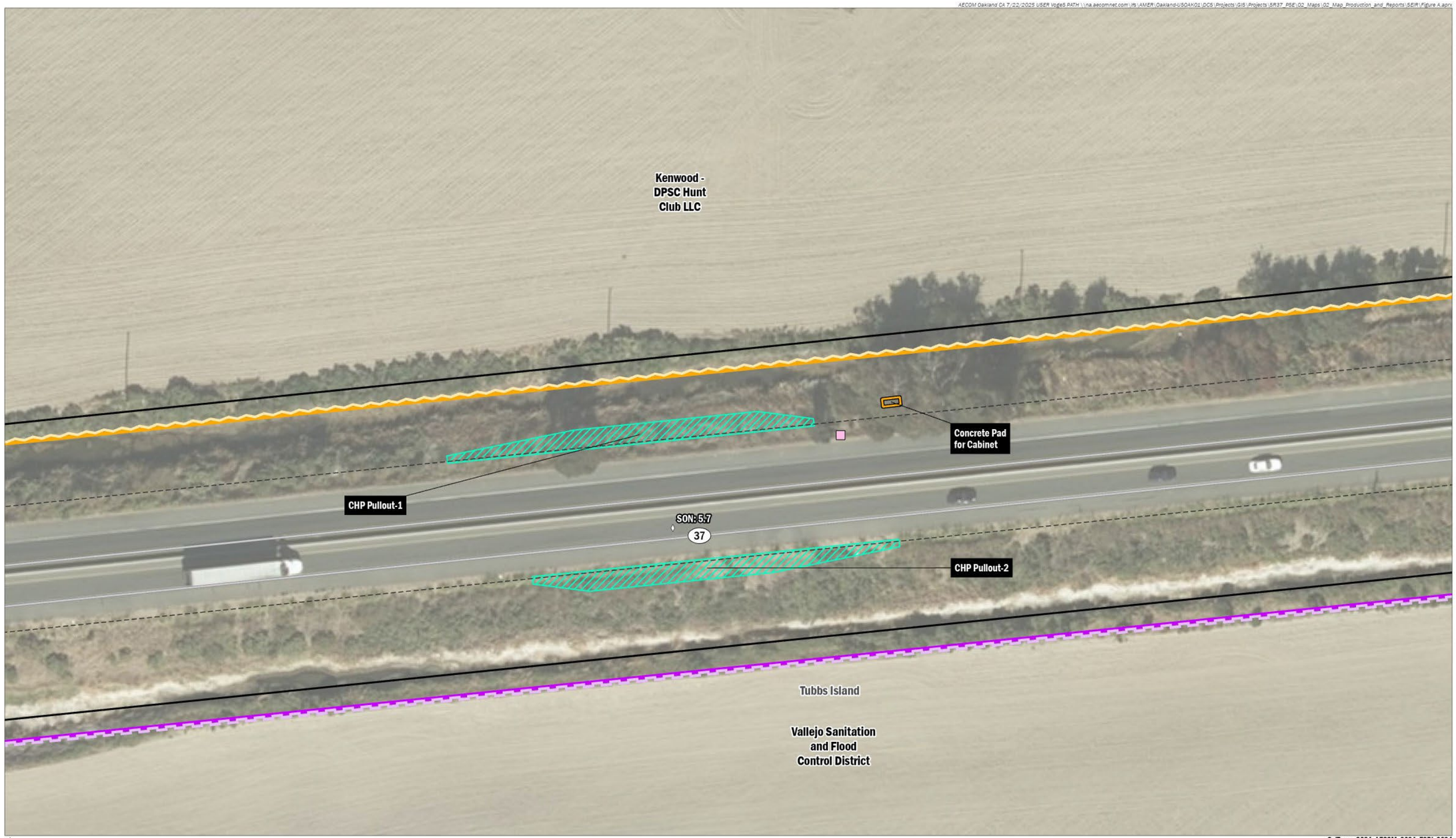
Construction Features
Concrete Pad for Cabinet



AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 7 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Postmile 10th (County: PM)
- Original Study Area

Land Ownership
- Private
- Public
- Original NES Edge of Pavement

Signage
- Changeable Message Sign (CMS)

Construction Features
- California Highway Patrol
- Concrete Pad for Cabinet

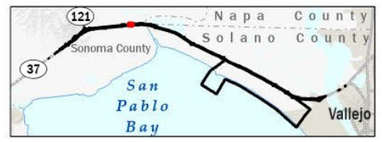
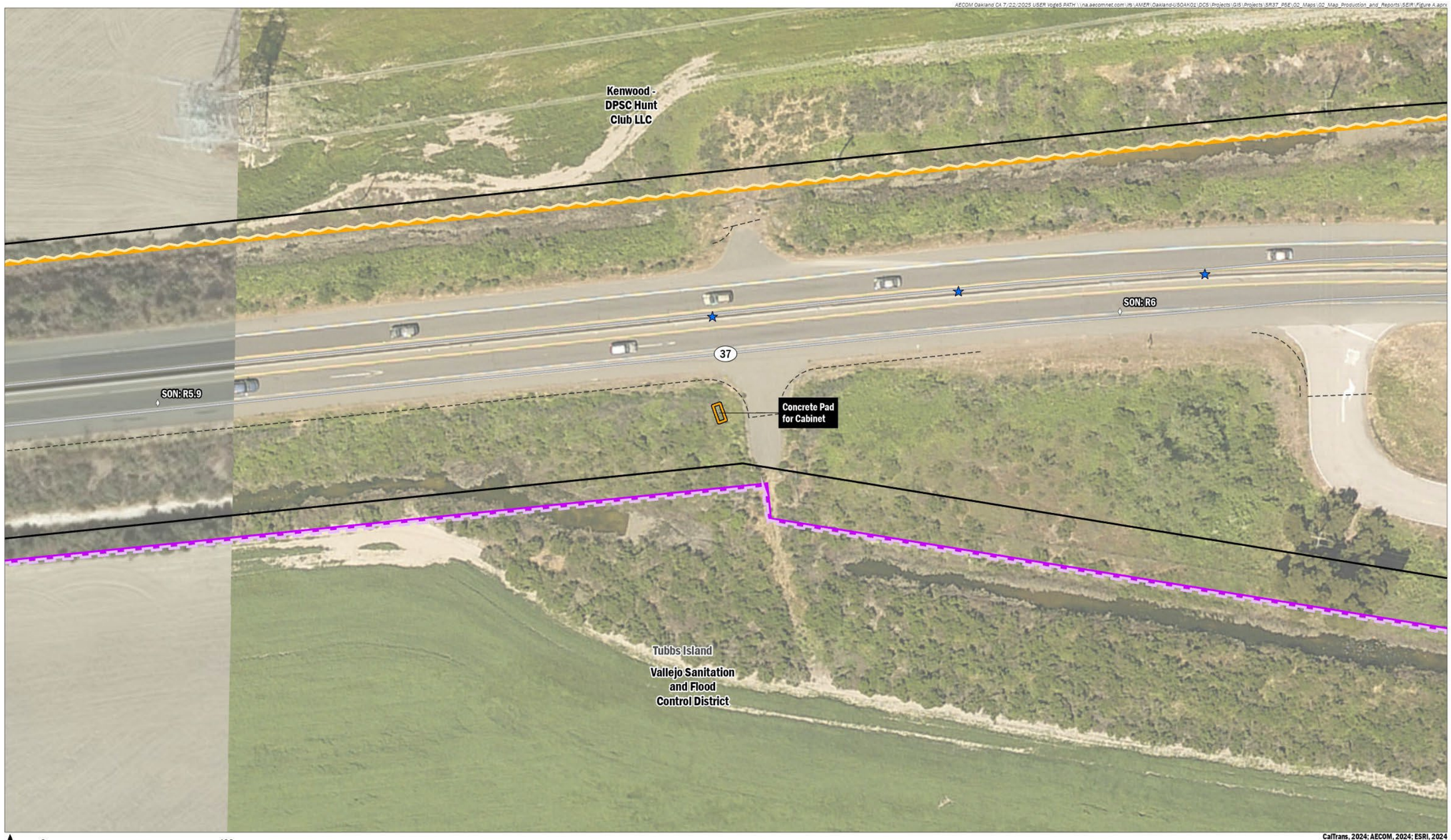


FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 8 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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Feet

AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

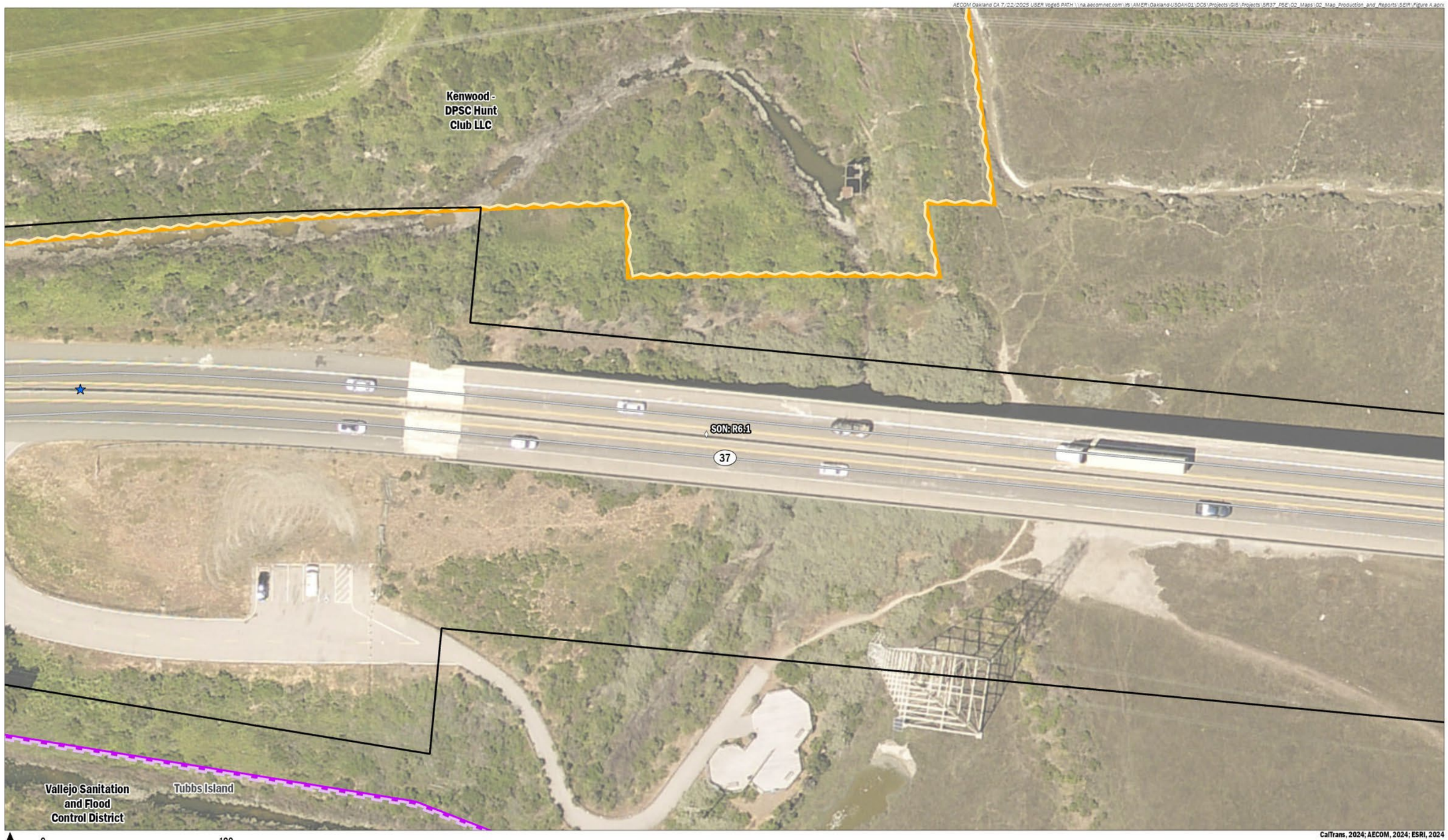
- Postmile 10th (County: PM)
- Original Study Area

Land Ownership
- Private
- Public
- Original NES Edge of Pavement

Signage
- New lighting pole

Construction Features
- Concrete Pad for Cabinet

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 9 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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0 100 Feet

◊ Postmile 10th (County: PM)

Original Study Area

Land Ownership

Private

Public

--- Original NES Edge of Pavement

Signage

★ New lighting pole

AECOM

SR 37 Sears Point to Mare Island Improvement Project

EA – 04-1Q761; EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A

Project Layout (Focused Highway Design Change Details)

Sheet 10 of 22

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

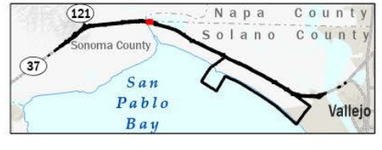
0 100
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

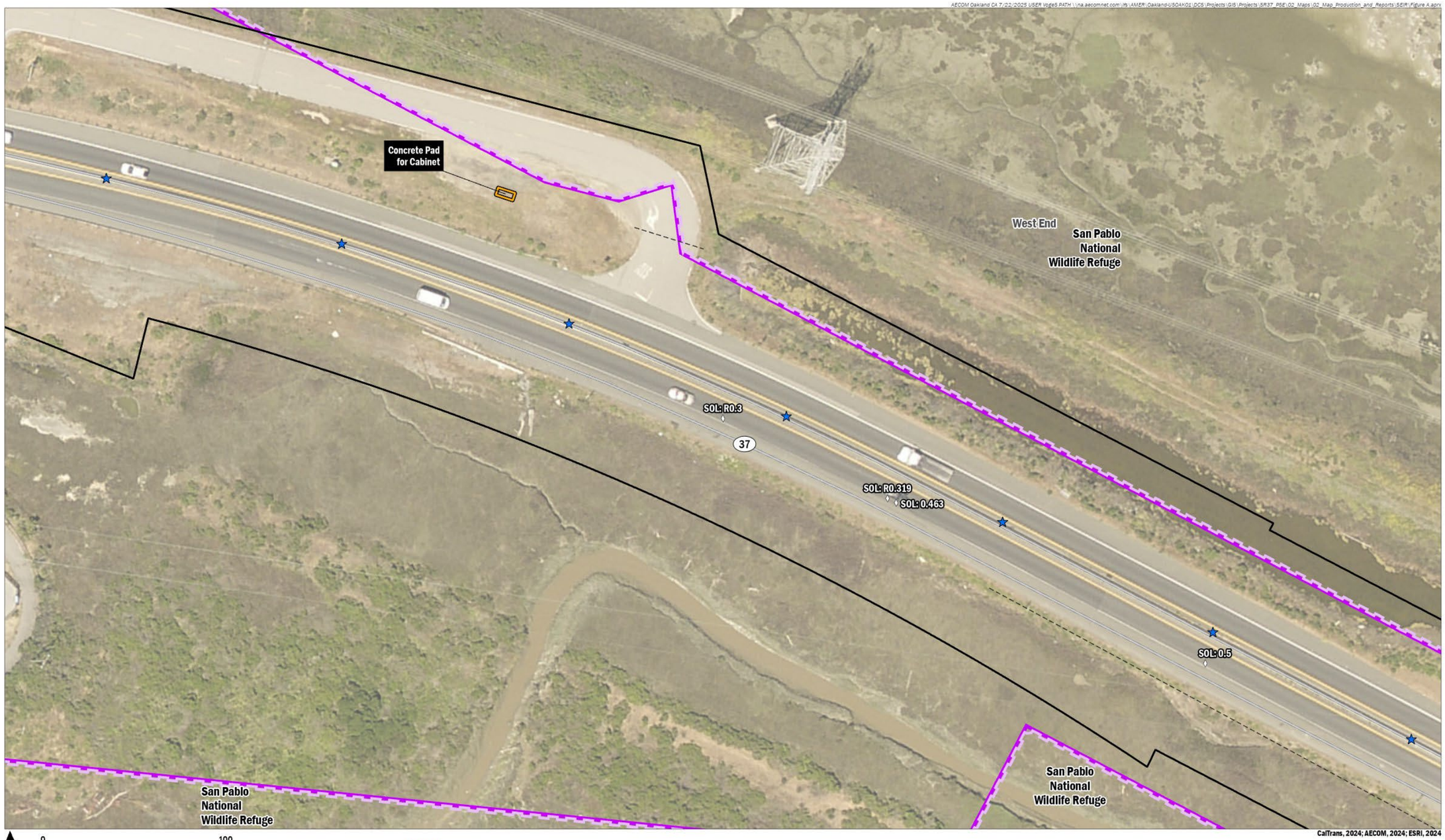
--- Original NES Edge of Pavement

Signage
★ New lighting pole



AECOM
SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 11 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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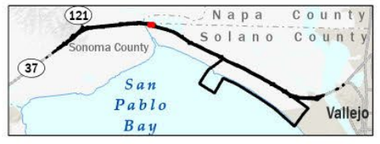
Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private

Public
Original NES Edge of Pavement

Signage
New lighting pole

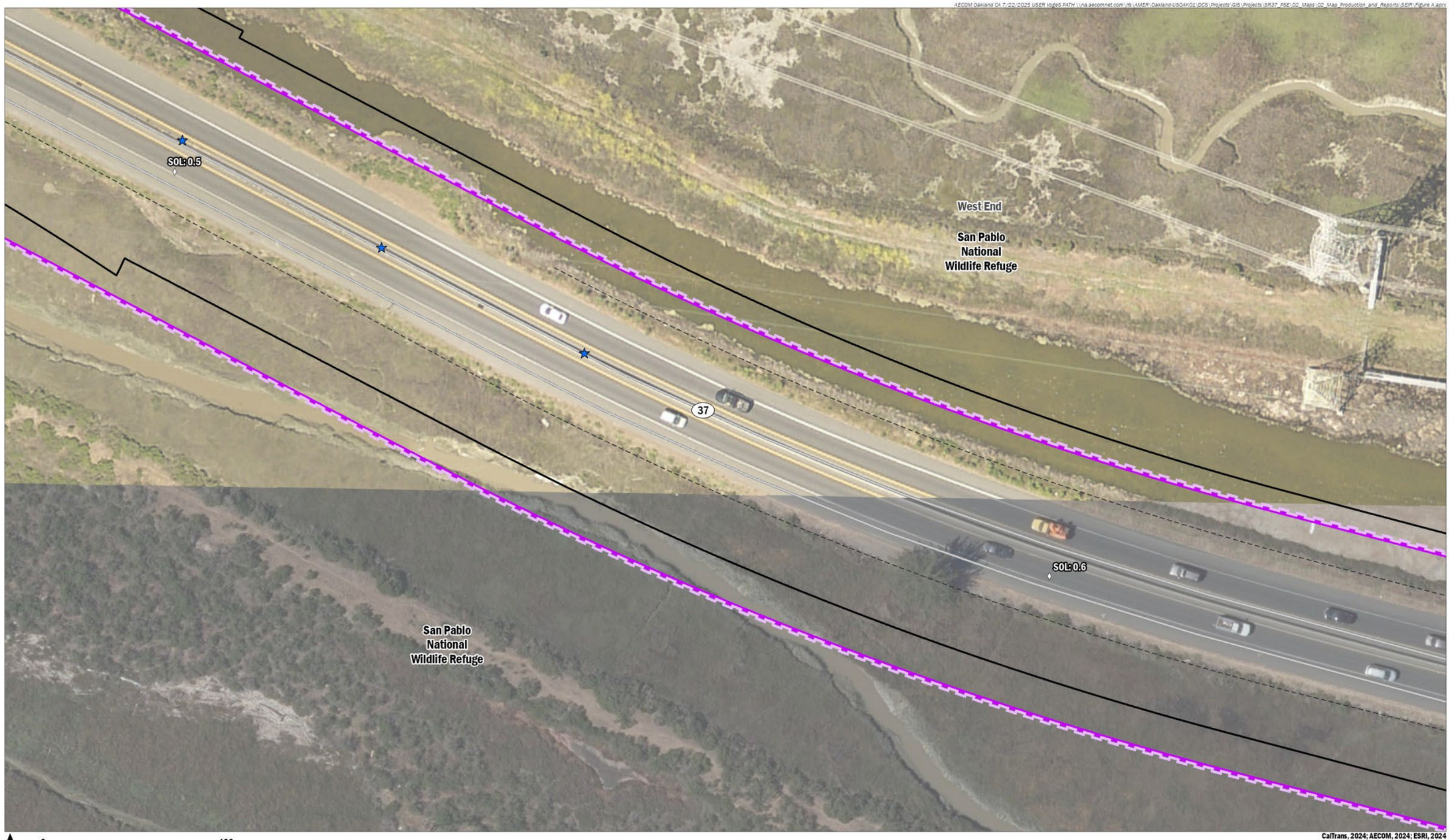
Construction Features
Concrete Pad for Cabinet



AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 12 of 22



N

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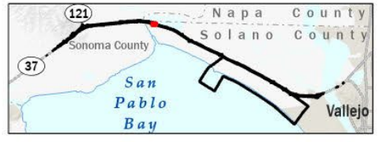
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

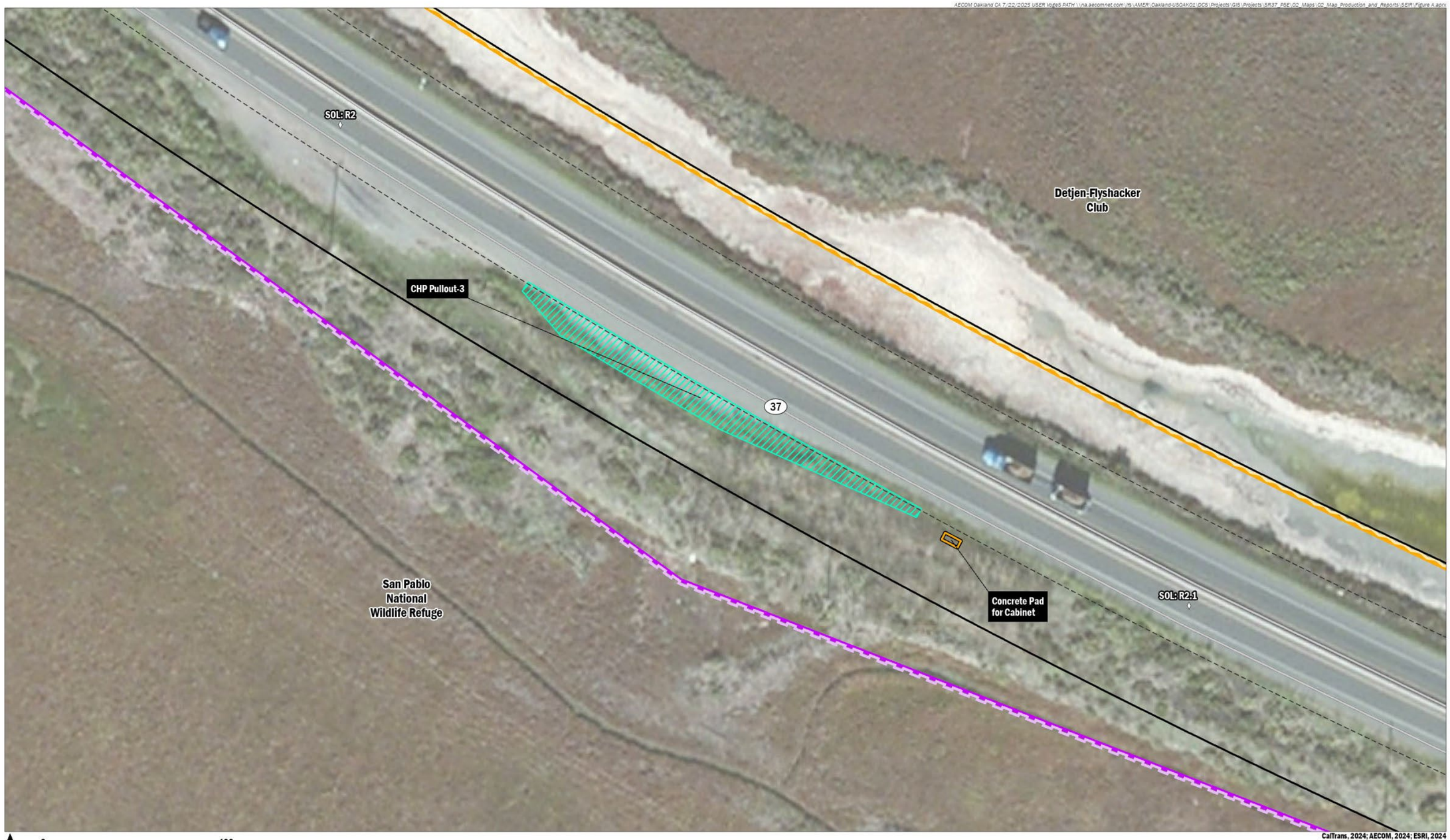
--- Original NES Edge of Pavement

Signage
★ New lighting pole



AECOM
SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 13 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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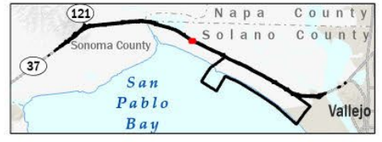
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

Original NES Edge of Pavement

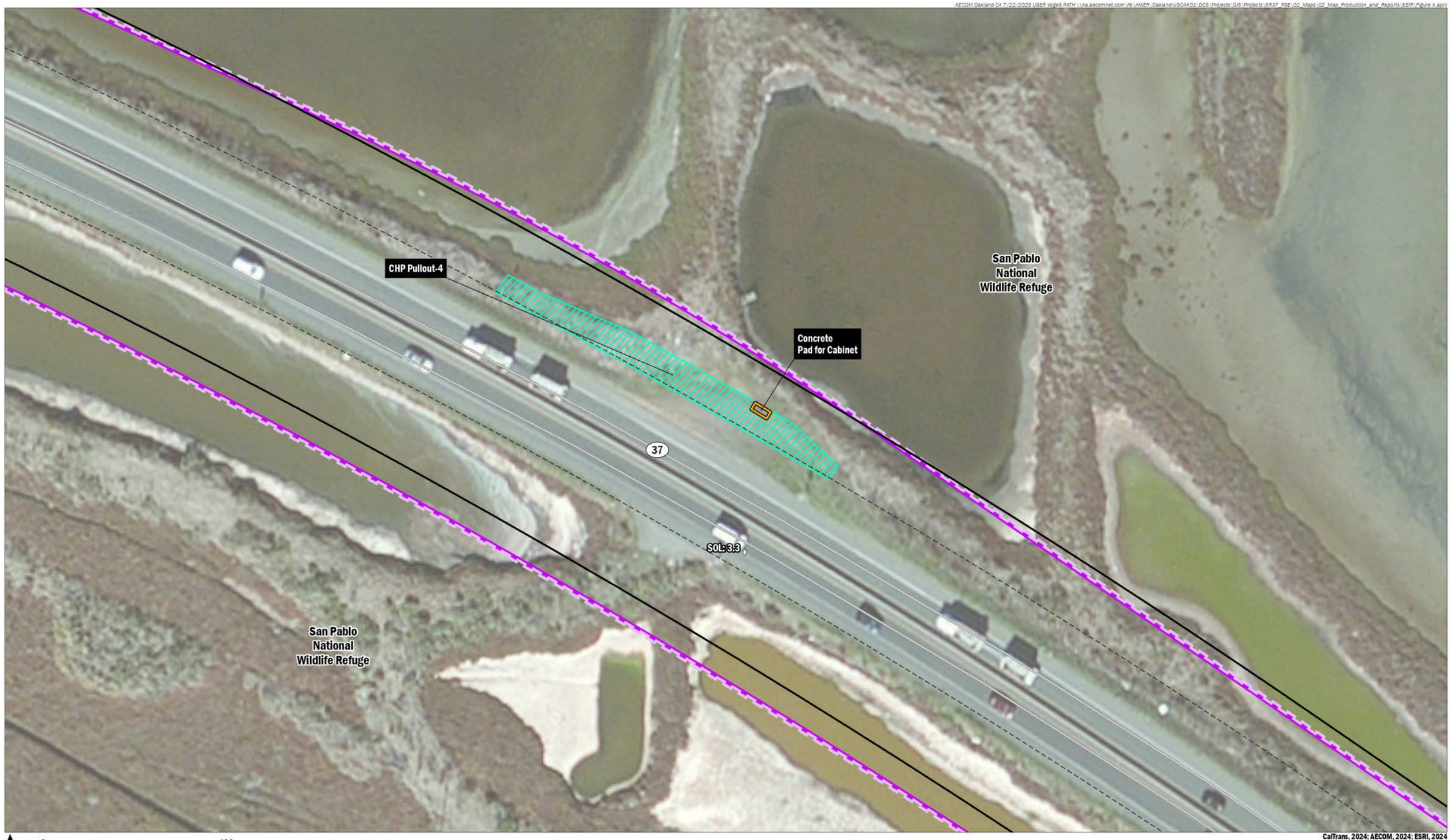
Construction Features
California Highway Patrol
Concrete Pad for Cabinet



AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 14 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

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Feet

AECOM

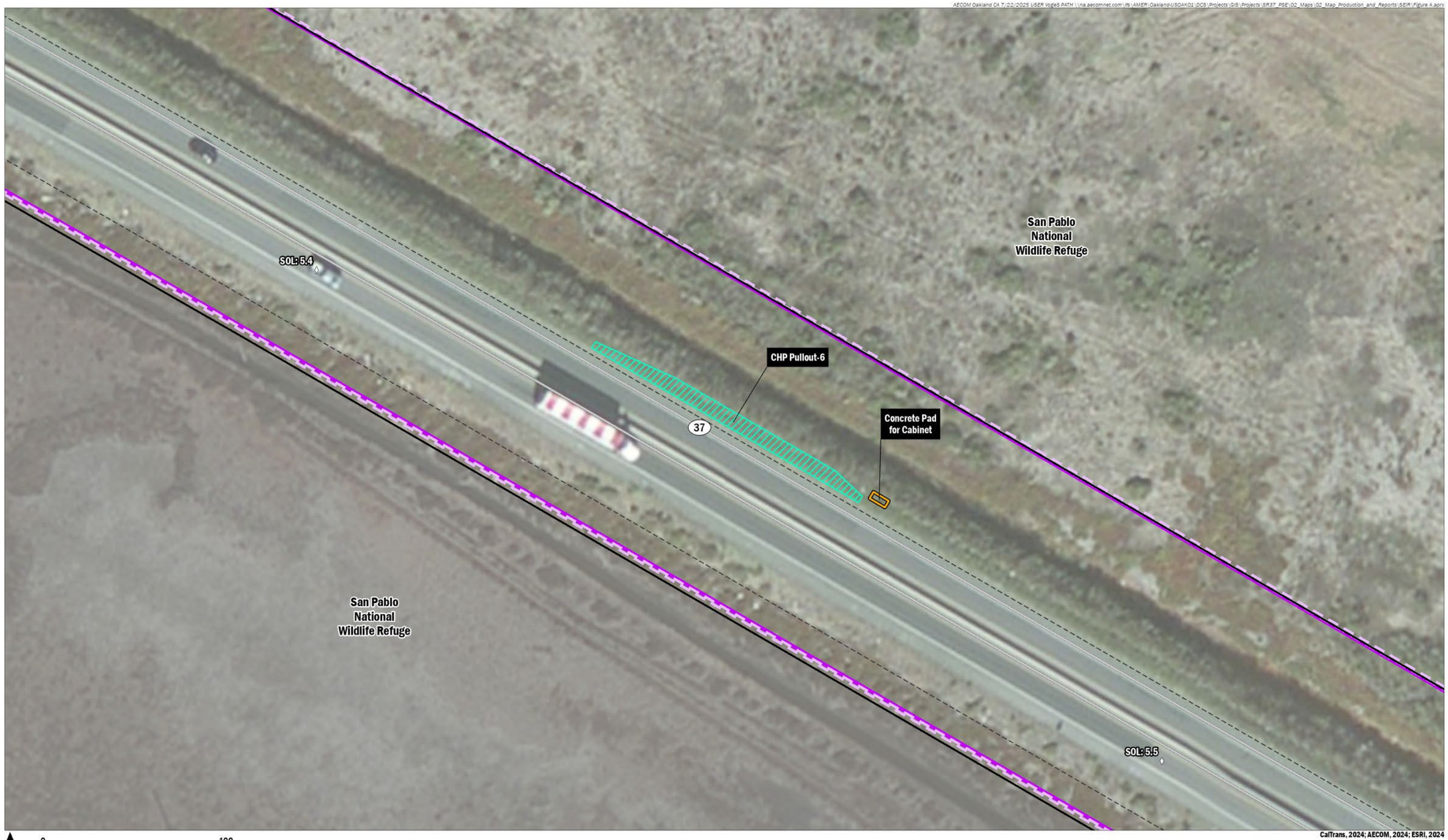
SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public
Original NES Edge of Pavement

Construction Features
California Highway Patrol
Concrete Pad for Cabinet

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 15 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

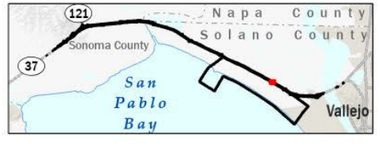
N

0 100
Feet

◊ Postmile 10th (County: PM)
Original Study Area
Strip Marsh East Supplemental Study Area

Land Ownership
Private
Public
--- Original NES Edge of Pavement

Construction Features
California Highway Patrol
Concrete Pad for Cabinet



AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 16 of 22

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Postmile 10th (County: PM)
- Original Study Area
- Strip Marsh East Supplemental Study Area

Land Ownership
- Private
- Public
- Original NES Edge of Pavement

Signage
- Extinguishable Message Sign (EMS)

Construction Features
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

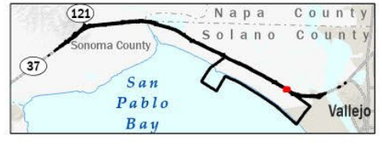
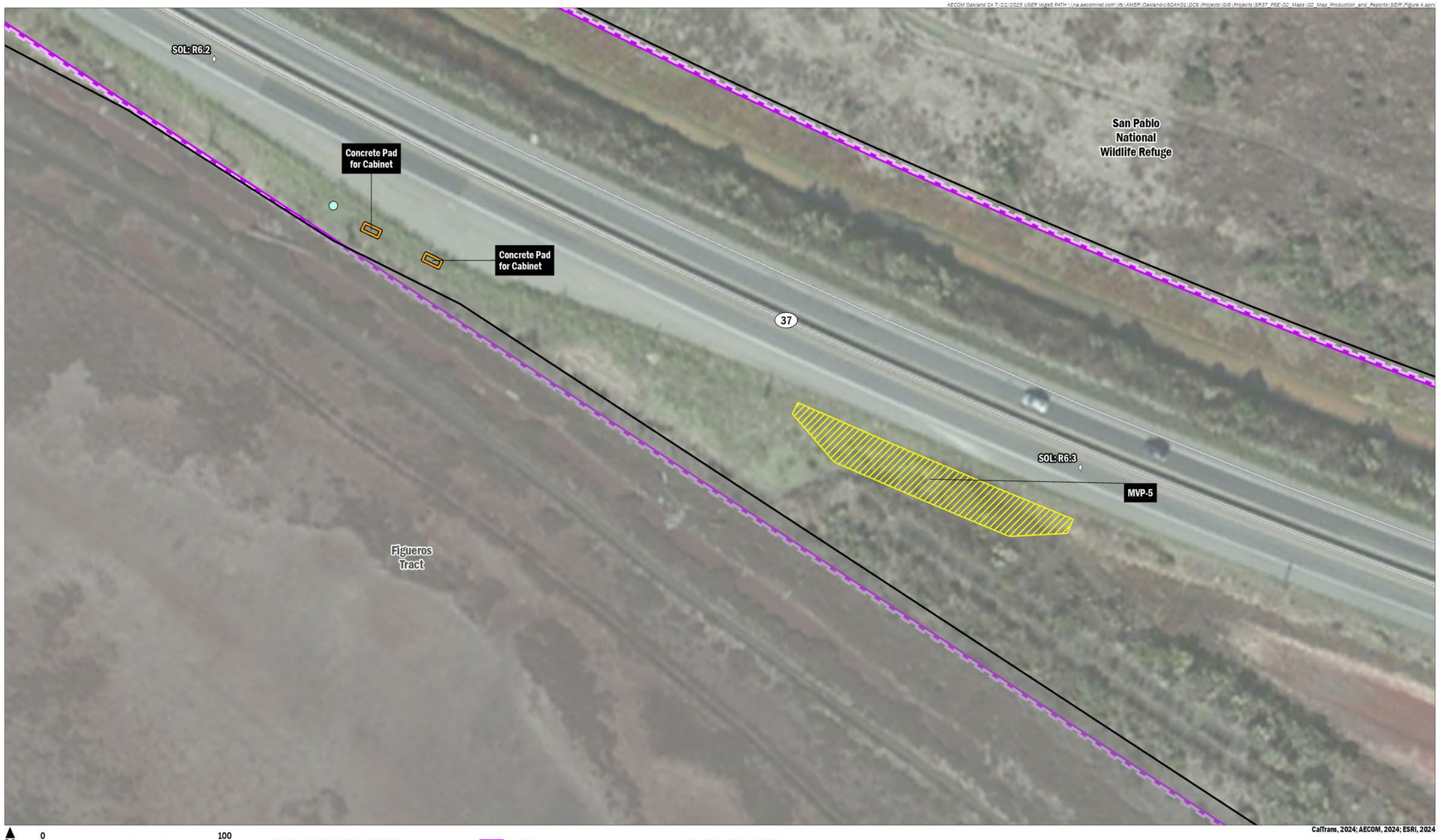


FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 17 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

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Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Postmile 10th (County: PM)
- Original Study Area
- Strip Marsh East Supplemental Study Area

Land Ownership
- Private
- Public

- Original NES Edge of Pavement

Signage
- Extinguishable Message Sign (EMS)

Construction Features
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 18 of 22

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Postmile 10th (County: PM)
- Original Study Area
- Strip Marsh East Supplemental Study Area

Land Ownership
- Private
- Public
- Original NES Edge of Pavement

Construction Features
- California Highway Patrol

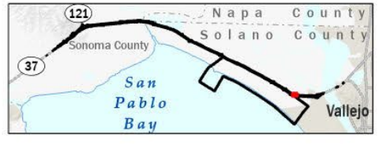
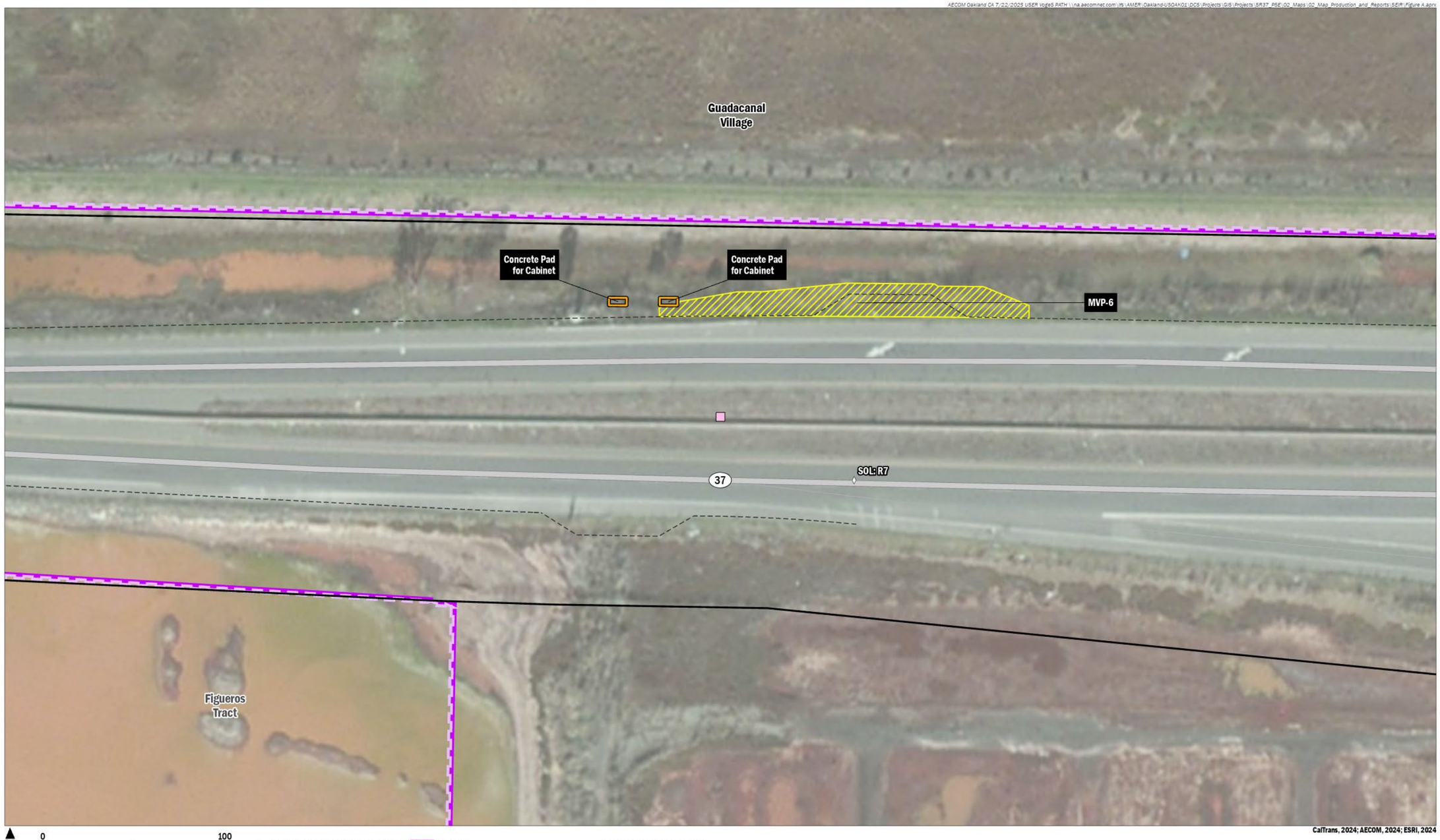


FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 19 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public
Original NES Edge of Pavement

Signage
Changeable Message Sign (CMS)

Construction Features
Concrete Pad for Cabinet
Maintenance Vehicle Pullout

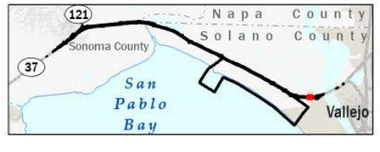
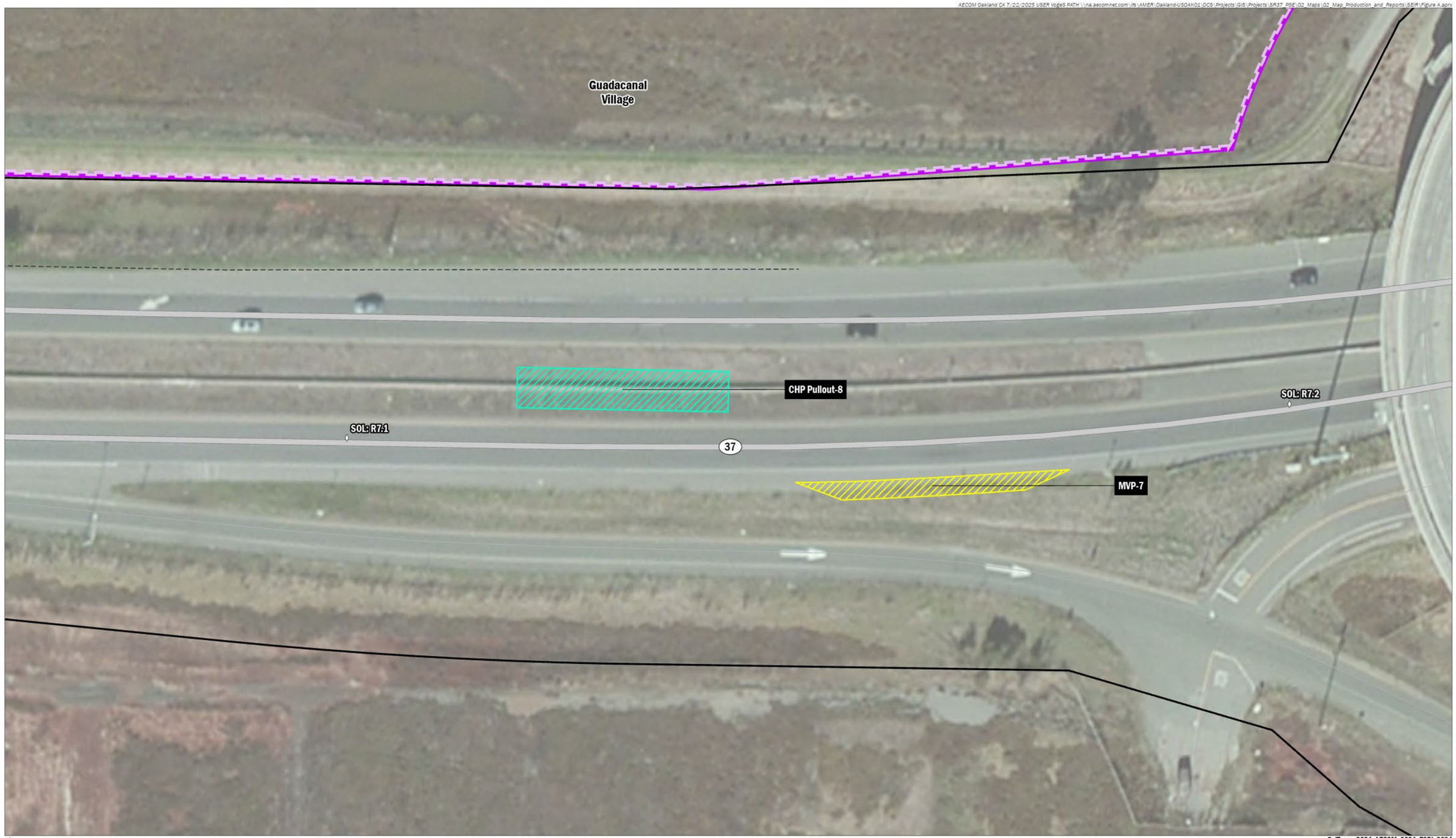


FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 20 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public
Original NES Edge of Pavement

Construction Features
California Highway Patrol
Maintenance Vehicle Pullout

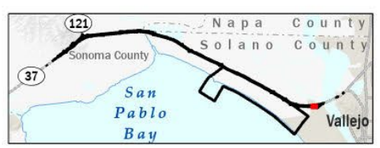


FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 21 of 22

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

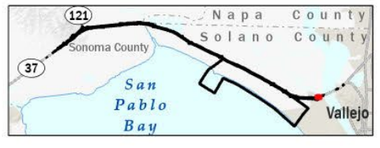
0 100
Feet

◊ Postmile 10th (County: PM)
Original Study Area

Land Ownership
Private
Public

--- Original NES Edge of Pavement

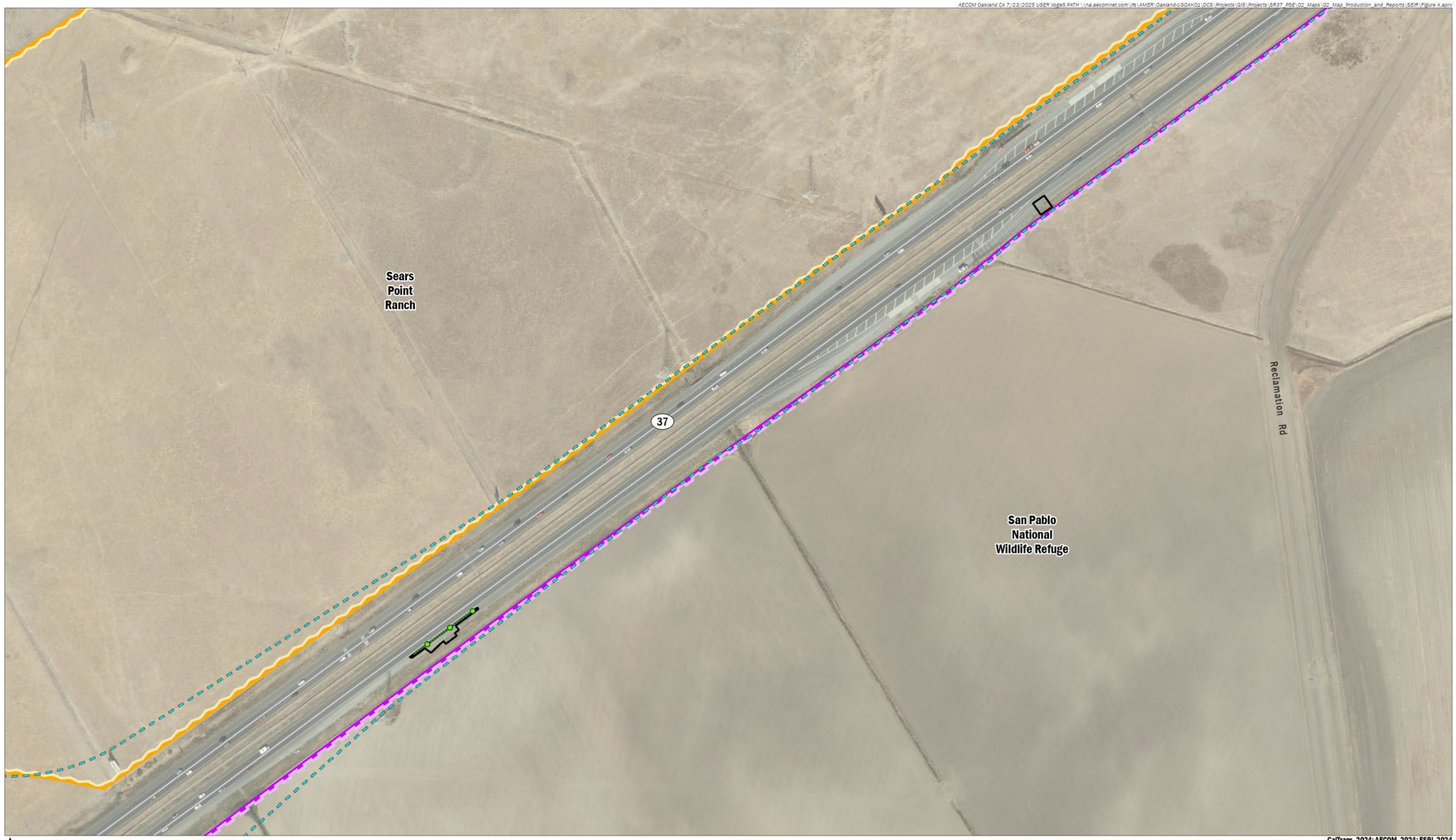
Construction Features
Concrete Pad for Cabinet



AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

FIGURE A-1A
Project Layout (Focused Highway Design Change Details)
Sheet 22 of 22



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

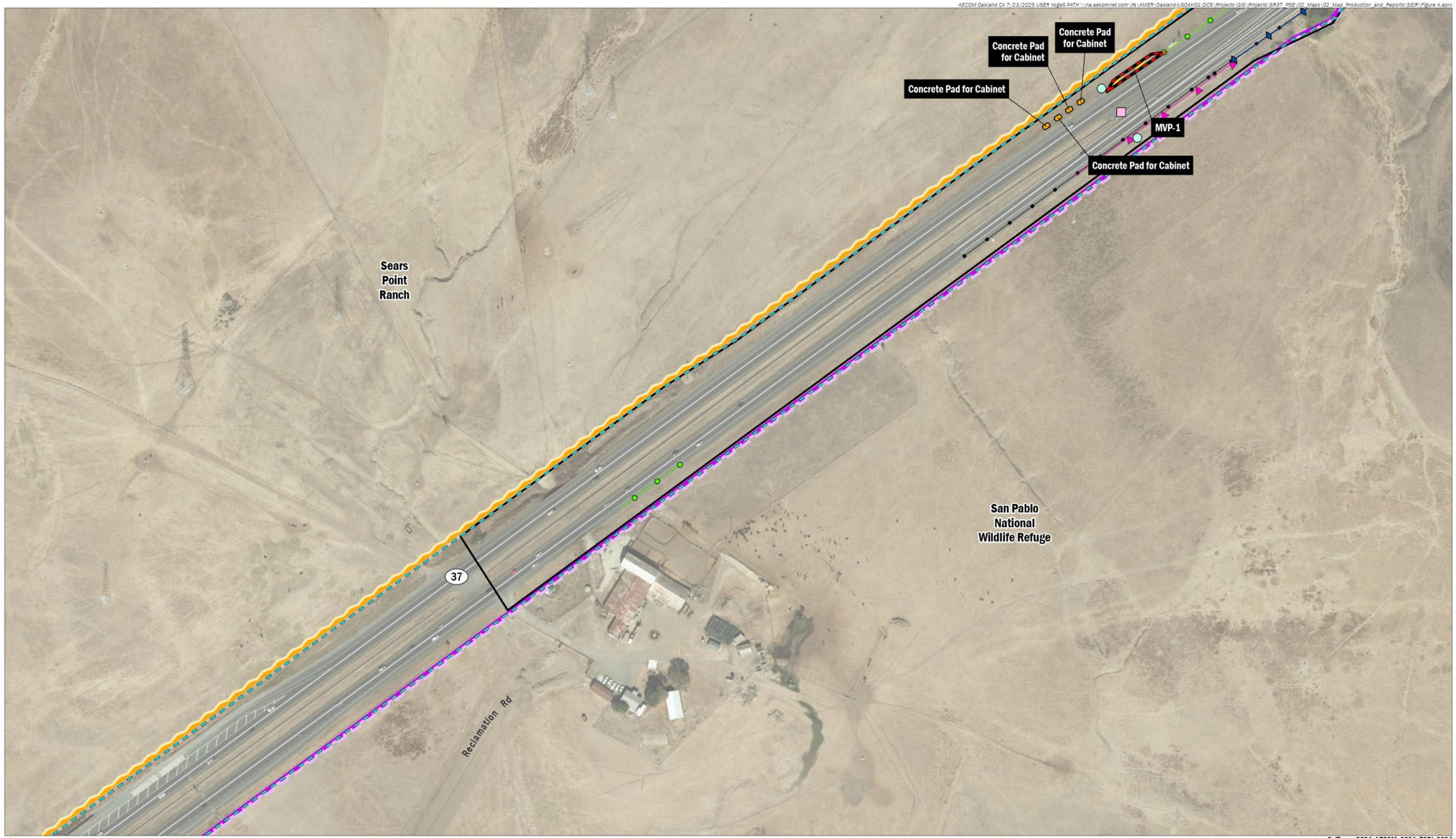
SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

Existing ROW
Original Study Area

Land Ownership
Private
Public

Construction Features
Guard Rail

FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 1 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Extinguishable Message Sign (EMS)
- Changeable Message Sign (CMS)
- Existing ROW
- Original Study Area

Land Ownership

- Private
- Public

Construction Features

- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Retaining Wall
- Crash Cushion
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 2 of 23)

Speedway Sonoma

Concrete Pad for Cabinet

MVP-2

Sears Point Ranch

Tolay Creek Rd

Paradise Vineyards

San Pablo National Wildlife Refuge

Concrete Pad for Cabinet

Concrete Pad for Cabinet

Concrete Pad for Cabinet

Concrete Pad for Cabinet

MVP-1

Concrete Pad for Cabinet

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project

EA – 04-1Q761; EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

- Extinguishable Message Sign (EMS)
- Changeable Message Sign (CMS)
- Existing ROW
- Original Study Area

Land Ownership

- Private
- Public

Construction Features

- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Retaining Wall
- Crash Cushion
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

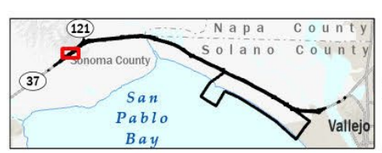


FIGURE A-2

Preferred Alternative 3B Highway Layout (Sheet 3 of 23)

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership
- Private

Construction Features
- Guard Rail
- Vegetation Control
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Retaining Wall
- Crash Cushion
- Maintenance Vehicle Pullout

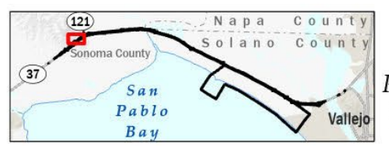
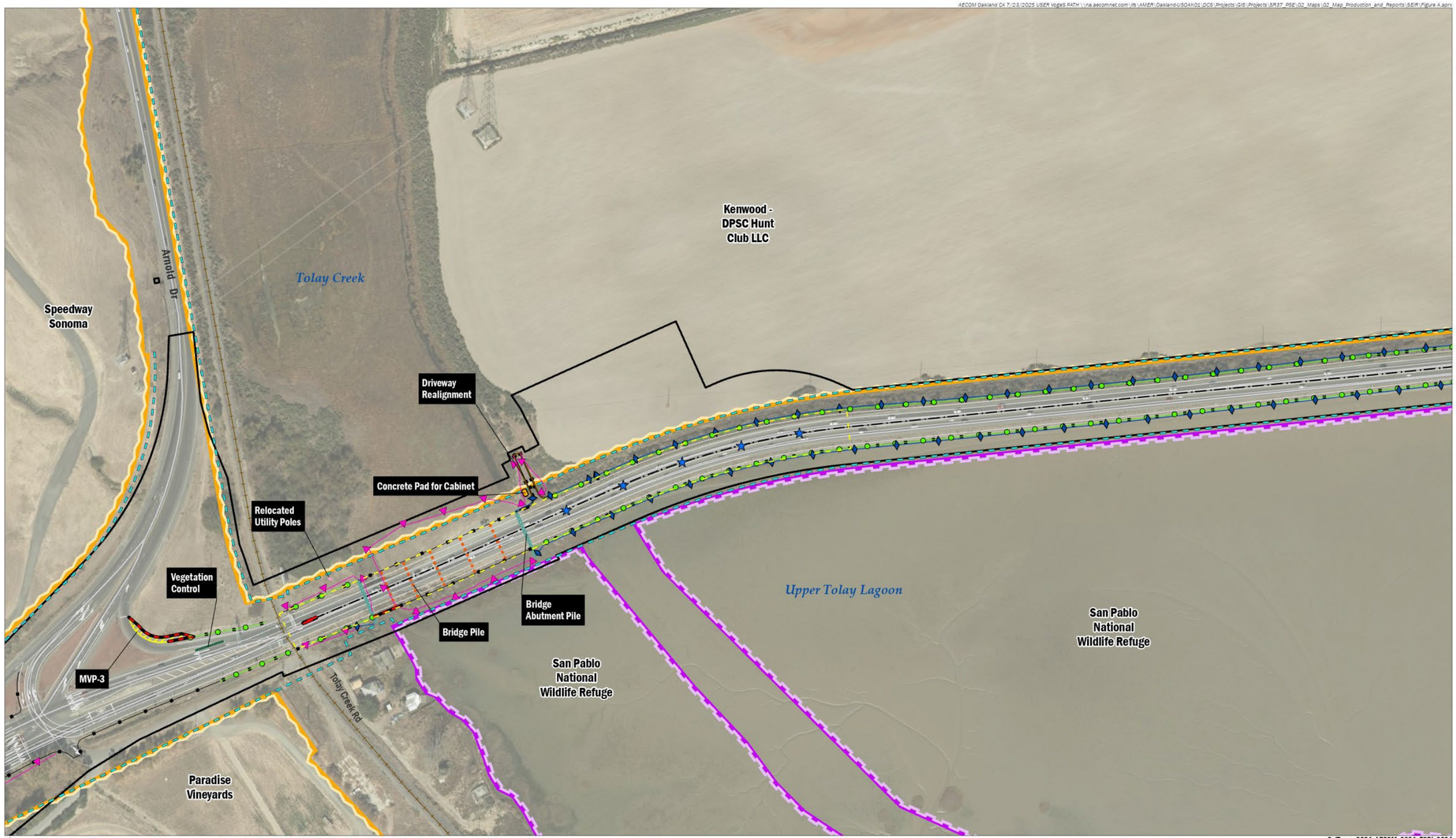


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 4 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

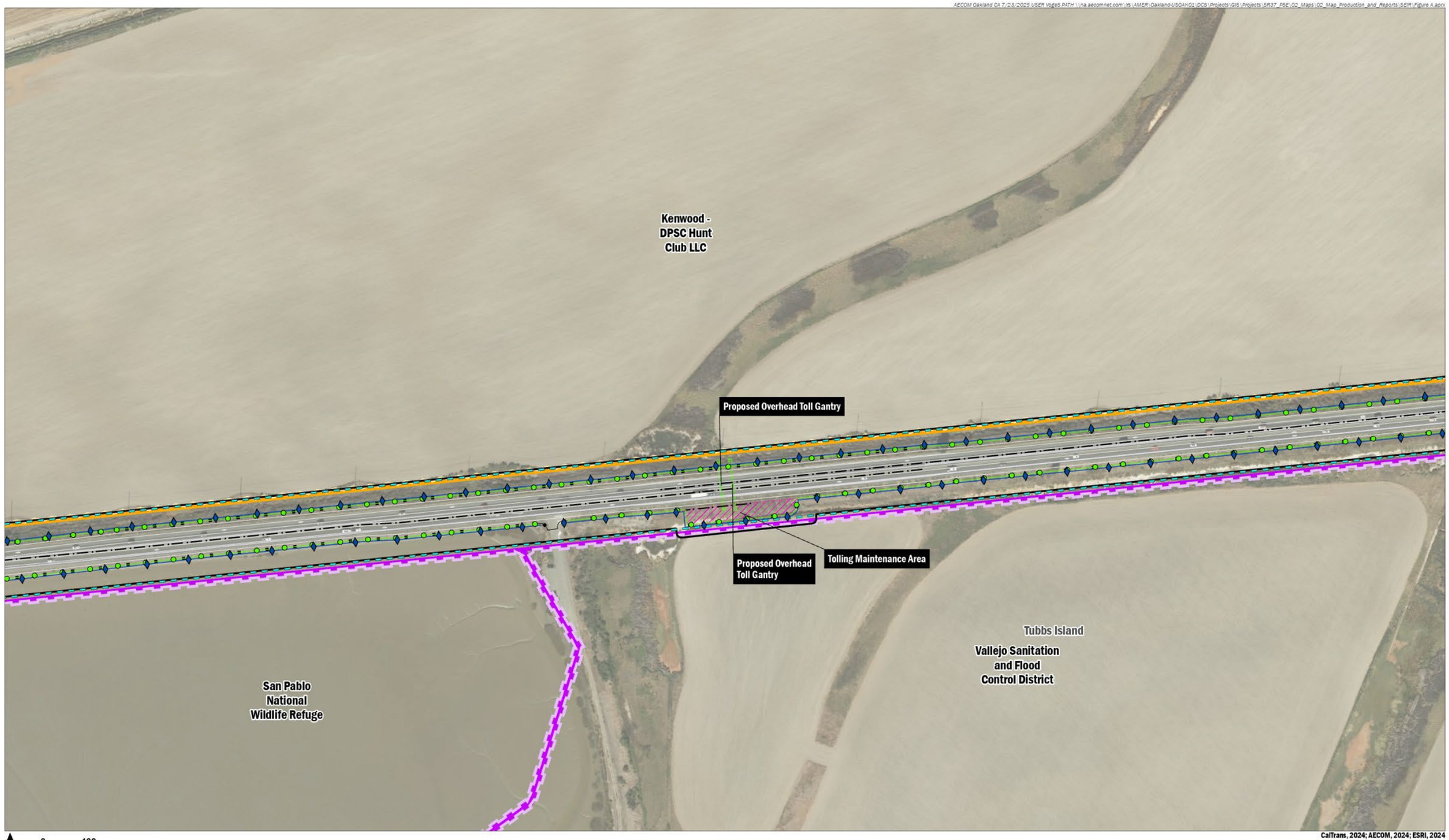
SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- New lighting pole
- Existing ROW
- Original Study Area

Land Ownership
- Private
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Vegetation Control
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Retaining Wall
- Crash Cushion
- Bridge Abutment Pile
- Bridge Pile
- Bridge Replacement
- Driveway Realignment
- Relocated Utility Poles
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 5 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership
- Private
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Retaining Wall
- Overhead Toll Gantry
- Tolling Maintenance Area

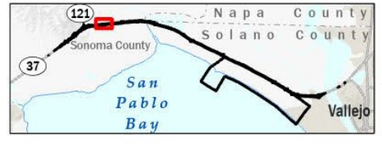
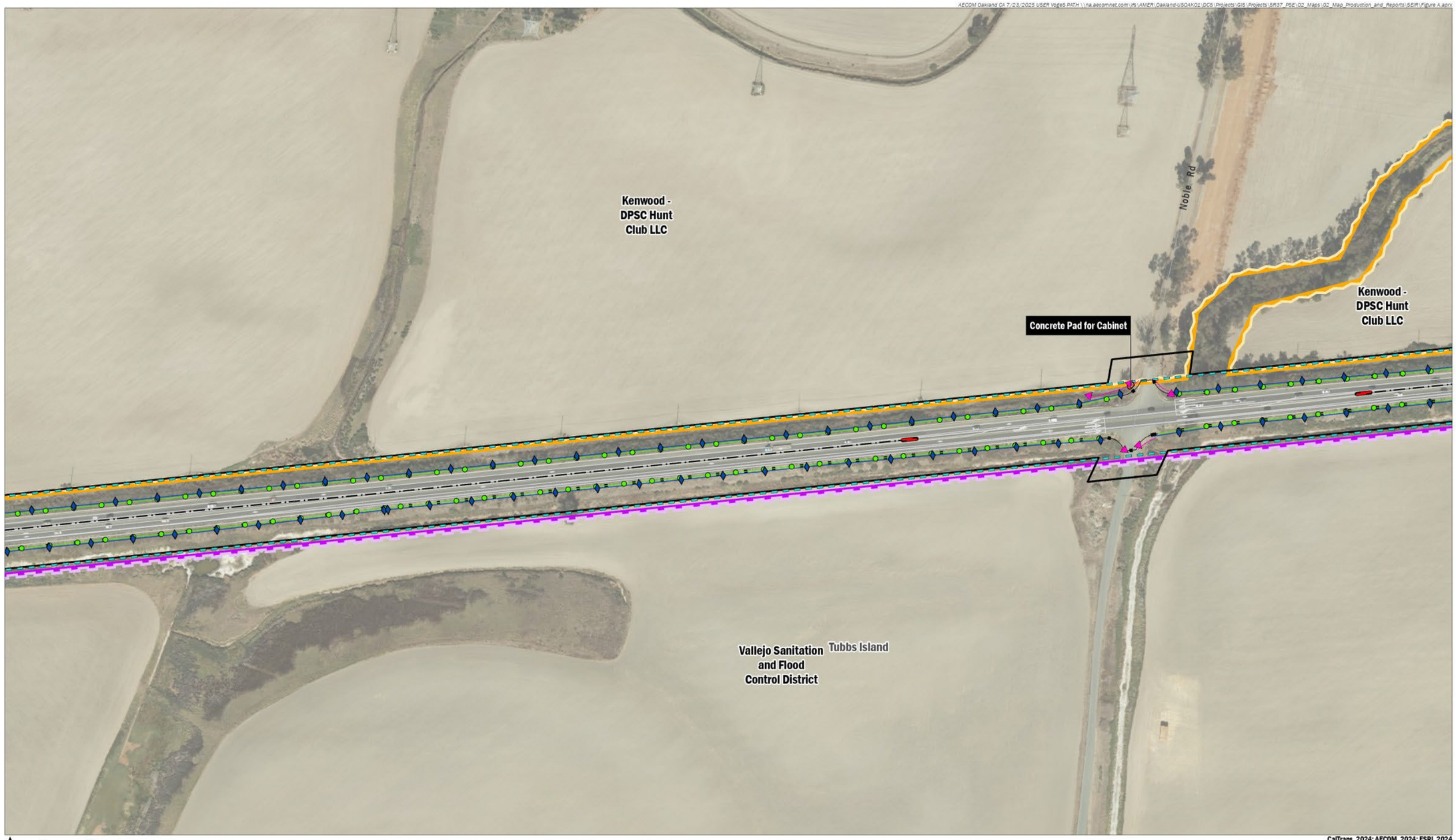


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 6 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project

EA – 04-1Q761: EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership

- Private
- Public

Construction Features

- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Retaining Wall
- Crash Cushion
- Concrete Pad for Cabinet

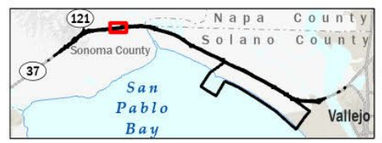
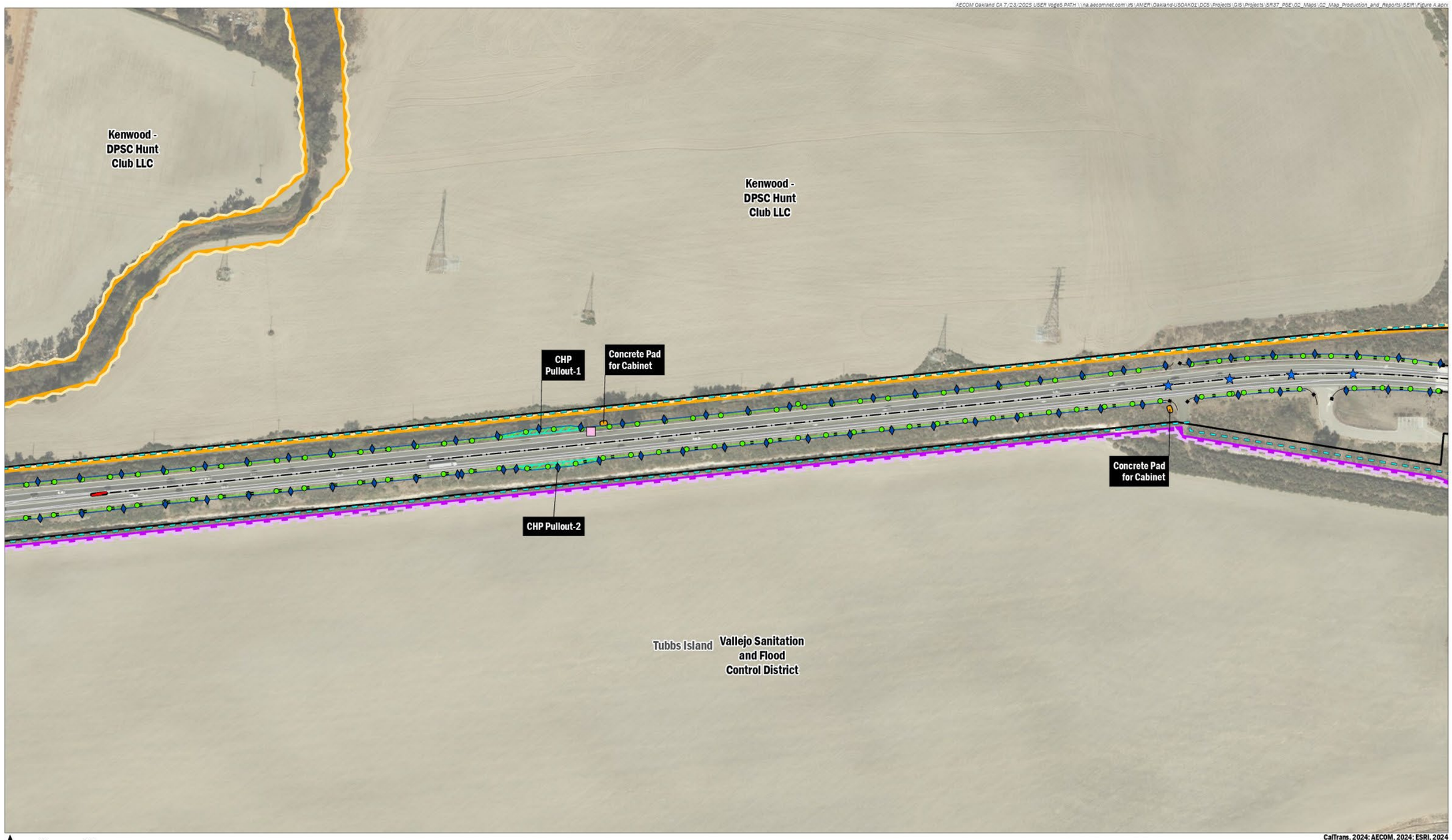


FIGURE A-2

Preferred Alternative 3B Highway Layout (Sheet 7 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project

EA – 04-1Q761; EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

- New lighting pole
- Changeable Message Sign (CMS)
- Existing ROW
- Original Study Area

Land Ownership

- Private
- Public

Construction Features

- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Retaining Wall
- Crash Cushion
- CHP Pullout
- Concrete Pad for Cabinet

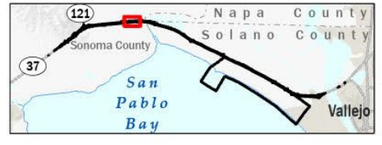


FIGURE A-2

Preferred Alternative 3B Highway Layout (Sheet 8 of 23)

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- New lighting pole
- Existing ROW
- Original Study Area

Land Ownership
- Private
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Retaining Wall
- Concrete Pad for Cabinet

FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 9 of 23)

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

New lighting pole
Existing ROW
Original Study Area

Land Ownership
Public

Construction Features
Center & Roadway Barrier
Guard Rail
Lane Line (White Line)
Proposed Edge of Pavement
Cut and Fill

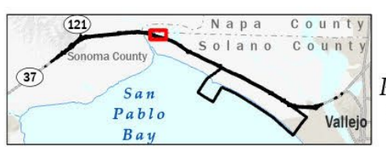


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 10 of 23)

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

Existing ROW
Original Study Area

Land Ownership
Public

Construction Features
Center & Roadway Barrier
Guard Rail
Lane Line (White Line)
Proposed Edge of Pavement
Cut and Fill
Crash Cushion

FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 11 of 23)

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership
- Private
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Crash Cushion
- CHP Pullout
- Concrete Pad for Cabinet

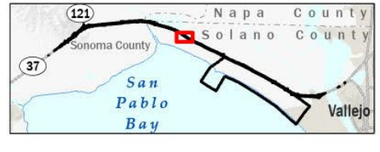


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 12 of 23)

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

Existing ROW
Original Study Area

Land Ownership
Private
Public

Construction Features
Center & Roadway Barrier
Guard Rail
Lane Line (White Line)
Proposed Edge of Pavement
Cut and Fill
CHP Pullout
Concrete Pad for Cabinet

FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 13 of 23)

CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761: EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership
- Private
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill

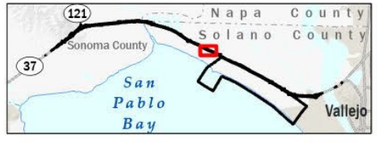
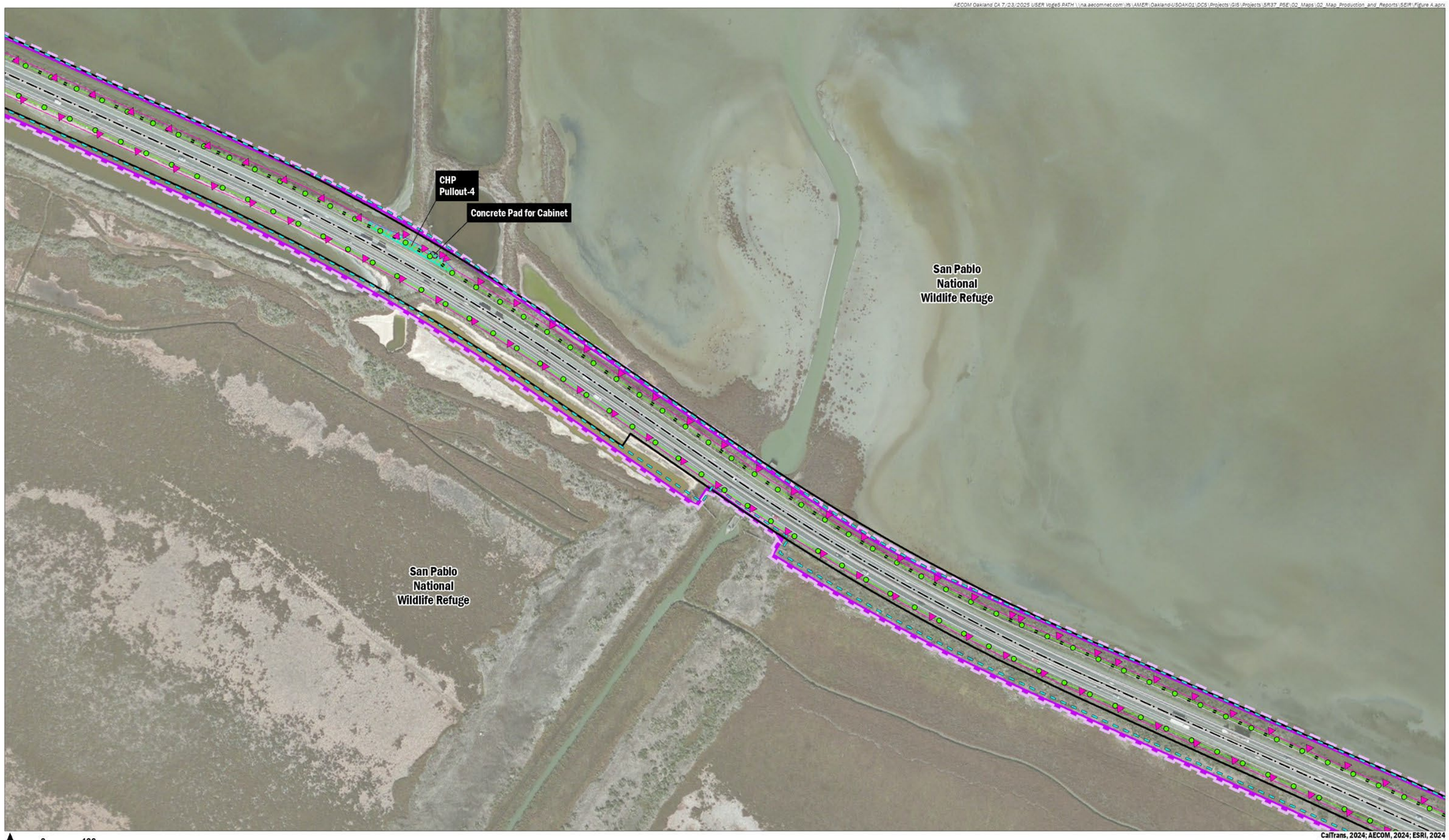


FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 14 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

Existing ROW
Original Study Area

Land Ownership
Public

Construction Features
Center & Roadway Barrier
Guard Rail
Lane Line (White Line)
Proposed Edge of Pavement
Cut and Fill
CHP Pullout
Concrete Pad for Cabinet

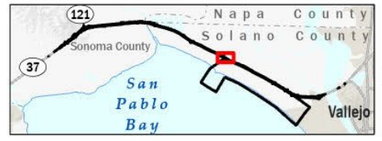
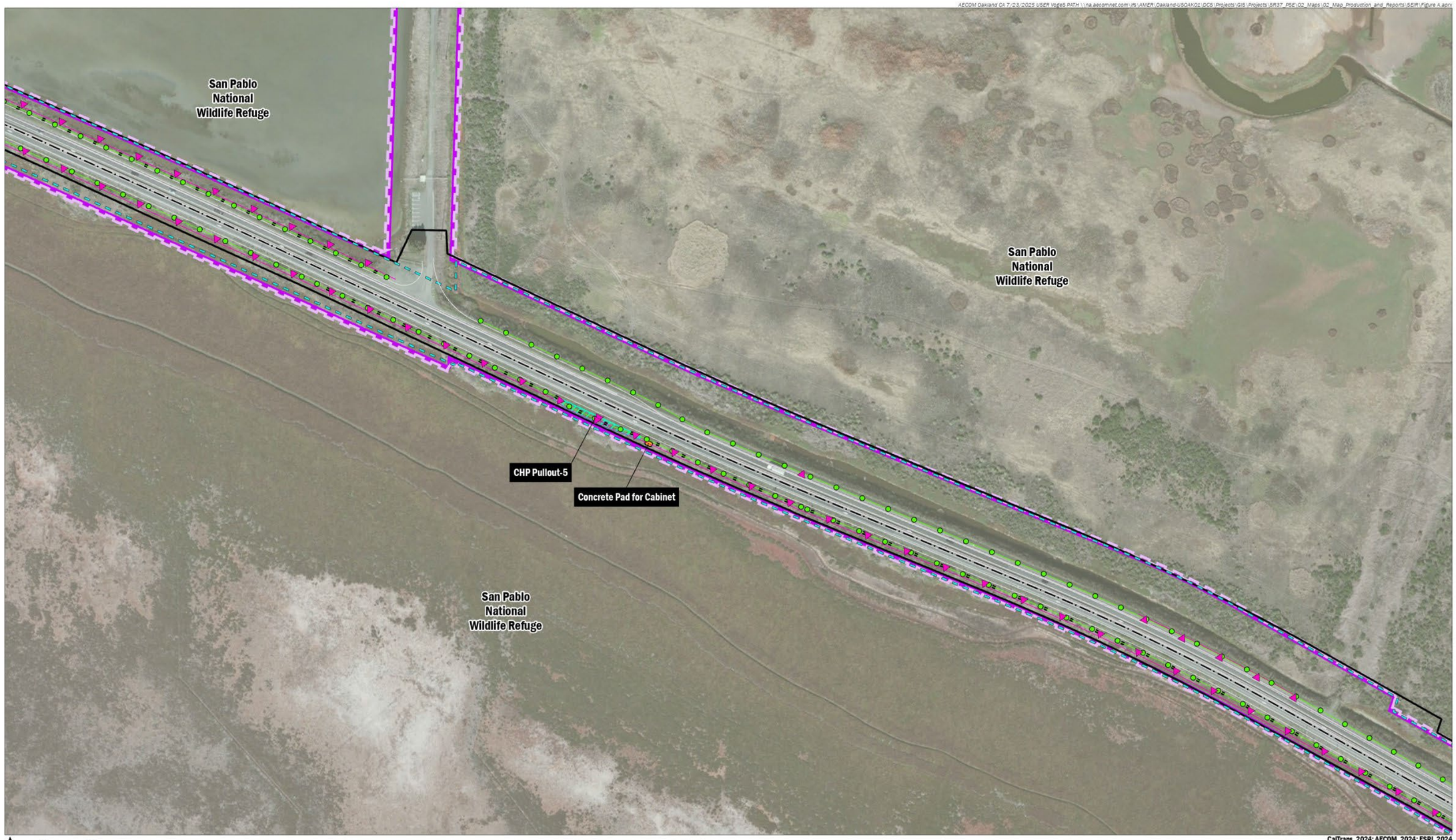


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 15 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

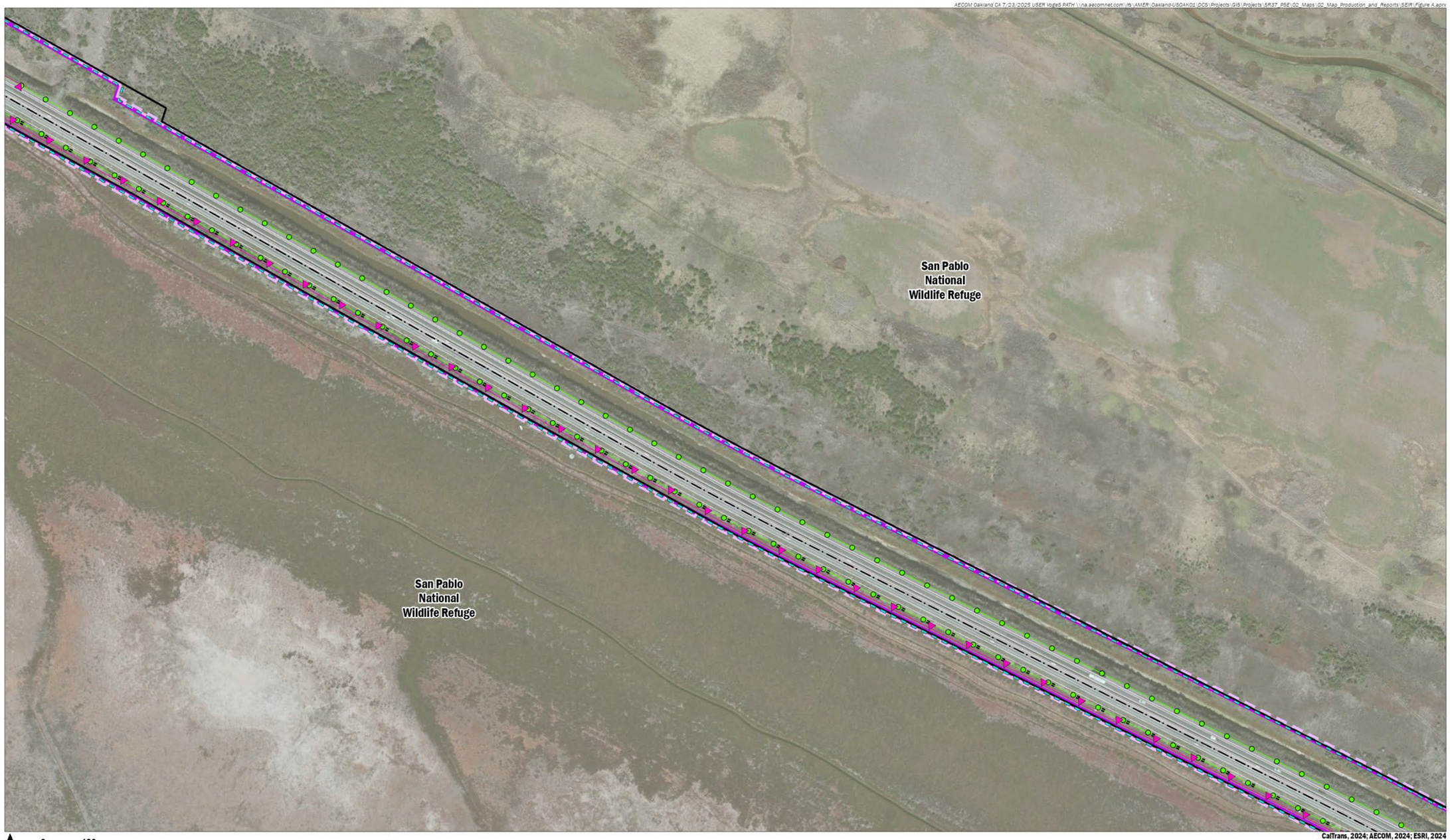
SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- CHP Pullout
- Concrete Pad for Cabinet

FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 16 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare
Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

Existing ROW
Original Study Area

Land Ownership
Public

Construction Features
Center & Roadway Barrier
Guard Rail
Lane Line (White Line)
Proposed Edge of Pavement
Cut and Fill

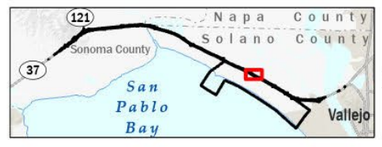
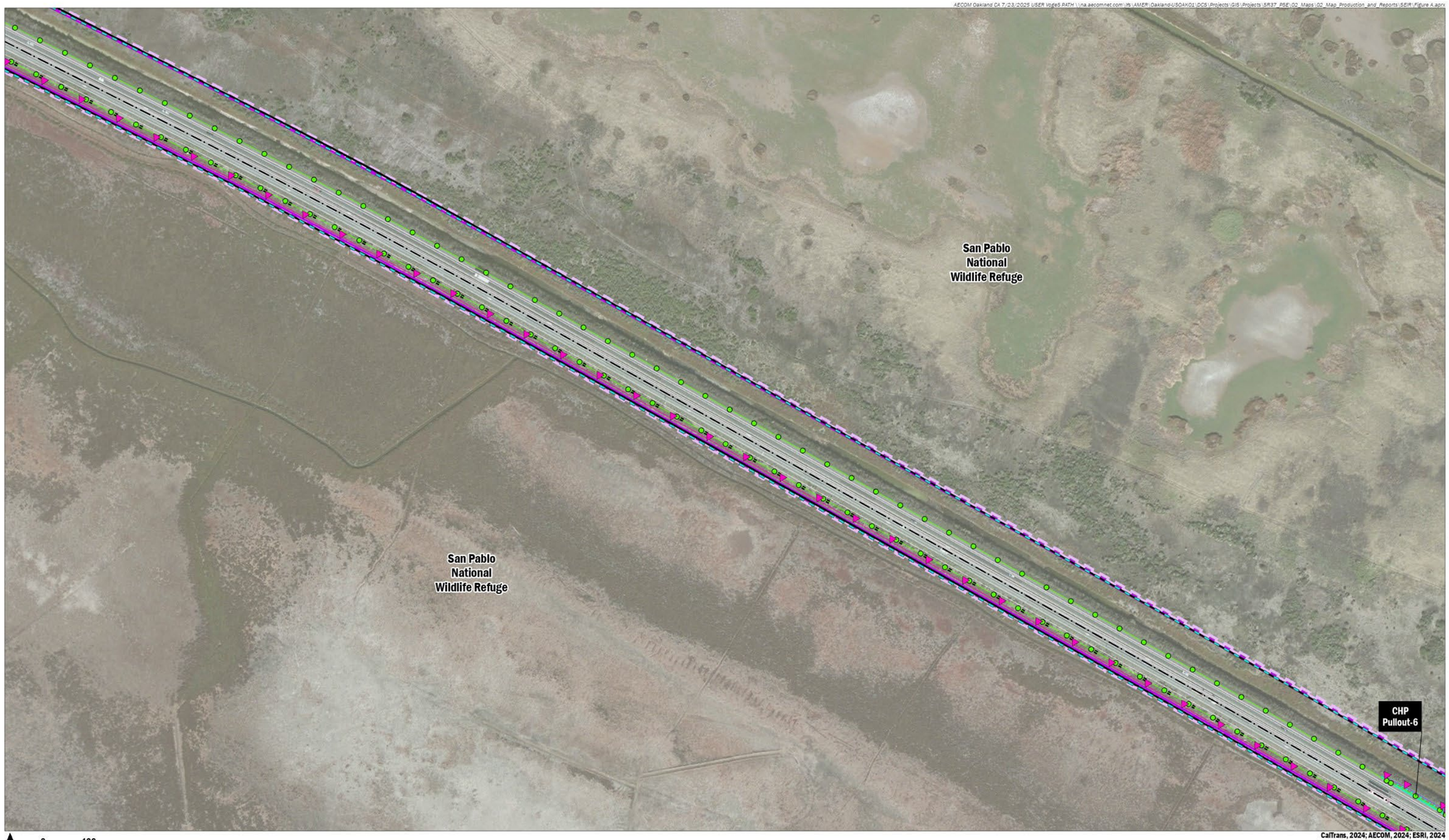


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 17 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Existing ROW
- Original Study Area

Land Ownership
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- CHP Pullout

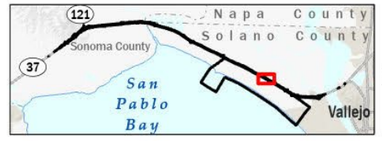
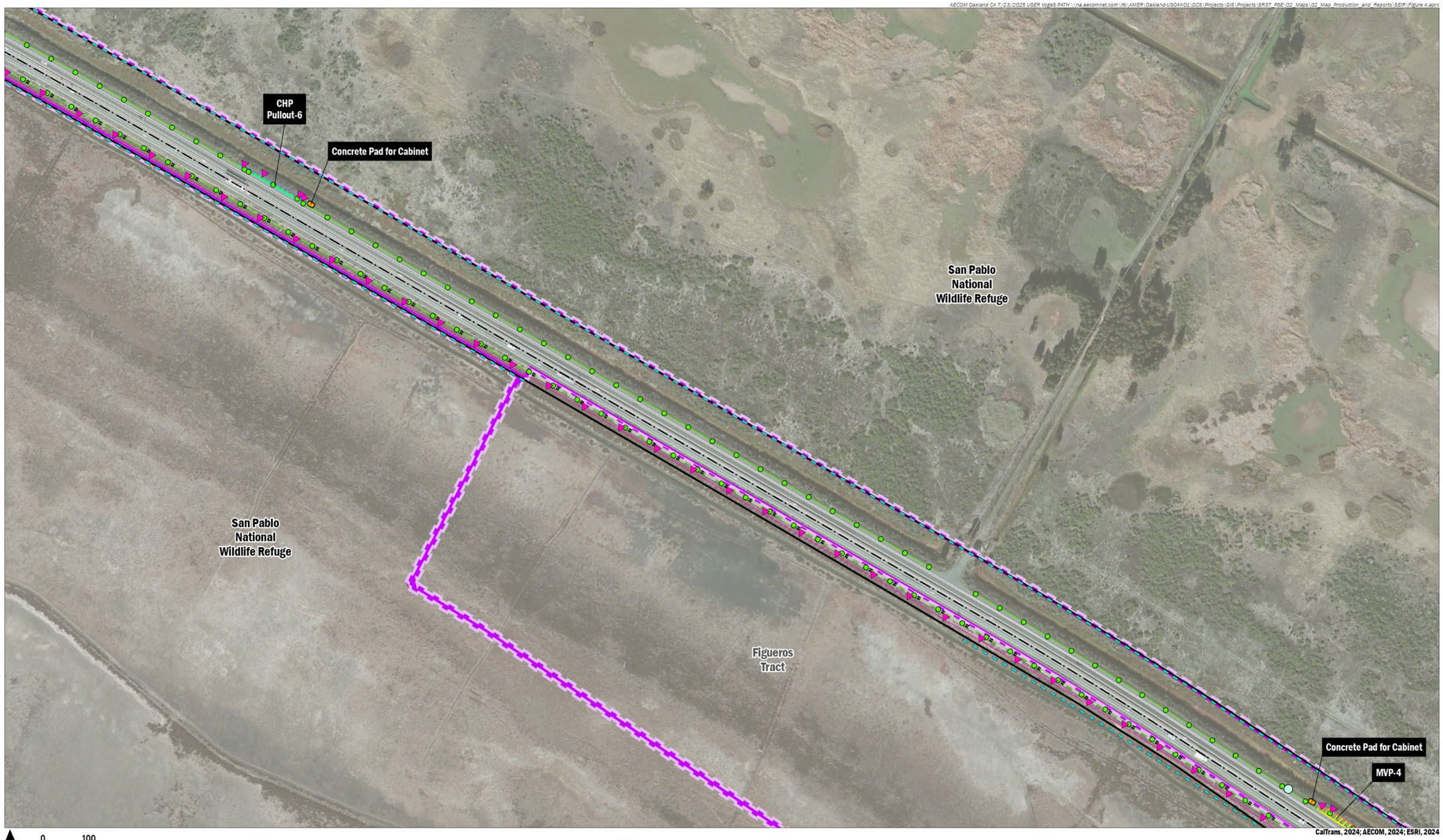


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 18 of 23)



N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Extinguishable Message Sign (EMS)
- Existing ROW
- Original Study Area

Land Ownership
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- CHP Pullout
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

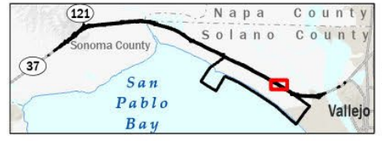
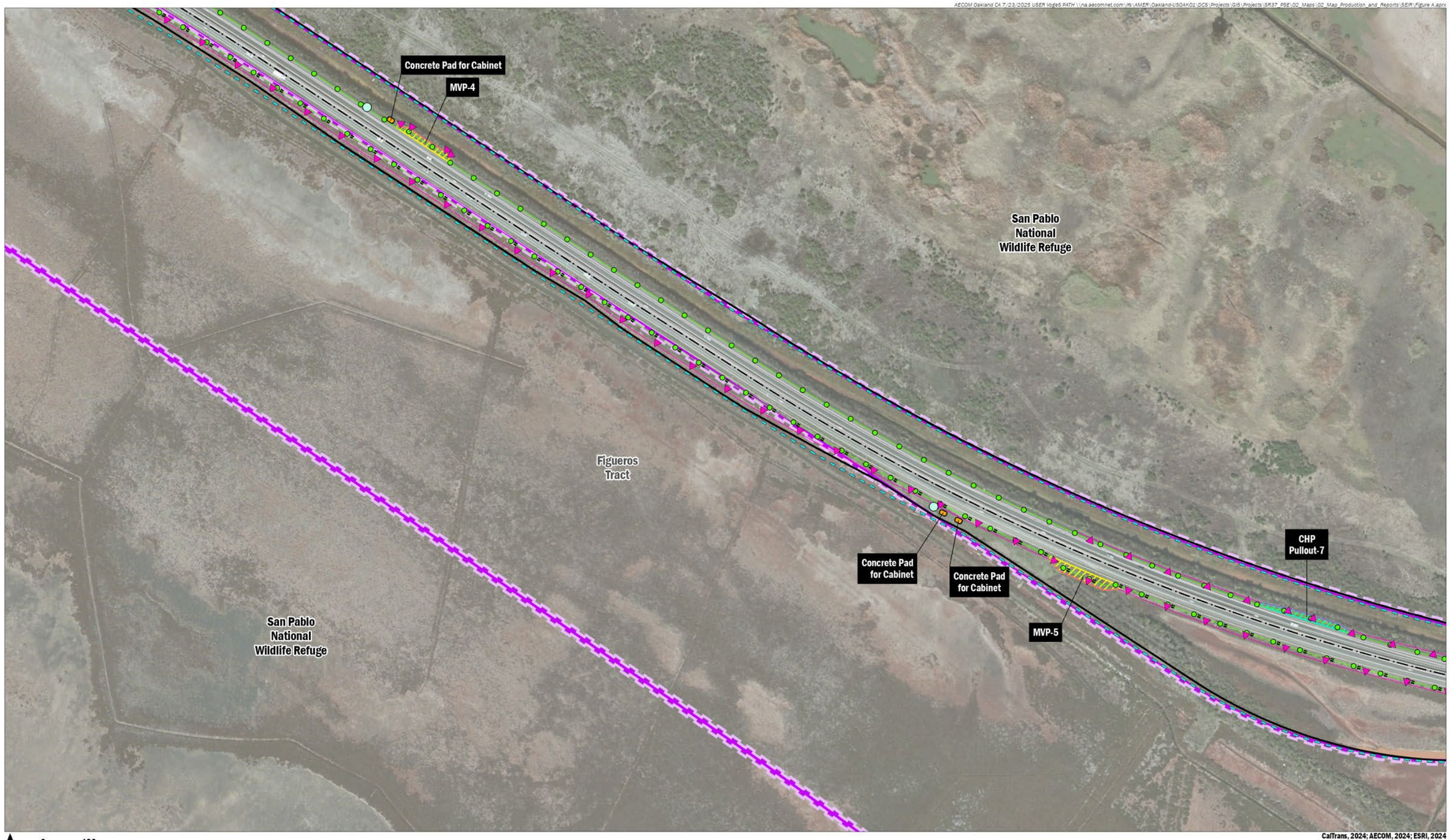


FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 19 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100
Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Extinguishable Message Sign (EMS)
- Existing ROW
- Original Study Area

Land Ownership
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- CHP Pullout
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

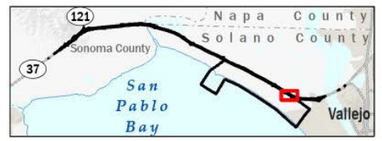
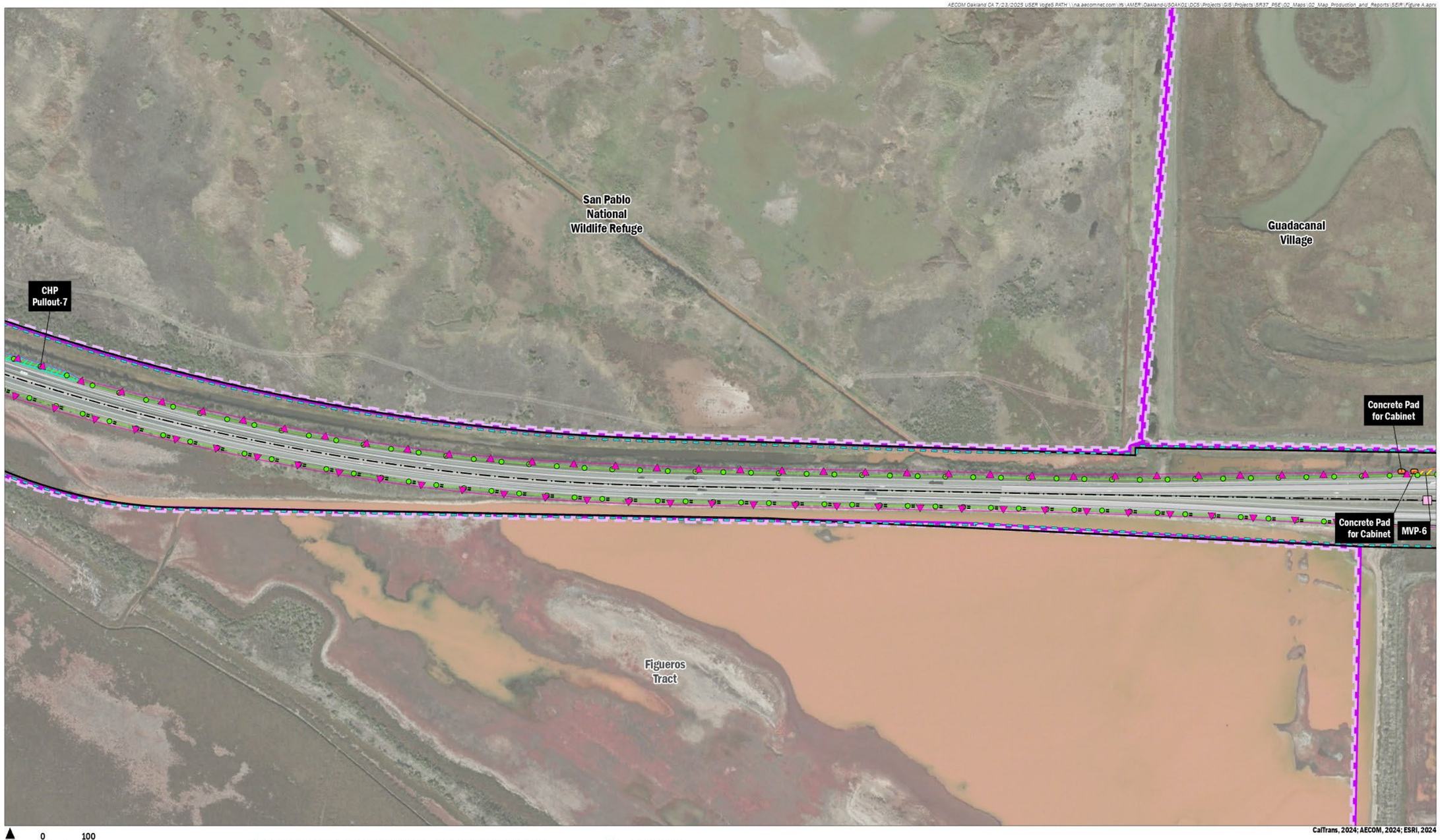


FIGURE A-2
Preferred Alternative
3B Highway Layout
(Sheet 20 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

- Changeable Message Sign (CMS)
- Existing ROW
- Original Study Area

Land Ownership
- Public

Construction Features
- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- CHP Pullout
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

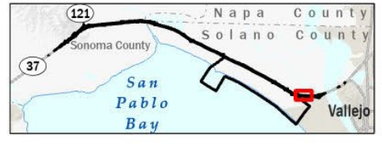
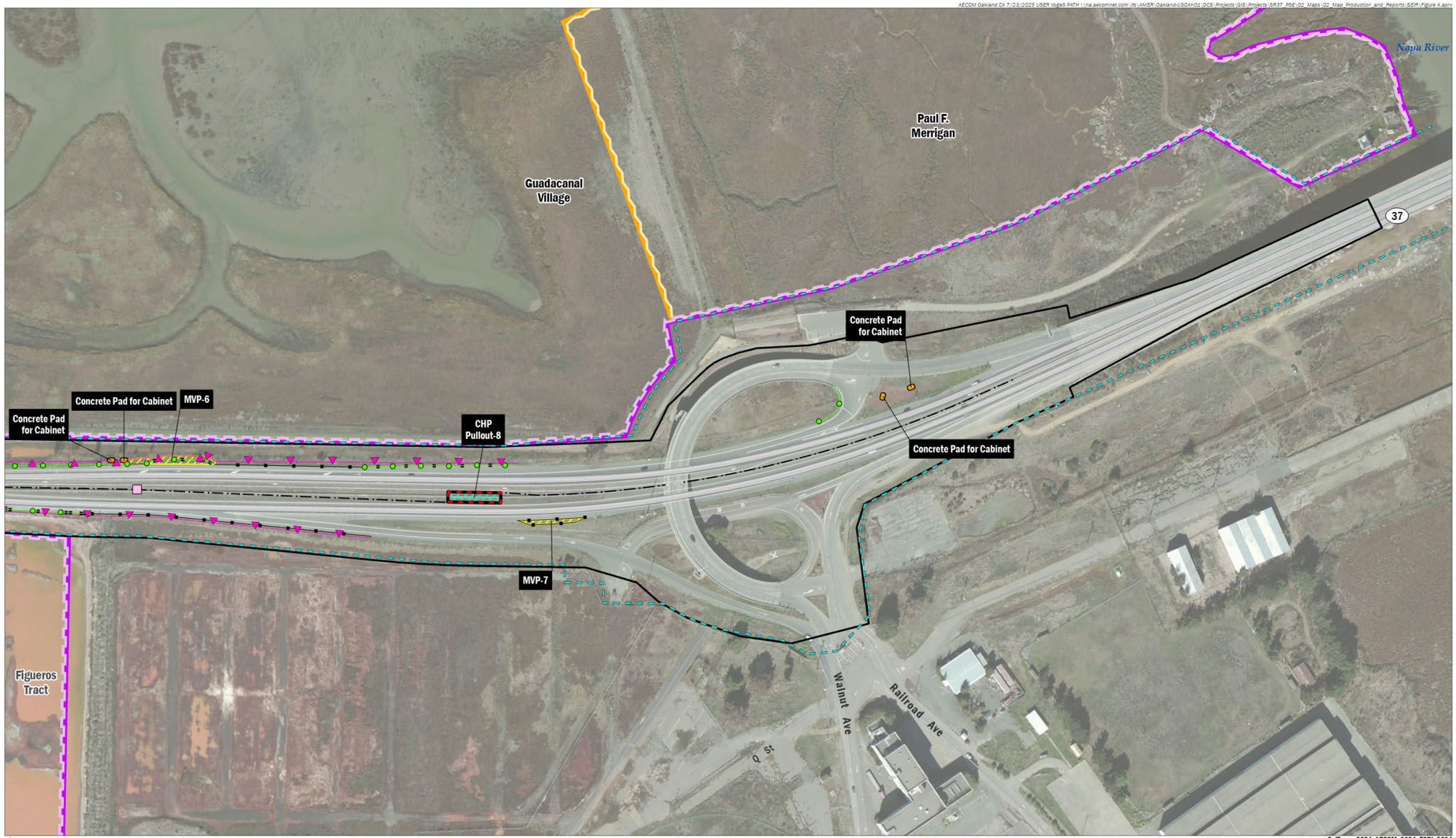


FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 21 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project

EA – 04-1Q761; EFIS – 0419000255

SONOMA, NAPA & SOLANO COUNTIES, CA

- Changeable Message Sign (CMS)
- Existing ROW
- Original Study Area

Land Ownership

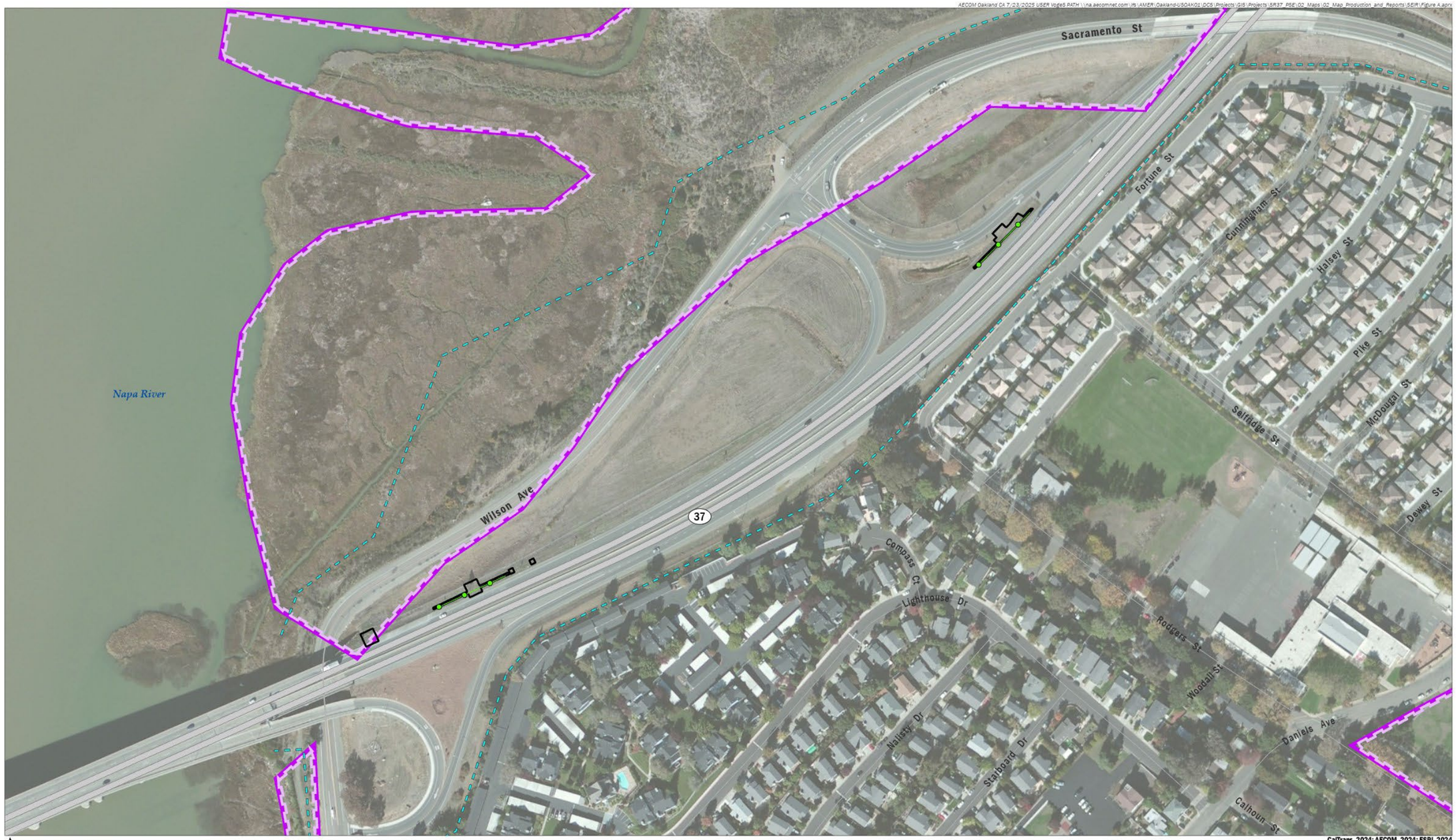
- Private
- Public

Construction Features

- Center & Roadway Barrier
- Guard Rail
- Lane Line (White Line)
- Proposed Edge of Pavement
- Cut and Fill
- Crash Cushion
- CHP Pullout
- Concrete Pad for Cabinet
- Maintenance Vehicle Pullout

FIGURE A-2

Preferred Alternative 3B Highway Layout (Sheet 22 of 23)



CalTrans, 2024; AECOM, 2024; ESRI, 2024

N

0 100 Feet

AECOM

SR 37 Sears Point to Mare Island Improvement Project
EA – 04-1Q761; EFIS – 0419000255
SONOMA, NAPA & SOLANO COUNTIES, CA

Existing ROW
Original Study Area

Land Ownership
Public

Construction Features
Guard Rail

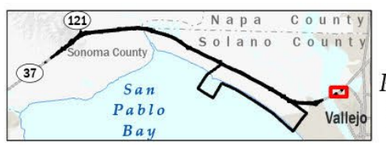


FIGURE A-2
Preferred Alternative 3B Highway Layout (Sheet 23 of 23)

Appendix B Section 4(f)

A Section 4(f) analysis was included in the Draft Supplemental EIR for this Project to disclose potential 4(f) impacts and provide the public with an opportunity to review and comment. However, Section 4(f) is not part of the CEQA process and, therefore, has been removed from this Final Supplemental EIR. As part of the NEPA process, Caltrans has transmitted letters to officials with jurisdiction that informed them of the changes to the Project, the planned temporary uses of the San Pablo Bay National Wildlife Refuge and Napa Sonoma Marshes Wildlife Area properties for SME enhancements, and intent to make a *de minimis* finding. Caltrans is in coordination with officials with jurisdiction to obtain concurrence on the Section 4(f) *de minimis* finding.

Appendix C Environmental Commitments Record

This appendix contains the Environmental Commitments Record from the 2023 Final Environmental Impact Report (EIR)/Environmental Assessment (EA) (2023 Final EIR/EA), updated for the Project changes. The primary updates are the addition of the Strip Marsh East (SME) to the Project as a minimization and enhancement measure, and updates to Tribal Consultation and Monitoring.

The SME minimization and enhancement measures will partially or fully replace mitigation measures BIO-07, 23, 26, 30, and 35, which were previously committed to in the 2023 Final EIR/EA. However, compensation for California red-legged frog habitat effects would be retained.

Tribal Consultation and Monitoring requirements are described in AMMs TCR-1, 2, 3, 4, 5, and 6.

All other Environmental Commitment measures were previously included in the 2023 Final EIR/EA. They are unchanged but are repeated here in this appendix for the record.

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-01	**Wetlands Protection – Invasive Plants.** To prevent the introduction of nonnative invasive plant (NNIP) species such as smooth cordgrass (*Spartina alterniflora* and hybrids), stinkwort (*Dittrichia graveolens*), and prickly Russian thistle (*Salsola tragus*) into areas of tidal vegetation during construction and restoration activities, the following measures will be implemented: • The project biologist will conduct a NNIP assessment of areas subject to construction activities and will recommend specific measures to minimize the spread of NNIP species. • Wetland areas that are temporarily disturbed will be monitored during construction. All NNIP infestations discovered in the project area in wetland habitats will be controlled and removed upon discovery. • A long-term (5 years after project completion) vegetation monitoring plan for post-disturbance impacts in wetlands will be developed in coordination with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) and implemented by the California Department of Transportation (Caltrans).	Biology	AMM	No	Plans, Specifications, and Estimates (PS and E); Pre-Construction; Construction; and Post-Construction
Biology	AMM-BIO-02	**Wetland Protection.** The following measures will be implemented in and adjacent to delineated wetland environmentally sensitive areas in the project area: • Work in and adjacent to delineated wetlands where flooding has potential to occur will be scheduled outside of the wet-weather season. • Work in and adjacent to delineated tidal wetlands will not occur within 2 hours before or after extreme high tide events (6.5 feet above mean lower low water elevation or greater, as determined from the National Oceanic and Atmospheric Administration tidal gage station nearest to the activity) when the marsh plain is inundated. • This measure is not applicable to Strip Marsh East enhancement work. Applicable work windows for those actions within the Strip Marsh East will be determined in coordination with environmental agencies with jurisdiction.	Construction	AMM	No	Construction
Biology	AMM-BIO-03	**Tree Replacement, Landscaping, and Revegetation Plan.** During final design, Caltrans will develop a landscaping plan that will identify the location and number of trees that will be replanted in the right-of-way. Appropriate native species will be used to the maximum extent possible, and trees, shrubs, and groundcover will be selected for drought tolerance and disease resistance. Mulch will be applied to planted areas to reduce weed growth, conserve moisture, and minimize maintenance operations. A 3-year plant establishment period will be included in the final revegetation plan. Caltrans will develop and implement a 5- to 10-year post-construction vegetation monitoring plan for planted areas.	Landscape Design	AMM	No	PS and E; Pre-Construction; Construction; and Post-Construction
Biology	AMM-BIO-04	**Estuarine Dewatering Work Window.** In-water work requiring dewatering in tidal waters will be scheduled to occur between June 1 and November 30. Other work below mean higher high water (MHHW) (excluding impact pile driving) may be done year-round. This measure does not apply to Strip Marsh East Enhancement and applicable work windows for those actions within the Strip Marsh East will be determined in coordination with environmental agencies with jurisdiction.	Construction	AMM	No	Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-05	**Turbidity Control.** During the expansion of the Tolay Creek Bridge abutments and at other locations where ground disturbance would be conducted below MHHW, a silt-curtain, sheet pile, or gravel-bag cofferdam or other equivalent means will be installed as needed to minimize the generation of turbidity plumes in nearby tidal waters. Such cofferdams would be installed when there is no surface water present (i.e., at low tide). This requirement does not apply to in-water pile driving. This measure does not apply to Strip Marsh East enhancement activities and turbidity control measures will be adopted as appropriate in consulation with the Regional Water Quality Control Board during project permitting.	Construction	AMM	No	Construction
Biology	AMM-BIO-07	**Wetlands and Other Waters Minimization** Caltrans will offset temporary impacts during construction to wetlands and other waters by restoring disturbed areas to pre-project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.	Biology	AMM	No	Construction
Biology	AMM-BIO-08	**Targeted Pre-Construction Plant Survey.** During final project design, an experienced botanist will conduct a final floristic survey in the project area during the appropriate blooming period for all special-status plant species with potential to occur that were not surveyed for previously. The survey does not need to cover the flowering period for species adequately surveyed for during September 2019 surveys. Surveys should be conducted following the same protocols from September 2019 surveys, *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities, prepared by CDFW*, dated March 20, 2018. If special-status plant species are discovered, they will be included as an environmentally sensitive area in project plans and specifications. If any listed species are discovered that could be impacted by project activities, Caltrans will consult with state and federal regulators with jurisdiction as appropriate, and CNPS if translocation of affected plants would be considered as an option.	Biology	AMM	No	PS and E
Biology	AMM-BIO-09	**Special-Status Plant Monitoring.** If a special-status plant (e.g., soft bird's-beak, San Joaquin spearscale, saline clover) is discovered during construction monitoring in an area where ground-disturbing activities are proposed, they will be marked or fenced for avoidance with a 10-foot buffer. Ground-disturbing work near special-status plant species will proceed under supervision of a project biologist.	Biology and Construction	AMM	No	Construction
Biology	AMM-BIO-10	**Nesting Bird Protection.** • During the bird nesting season (typically February 1 through August 31; as early as January 1 for raptors), a project biologist will conduct pre-construction surveys for active bird nests no more than 7 days prior to the start of ground or vegetation disturbance events and every 14 days during project activities. • Tree and/or shrub removal or trimming will be conducted outside of bird nesting season. • Tree trimming and/or shrub trimming/removal will be performed with hand tools. • If an active nest is identified during construction that may be impacted by project activities, a no-disturbance buffer of 250 feet for raptors and 50 feet for non-raptors will be established immediately, and the project biologist will be notified. A reduced or enlarged buffer, and other protection measures, will be implemented in accordance with project permit requirements, defined during final design, or in consultation with the appropriate wildlife agency.	Biology	AMM	No	Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-11	**Pre-Construction Bat Surveys and Avoidance Measures.** The project biologist will conduct a visual inspection and habitat assessment for potentially suitable bat roosting habitat within 200 feet of areas where planned work on existing structures, tree trimming, or tree removal will occur. Assessments of bridges will include inspection of all open crevices and expansion joints. The pre-construction bat survey must be conducted during one of two time periods, either from March 1 through April 1, or from August 31 through October 15. The results of the survey will guide the following measures: • If the habitat assessment reveals suitable roosting habitat for bats, then the appropriate exclusionary measures will be implemented prior to construction during the period between March 1 and April 15 or August 31 and October 15. • If the habitat assessment reveals suitable bat habitat in trees, and tree removal is scheduled from April 16 through August 30 and/or October 16 through February 28, then presence/absence surveys will be conducted 2 to 3 days prior to any tree removal or trimming. • If presence/absence surveys are negative, then tree removal may be conducted by following a two-phased tree removal system. • If presence/absence surveys indicate bat occupancy, then the occupied trees will only be removed from March 1 through April 15 and/or August 31 through October 15. • Potential avoidance measures for roosting bats will be implemented as determined necessary by the project biologist in coordination with the Resident Engineer. Potential measures include visual monitoring, seasonal avoidance, enticements, and appropriate exclusion measures. • *Avoidance Measures*: Avoidance measures may include seasonal avoidance, phased construction, and enticements away from the work area (e.g., providing temporary and/or permanent bat housing nearby). • *Exclusion Measures*: Exclusion netting will not be used. Other measures to exclude bats from accessing potential roost sites may be implemented at the direction and with the oversight of the project biologist.	Biology	AMM	No	Pre-Construction
Biology	AMM-BIO-12	**Bat Monitoring Protocols.** Construction activities will stop within 150 feet of a roosting bat or bat colony that could be harmed until a qualified biologist develops a site-specific bat avoidance plan to implement at the roosting site. Once the plan is implemented, project activities may recommence with project biologist oversight at that location.	Biology and Construction	AMM	No	Construction
Biology	AMM-BIO-13	**Western Burrowing Owl Pre-Construction Surveys.** Pre-construction surveys will be conducted where Western Burrowing Owl nesting habitat has potential to occur within 500 feet of work. Survey protocol will include: • Conduct four survey visits. • An initial visit must occur between February 15 and April 15. • A minimum of three subsequent surveys will be conducted with at least 3 weeks between visits. with at least one visit to occur after June 15. • Conduct an additional take avoidance survey no less than 14 days prior to initiating ground-disturbing activities where work will occur.	Biology	AMM	No	Pre-Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-14	**Western Burrowing Owl Nest Avoidance.** If an active Western Burrowing Owl nest is discovered during pre-construction surveys or biological monitoring, the following initial buffers will be implemented: • From April 1 through October 15, establish a 660-foot (200-meter) no-work buffer from the active nest site. • From October 16 through March 31, establish a 164-foot (50-meter) no-work buffer from the active nest site. • Buffers and minimization measures (e.g. blinds and screens) may be adjusted or implemented after coordination with CDFW.	Biology	AMM	No	Construction
Biology	AMM-BIO-15	**Stop-Work Authority.** Through the Resident Engineer or their designee, the project biologist(s) shall have the authority to stop project activities to minimize take of listed species or if he/she determines that any permit requirements are not fully implemented. If the project biologist(s) exercises this authority, the appropriate resource regulatory agencies shall be notified by telephone and email within 48 hours.	Biology and Construction	AMM	No	Construction
Biology	AMM-BIO-16	**Worker Environmental Awareness Training.** Before the onset of construction and within 3 days of any new worker arrival, a project biologist will conduct this training for all construction personnel. At a minimum, the training will include a description of all special-status species and their habitats; the potential occurrence of these species in the project area; an explanation of the status of these species and protection under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and all other federal, state, and local regulatory requirements; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction crews and project personnel entering the project footprint. Upon completion of the program, personnel will sign a form stating that they attended the program and understand all AMMs and implications of FESA, CESA, and all other federal, state, and local regulatory requirements.	Biology and Construction	AMM	No	Construction
Biology	AMM-BIO-17	**Discovery of Injured or Dead Special-Status Species.** Immediately upon discovery of any dead, injured, or entrapped special-status species regulated by USFWS, NMFS, or CDFW, Caltrans will provide appropriate notifications to agency(s) with jurisdiction.	Biology and Construction	AMM	No	Construction
Biology	AMM-BIO-18	**Wildlife Species Relocation.** When listed wildlife species (that do not have state fully protected status) are present and it is determined that they could be injured or killed by construction activities, the project biologist in coordination with the appropriate state and federal wildlife agencies will identify appropriate methods for capture, handling, exclusion, and relocation of individuals that could be affected. Where listed species cannot be captured, handled, excluded, or relocated, actions that could injure or kill individuals will be avoided or delayed until the species leaves the affected area. Actions that could harm or kill individual state fully protected species that are in the project area will be avoided or delayed until the species leaves the affected area.	Biology	AMM	No	Construction
Biology	AMM-BIO-19	**Construction Noise.** Operation of pile drivers, dozers, large excavators, and other heavy equipment that generates vibration and noise impacts that could harm wildlife will be limited to daylight hours when a project biologist is present.	Biology and Construction	AMM	No	Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-20	**California Red-Legged Frog Habitat Work Window.** These work windows are applicable only to those portions of the project area where suitable California red-legged frog habitat occurs. Initial ground disturbance in California red-legged frog upland dispersal habitat, as identified by a USFWS-approved project biologist, will be timed to occur between April 15 and October 15. All work in suitable aquatic habitat for California red-legged frog, as identified by a USFWS-approved project biologist, will only occur once the aquatic feature no longer holds water, or between June 15 and October 15 after installation of WEF.	Biology and Construction	AMM	No	Construction
Biology	AMM-BIO-21	**California Red-Legged Frog Pre-Construction Surveys.** Pre-construction surveys for the California red-legged frog will be conducted by the project biologist within 14 calendar days of the initiation of project activities in suitable upland and aquatic habitat prior to ground-disturbing activities, vegetation removal, and WEF installation. Surveys will be conducted as outlined in the 2005 USFWS species survey guidelines for California red-legged frog. Pre-construction surveys will include: • Foot surveys will be conducted of potential frog habitat within the project limits and accessible adjacent areas (within at least 50 feet of project limits). • Potential cover sites (burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil for signs of California red-legged frog will be investigated. • Native vertebrates found in cover sites within the project limits will be documented and, if handling is allowed, relocated to an adequate cover site in the vicinity. Species that cannot be relocated due to special protection status will be addressed in coordination with the appropriate agency(s) with jurisdiction.	Biology	AMM	No	Pre-Construction
Biology	AMM-BIO-22	**California Red-Legged Frog Monitoring Protocols.** During construction in and near potential California red-legged frog habitat, the following protocols will be observed by the project biologist during construction monitoring: • WEF installed in California red-legged frog habitat will be checked regularly for potential frog presence, to ensure that it is functioning as intended, and is appropriately maintained. WEF issues will be reported to the Resident Engineer for immediate resolution. • Within 24 hours prior to initial ground-disturbing activities, portions of the project footprint where potential California red-legged frogs habitat has been identified will be surveyed by a project biologist(s) to clear the site of frogs moving above ground, or taking refuge in burrow openings or under materials that could provide cover. • A project biologist(s) will be present during all initial ground-disturbing activities and vegetation removal in suitable refugia habitats for the California red-legged frogs to monitor the removal of the top 12 inches of topsoil. • If potential aestivation burrows are discovered, the burrows will be flagged for avoidance. • After a rain event, and prior to construction activities resuming, a qualified biologist will inspect the work area and all equipment/materials for the presence of California red-legged frog. • Upon discovery of a California red-legged frog individual(s) in an active construction area, all work will cease within a 50-foot radius of the frog. The frog will be allowed to leave the site on its own; if the frog(s) does not leave on its own, it will be relocated within 0.25 mile of the construction site and placed in a natural burrow by a project biologist with the appropriate USFWS 10(a)1(A) handling permit. • The USFWS will be notified by phone and email within one working day of any California red-legged frog discovery in the project area.	Biology	AMM	No	Construction

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Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	MM-BIO-23	**Compensation for California Red-Legged Frog Habitat Effects.** **Conservation Bank Credits.** Impacts to California red-legged frog not covered by the Strip Marsh East will be offset through the purchase of credits from an approved conservation bank in the project's service area. Credits will be purchased as follows: • Loss of upland dispersal habitat area will be compensated through credit purchase at a 2:1 ratio, or at a ratio determined appropriate in coordination with USFWS • Loss of non-breeding aquatic dispersal/forage habitat will be compensated through credit purchase at a 3:1 ratio, or at a ratio determined appropriate in coordination with USFWS • Caltrans will offset temporary impacts during construction to California red-legged frog habitat by restoring disturbed areas to pre-project conditions at a 1:1 ratio.	Biology	Compensation	Yes	PS and E; Pre-Construction; and Post-Construction
Biology	AMM-BIO-24	**Ridgway's Rail and California Black Rail Pre-Construction Survey.** If Ridgway's rail or California black rail habitat are present within 700 feet of the immediate project area and work would occur during the rail nesting season (February 1 through August 31), a pre-construction survey by a USFWS 10(a)1(A) permit holder for Ridgway's rail will be conducted to determine whether the species are present. Survey requirements and timing would be determined in consultation with USFWS and CDFW. If Ridgway's rail and/or California black rail are detected during pre-construction surveys, then project activities will not occur within 700 feet of an identified detection (or smaller distance if approved by USFWS and CDFW) during the rail nesting season. If rail activity is detected within the 700-foot buffer, immediate consultation with USFWS and CDFW is required.	Biology	AMM	No	Pre-Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-25	**Ridgway's Rail and California Black Rail Protocol-Level Surveys and Avoidance and Minimization Measures.** The following monitoring protocols, and avoidance and minimization measures for Ridgway's rail and California black rail, will be implemented where appropriate: • Ridgway's Rail/California Black Rail Protocol-Level Surveys: Protocol-level surveys in and surrounding the project area shall be conducted beginning between January 15 and February 1. A minimum of four surveys is required: each survey shall be 2 to 3 weeks apart, and the final survey shall be completed by March or mid-April to ensure that no Ridgway's rail or California black rail are present during construction. Surveys shall be completed prior to the initiation of construction, with 3 weeks remaining after completion of surveys, and before project initiation, to submit results to CDFW for review. Protocol-level survey requirements shall be followed as recommended in the USFWS Clapper Rail Survey Protocol (USFWS 2015), Secretive Marsh Bird Survey Protocol Comparison in San Francisco Bay (Wood 2014), and USFWS Site-Specific Protocol for Monitoring Marsh Birds (Wood et al. 2017). • Avoidance and Minimization: If Ridgway's rail or California black rail is detected during protocol surveys, no work activity shall occur from February 1 to August 31 during the Ridgway's rail and California black rail nesting season in suitable habitat for those species. Suitable Ridgway's rail or California black rail habitat includes, but is not limited to, marshes, wetlands, streams and waterways, and associated upland habitat capable of providing upland refugia habitat as determined by a qualified biologist experienced with these species. • Avoidance Buffers: If breeding Ridgway's rail or California black rail are determined to be present, activities will not occur within 700 feet of an identified calling center. If the intervening distance across a major slough channel or across a substantial barrier between the Ridgway's rail or California black rail calling center and any activity area is greater than 200 feet, work may proceed at that location during the breeding season in consultation with CDFW. • High Tide Restrictions: To avoid the loss of any individual Ridgway's rail or California black rail, activities in or adjacent to suitable habitat for the species will not occur within 2 hours before or after extreme high tides (6.5 feet or above, as measured at the Golden Gate Bridge). This is when the marsh plain is inundated, and protective cover for Ridgway's rail and California black rail is limited. Project activities in or adjacent to suitable habitat during and within 2 hours before and after extreme high tide events could prevent Ridgway's rail or California black rail from reaching available cover.	Biology	AMM	No	Construction
Biology	AMM-BIO-26	**Minimization for Ridgway's Rail Habitat Effects**. **Restoration for Temporary Habitat Impacts**. Caltrans will offset temporary impacts during construction to Ridgway's rail habitat by restoring disturbed areas to pre-project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.	Biology	AMM	No	Construction
Biology	AMM-BIO-27	**Salt Marsh Harvest Mouse Pre-Construction Surveys.** A USFWS- and CDFW-approved project biologist(s) will conduct pre-construction surveys no less than 7 days prior where suitable or potentially suitable habitat for salt marsh harvest mouse occurs and could be disturbed by construction activities in the project area. If a salt marsh harvest mouse is observed during construction, immediate consultation with USFWS and CDFW is required before work near the discovery can proceed.	Biology	AMM	No	Pre-Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-28	**Salt Marsh Harvest Mouse Impact Avoidance and Minimization.** WEF will be implemented in areas of potential habitat prior to ground disturbance as follows: • All supports for the exclusion fencing shall be placed on the inside of the work area to prevent salt marsh harvest mouse from climbing the stakes into the work area. • The salt marsh harvest mouse-proof exclusion fencing shall be at least 2 feet high but no higher than 4 feet. • The fencing shall be made of a heavy plastic sheeting material that is too smooth for salt marsh harvest mouse to climb. • The toe of the fence shall be buried in the ground to prevent salt marsh harvest mouse from crawling or burrowing underneath it. • A 4-foot buffer shall be maintained free of vegetation around the exclusion fencing and work areas. • The final design and proposed location of the fencing shall be reviewed and approved by USFWS prior to placement. • WEF is not required where temporary construction mats are placed in marsh vegetation below Sonoma Creek Bridge. • Where temporary construction mats will be placed on marsh vegetation in potential salt marsh harvest mouse habitat below Sonoma Creek Bridge, the following measures will be implemented: • A project biologist will be on-site during all placement and removal of temporary construction mats, and during all work activites conducted on temporary construction mats. • The project biologist will work in front of mats to be placed in potential salt marsh harvest mouse habitat immediately before and during placement to determine presence of any salt marsh harvest mouse individuals. • During mat removal, the project biologist will inspect locations where mats are removed to confirm that no salt marsh harvest mice are present where mats are placed prior to, during, and immediately after mat removal. • If a salt marsh harvest mouse is discovered within 50 feet of the work area, work will stop immediately, and the individual(s) will be allowed to leave the work area on their own. Work may proceed only after the project biologist has confirmed that all salt marsh harvest mouse have left within the work area and a 50-foot perimeter.	Biology and Construction	AMM	No	Construction

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Biology	AMM-BIO-29	**Salt Marsh Harvest Mouse Monitoring Protocols.** The following protocols will be followed during biological monitoring at project locations where salt marsh harvest mouse identified in pre-construction surveys may occur: • A project biologist with previous salt marsh harvest mouse experience will be on site during all construction activities. • Salt marsh harvest mouse is a fully protected species under California Fish and Game Code and may not be handled or captured at any time. • If any small mouse is discovered during construction, work will cease in the immediate vicinity of the individual until CDFW and USFWS are contacted or the individual(s) leave the work area on their own. • The project biologist will oversee installation of WEF for salt marsh harvest mouse. • Salt marsh harvest mouse exclusion fencing will be checked daily to ensure it has no holes and its base remains buried; the fence will be inspected to ensure that no mice are trapped. If a mouse is trapped by the fence, work will stop within 50 feet of the discovery and the project biologist will monitor the individual(s) until they move away from the immediate work area. • During vegetation removal in wetlands covered with pickleweed and/or salt grass (or other potential mouse habitat, as determined by project permits or the project biologist), the project biologist will mark and inspect areas to be cleared immediately prior to vegetation removal, and will oversee removal work to ensure that salt marsh harvest mice and nests are clear of the work area. • All vegetation removal will proceed away from the work area and toward contiguous areas of suitable habitat to allow any salt marsh harvest mice in the exclusion area to passively relocate into adjacent habitat. • Initial removal of pickleweed, salt-grass, and other vegetation in the marked areas will be done using hand tools exclusively. Initial removal may commence until topsoil is visible. • After initial removal is complete and once topsoil is visible, mowing with a string trimmer or mower may proceed (if necessary), with the project biologist walking in front of the mower and stopping work as needed to allow mice to relocate.	Biology	AMM	No	Construction
Biology	AMM-BIO-30	**Minimization for Salt Marsh Harvest Mouse and California Black Rail Habitat Effects**. . Caltrans will offset temporary impacts during construction to salt marsh harvest mouse and California black rail habitat by restoring disturbed areas to pre-project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.	Biology	AMM	No	Construction
Biology	AMM-BIO-31	**Vibratory Pile Driving.** Whenever possible, piles will be installed and removed using a vibratory hammer or direct push methods. All sheet piles will be installed with a vibratory driver or direct-push methods. Where temporary piles cannot be extracted, they will be cut 3 feet below existing mudline. In upland areas out of waters and wetlands, an impact hammer may be used if the vibratory hammer cannot adequately install the pile.	Construction	AMM	No	Construction
Biology	AMM-BIO-32	**In-Water Sheet Pile Fish Entrapment Avoidance.** When sheet piles are installed below MHHW, they will be installed in a way that avoids fish entrapment (e.g., by closing off pile walls during low tide) The NMFS-approved project biologist will be present during any sheet pile installation below MHHW.	Construction	AMM	No	Construction

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Biology	AMM-BIO-33	**Fish Monitoring.** During dewatering where fish may be present and during impact pile-driving work, a NMFS-approved project biologist will be on site to observe work for conformance with permits and authorizations and monitor for any potential fish take.	Construction	AMM	No	Construction
Biology	AMM-BIO-34	**Fish Relocation.** At least 90 days prior to the start of in-water work with potential to strand or entrap fish, Caltrans will develop a fish relocation plan and submit it to NMFS for approval. If NMFS provides no comments on the proposed plan within 60 days, it will be considered approved and implemented as submitted. All biologists monitoring dewatering actions will be qualified and approved by NMFS to conduct fish collections in a manner that minimizes all potential risks to listed fish. The NMFS-approved project biologist(s) will be on-site to observe dewatering activities and to capture/rescue any fish that are observed in isolated areas during dewatering activities.	Biology	AMM	No	Construction
Biology	AMM-BIO-35	**Minimization for Chinook Salmon, Steelhead, Green Sturgeon, Longfin Smelt and Delta Smelt Habitat.** Caltrans will offset temporary impacts during construction to anadromous fish habitat by restoring disturbed areas to pre-project conditions through in-kind, on-site habitat restoration at a 1:1 ratio.	Biology	AMM	No	Construction
Biology	AMM-BIO-36	**In-Water Impact Pile Driving Work Window.** Impact pile driving (except pile proofing) in wetlands and waters will be limited to June 1 through November 30 during daylight hours; vibratory pile driving will not be limited to a work window.	Construction	AMM	No	Construction
Biology	AMM-BIO-37	**In-Water Impact Pile Driving Attenuation.** All in-water impact pile driving in water depths greater than 2 feet at any time during work will use an underwater sound pressure attenuation system (e.g., a dewatered cofferdam or a bubble curtain system).	Construction	AMM	No	Construction
Biology	AMM-BIO-38	**Hydroacoustic Monitoring.** During all impact pile driving events, Caltrans will monitor in-water sound pressure levels relative to the 187-decibel (dB) cumulative sound exposure level and 206 dB peak pressure (Peak) level. A hydroacoustic monitoring plan for impact pile driving will be developed and provided at least 90 days prior to impact pile driving for review and approval by NMFS. If NMFS provides no comments on the proposed plan within 60 days, it will be considered approved and implemented as submitted. Vibratory pile driving will not be monitored.	Construction and Biology	AMM	No	Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-39	**Pile Proofing.** Caltrans may propose a minimal amount of attenuated in-water pile proofing to construct temporary structures during fish migration periods (e.g., outside of the proposed impact pile driving work window). Pile proofing outside of the impact pile-driving work window would be consistent with accepted guidance from USACE and NMFS (*U.S. Army Corps of Engineers Proposed Additional Procedures and Criteria for Permitting Projects under a Programmatic Determination of Not Likely to Adversely Affect Select Listed Species in California [the 2018 NLAA Program]*) (USACE 2018). Pile proofing, if necessary, will be limited to the following. • All temporary in-water piles must be driven using vibratory methods to the greatest extent possible. • Steel pipe piles (or H-piles) of 12-inch diameter or less will be used. • No more than 20 piles per day will be driven. • A marine attenuation system (e.g., bubble curtain or similarly effective methods) will be used in water depths greater than 2 feet. • Piles driven in intertidal areas where water is less than 2 feet will only be proofed during low-tide or low-low tide events. • A hammer that is 3,000 pounds or smaller will be used. • A plastic or wood cushion block will be used between the hammer and the pile. • Only a single hammer will be used per day. Impacts to fish are anticipated to be less than adverse with implementation. If Caltrans elects to implement this measure, it will provide a complete analysis and impact assessment for state and federally listed fish species impacts during its final design phase and obtain all necessary permits and authorizations prior to construction.	Biology	AMM	No	Construction
Biology	AMM-BIO-40	**Swainson's Hawk Pre-Construction Surveys.** Pre-construction surveys will be conducted within a 0.25-mile radius of Swainson's hawk nesting or forage habitat during the nesting season of February 1 through August 31. Surveys will be conducted in the following manner: • Surveys will be conducted in accordance with the Swainson's Hawk Technical Advisory Committee's May 31, 2000, *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley.* • Caltrans will conduct surveys during two survey periods immediately prior to initiating any project-related construction activity. If an active Swainson's hawk nest is discovered during surveys or monitoring, Caltrans will immediately contact CDFW to determine requirements on nest impact avoidance measures and work buffer distances.	Biology	AMM	No	Pre-Construction
Biology	AMM-BIO-41a	**Tolay Creek Bridge Replacement.** Caltrans will replace the existing Tolay Creek Bridge with a 365 foot-long, pile-supported bridge and remove existing fill in the historic Tolay Creek channel to improve hydrology, increase tidal prism, and create new habitat for special-status species. Tolay Creek Bridge replacement is anticipated to create approximately 1 acre of new waters from existing uplands. Caltrans proposes Tolay Creek Bridge replacement, along with Strip Marsh East Enhancement, as a project minimization measure to fully address permanent impacts on special-status species, special-status species habitat, and jurisdictional waters. Any other or additional minimization or mitigation required will be determined during final design of the Project in consultation with regulatory agencies with jurisdiction.	Biology	AMM	No	Construction

Appendix C: Environmental Commitments Record (ECR)

Resource Category	Avoidance and Minimization Measure (AMM) / Mitigation Measure (MM)	Task Description Applicable to Alternative 3B (Identified Preferred Alternative) (The measures in this ECR supersede the previous measures presented in the 2023 FEIR/EA for this project)	Responsible Branch	Measure Type (avoidance and minimization measure [AMM]; or compensation)	Mitigation for significant impacts under CEQA?	Project Phase
Biology	AMM-BIO-41b	**Strip Marsh East Enhancement.** Caltrans, in coordination with landowners, land managers, and environmental agencies with jurisdiction, will enhance approximately 600 acres of degraded salt marsh habitat in an approximately 1,400 acre area of the Refuge's Strip Marsh East Unit. Marsh enhancement is anticipated to benefit salt marsh harvest mouse, anadromous fish species (including steelhead, Chinook, Delta Smelt, Longfin Smelt, and Green Sturgeon), Ridgway's rail, California black rail, shorebirds, and other special-status species that require channelized marsh habitat. Strip Marsh East enhancement through creation of a new channelized network is anticipated to create up to approximately 11 acres of new wetlands and other waters from existing uplands at the Pond 1/1A intake channel berms, 230 acres new emergent salt marsh habitat, and 50 acres of channelized tidal waters; and restore tidal function to the Strip Marsh East interior. Caltrans proposes Strip Marsh East enhancement, along with Tolay Creek Bridge replacement, as a project minimization measure to fully address permanent impacts on special-status species, special-status species habitat, and jurisdictional waters. Any other or additional minimization or mitigation required will be determined during final design of the Project in consultation with regulatory agencies with jurisdiction.	Biology	AMM	No	Construction
Biology	AMM-BIO-42	**Strip Marsh East Pond 1/1A Intake Channel Dredging Work Windows.** To minimize potential impacts on special-status species during work to excavate material from the Pond 1/1A intake channel and the north San Pablo Bay, activities will be conducted consistent with applicable species work windows accepted in the Dredged Material Management Office's Long-Term Management Strategy for the for the Placement of Dredged Materials in the San Francisco Bay. Specific work windows may be adjusted during Project consultation with state and federal regulators during Project permitting.	Biology	AMM	No	Construction
Biology	AMM-BIO-43	**Post Construction Monitoring at Strip Marsh East.** Prior to commencing Project impacts, a monitoring and adaptive management plan will be developed in coordination with USFWS San Pablo Bay National Wildlife Refuge managers and environmental regulatory agencies with jurisdiction. After completion of Strip Marsh East construction activities, Caltrans will implement the approved 10-year monitoring and adaptive management plan. Monitoring and adaptive management would assess post restoration conditions at Strip Marsh East and implement measures as appropriate, and if resources allow, to address potential site changes to better meet targeted restoration conditions.	Biology	AMM	No	Post Construction
Biology	AMM-BIO-44	**Visual Encounter Surveys (VESs).** This measure only applies to suitable aquatic habitat found along Tolay Creek and at freshwater drainages at Tubbs Island. Preconstruction surveys to detect western pond turtles in aquatic habitats shall consist of VESs performed either between April and September (optimally) in the northern range of the species (northwestern pond turtle), on sunny days between 8:00 AM until 12:00 PM to 17:00 PM (adjusted to the local weather). VESs should focus on suitable aerial and aquatic basking habitat such as logs, branches, rootwads, and rip-rap, as well as the shoreline, adjacent warm, shallow waters, and open waters where pond turtles may be present below the water surface beneath algal mats or other surface vegetation. VESs should be performed with binoculars or spotting scopes before directly approaching suitable habitat to prevent disrupting and flushing basking turtles.	Biology	AMM	No	Pre-construction

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Biology	AMM-BIO-45	**Northwestern Pond Turtle Nest Surveys.** This measure only applies to suitable upland habitat found along Tolay Creek and at Tubbs Island. During the nesting season (roughly May through July), a qualified biologist shall survey the work site no more than 48 hours before the onset of activities for signs of western pond turtles and/or western pond turtle nesting activity (i.e., recently excavated nests, nest plugs) or nest depredation (partially to fully excavated nest chambers, nest plugs, scattered egg shell remains, and egg shell fragments). Preconstruction surveys to detect western pond turtle nesting activity should be limited to portions of the Caltrans right of way within 402 meters (1,319 feet) of suitable aquatic habitat and should focus on areas along south- or west-facing slopes with bare hard-packed clay, or silt soils, or a sparse vegetation of short grasses or forbs, including levee embankments and unpaved roads. If western pond turtles or their nest sites are found, the biologist shall contact USFWS to determine whether relocation and/or exclusion buffers and nest exclosures are appropriate. If the Department approves of moving the animal, the biologist shall be allowed sufficient time to move the western pond turtle(s) from the work site before work activities begin; if the Department approves of establishing exclusion buffers and nest exclosures, the biologist shall be allowed sufficient time to install exclosure materials, establish a protective buffer, and monitor the nest(s) until the young successfully hatch and emerge from the nest in the fall (roughly 90 to 120 days; north/southwestern pond turtle) or overwinter and emerge the following spring (northwestern pond turtle).	Biology	AMM	No	Pre-construction
Biology	AMM-BIO-46	**Minimize Light Effects on Wildlife**. Permanent lighting fixtures will be designed to minimize indirect effects on wildlife where feasible. Methods to minimize light effects are suggested in Effects of LED Lighting on Terrestrial Wildlife (Longcore 2023) and include the following recommendations: • Avoid installing lighting unless absolutely necessary, and only install lighting when/where there is a proven benefit. • Direct lighting only where needed and utilize shielding to minimize light spillage into natural environments. • Minimize illumination and select lighting that is no brighter than necessary. • Dim, extinguish, or limit lighting when not needed. • Use warmer colored light (yellow, orange, and red) where possible.	Biology	AMM	No	Construction

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Tribal Cultural Resources	AMM-TCR-1	**Post-Review Discovery and Tribal Monitoring Plan.** Prior to the Project advertisement, Caltrans will consult with the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation to develop and implement a Post-Review Discovery and Tribal Monitoring Plan (Plan) which outlines the procedures and identifies the chain of command to follow in the event of encountering cultural resources and Tribal Cultural Resources within each of the Tribes' respective ancestral territories. The Plan may include, but is not limited to, the following: 1. A communication plan that outlines established communication protocols for construction schedules, changes in construction design or methods, and a clear chain of command in the event of archaeological or tribal cultural finds. 2. Archaeological awareness and Tribal Cultural Resources (TCRs) sensitivity training of construction staff, with information about the possibility of encountering cultural resources (including TCRs) and the appearance and types of resources that could be encountered during Project construction. 3. A Native American and archaeological monitoring plan as determined through consultation among Caltrans, FIGR, and Yocha Dehe. 4. Temporary work stoppage and tribal consultation protocols if previously unidentified tribal or archaeological resources are discovered, in addition to those specified in PF-CULT-01. Recommendations for treatment and disposition of cultural finds in consultation with FIGR and Yocha Dehe. 5. Recommendations for treatment and disposition of cultural finds in consultation with FIGR and Yocha Dehe.	Cultural	AMM	No	Pre-Construction
Tribal Cultural Resources	AMM-TCR-2	**Cultural Sensitivity/Awareness Training:** Prior to the initiation of construction for the Project and when new construction personnel enter the project site, an agency-approved archaeologist and tribal representatives from the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation, within each tribes' respective ancestral territories, will conduct an education program for all construction personnel, focusing on cultural, tribal, and archaeological resources. At minimum, the training will include a discussion of archaeological and tribal resources that may be encountered (including the traditional importance of resources such as cultural landscapes, significant waterways, and ethnobotanical plants); the procedures when working in Tribal Monitoring Areas; a summary of state and federal regulations pertaining to cultural resources; and the importance of compliance with Caltrans' conditions.	Cultural	AMM	No	Pre-Construction
Tribal Cultural Resources	AMM-TCR-3	**Tribal Monitoring Area**: Caltrans will consult with the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation to establish and implement Tribal Monitoring Areas (TMAs) within each tribes' respective ancestral territories. TMAs will be depicted in the Plans Specifications, and Estimates (PS&E) and within the Environmental Commitments Record (ECR). No work would be conducted in the TMAs unless the appropriate tribal monitor is present or explicit authorization is received from Caltrans' Office of Cultural Resource Studies.	Cultural	AMM	No	Construction

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Tribal Cultural Resources	AMM-TCR-4	**Cultural Landscape Study.** Prior to the start of construction, Caltrans will prepare, in consultation with the Federated Indians of Graton Rancheria (FIGR) and Yocha Dehe Wintun Nation (Yocha Dehe), a comprehensive Cultural Landscape/Ethnographic Studies (Studies) for each tribe within the State Route 37 corridor. Topics included in the Studies may include, but are not limited to: 1. Purpose and use of the Studies. 2. Changes to the landscape, faunal, and flora from the precontact period to present. 3. Traditional uses and meanings in habitat, faunal and flora. 4. Relative traditional importance and traditional meanings in the landscape for FIGR and Yocha Dehe. 5. Maps of traditional land use areas of FIGR and Yocha Dehe and landscape uses over time. 6. Ethnographic studies of FIGR and Yocha Dehe and landscape use over time. 7. Evaluation to the National Register of Historic Places of identified cultural landscapes.	Cultural	AMM	No	Pre-Construction
Tribal Cultural Resources	AMM-TCR-5	**Plant Palette and Landscaping.** Caltrans will consult with the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation on preferred planting palettes for landscaping and revegetation efforts. Where feasible and necessary habitat types exist, Caltrans will prioritize revegetation efforts using the preferred plants identified by FIGR and/or Yocha Dehe.	Cultural	AMM	No	Construction
Tribal Cultural Resources	AMM-TCR-6	**Tribal Review of Project Changes.** Caltrans PQS will review project changes within the PS&E phase and during construction that have the potential to change the scope of ground disturbance or impact potential Tribal Cultural Resources (TCRs). Caltrans PQS will notify the Federated Indians of Graton Rancheria and Yocha Dehe Wintun Nation of the proposed change and provide both tribes an opportunity to review and comment. Communication protocols regarding project changes will be documented in the Post Review Discovery and Tribal Monitoring Plan as described in *AMM-TCR-01*.	Cultural	AMM	No	Construction
Traffic/VMT	AMM-VMT-1	**Ride Sharing and Possible Bus Service.** This AMM would be implemented beyond tolling, if necessary, to further reduce potential increases in VMT. The metric used for VMT would be excedance of VMT under the No Build Alternate. Funding commitments to carpooling could include micro-transit options such as ridesharing, vanpooling and shuttle-pooling. Bus services may also be considered in the SR 37 corridor.	Planning, Traffic	AMM and Compensation	Yes	Post Construction
Visual/ Aesthetics	AMM-VIS-01	**Limit Light Pollution.** For permanent impacts, lighting on new ramps, at intersections, in advance of tolling gantries, and at CHP enforcement areas will be designed to limit light pollution and have minimum impact on the surrounding environment. All light fixtures will have light-emitting diodes configured at the minimum necessary number of bulbs, optimal mounting height, mast-arm length, and angle to restrict light to the roadways. Where applicable, shields on the fixtures to prevent light trespass to adjacent properties will be considered during the detailed design phase.	Design	AMM	No	PS and E
Water Quality	AMM-WQ-01	**Offsite Stormwater Treatment.** Offsite treatment to address the site's limited onsite stormwater treatment capacity will be coordinated with appropriate mitigation project proponents and the RWQCB during the project's final design phase. The project will be programmed to meet the requirements of Caltrans' current municipal separate storm sewer system and National Pollutant Discharge Elimination System (NPDES) permits, (SWRCB 2013) following the guidelines and procedures outlined in Caltrans' latest Statewide Storm Water Management Plan to address stormwater runoff; and in accordance with Memorandum of Caltrans Post-Construction Stormwater and Hydromodification Standards (SFRWQCB 2008).	Construction	AMM	No	Construction

Appendix D USFWS and NMFS Species Lists

This appendix contains the updated United States Fish and Wildlife Service and National Marine Fisheries Service species lists.

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: 06/05/2025 14:15:55 UTC
Project Code: 2024-0105910
Project Name: SR 37 Interim Project

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.

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

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

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2024-0105910
Project Name: SR 37 Interim Project
Project Type: Road/Hwy - Maintenance/Modification
Project Description: Roadway improvements to alleviate traffic congestion on SR 37 between SR 121 and the Mare Island Interchange (Former Project Code 2022-0074924)
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.154572349999995,-122.42410165567549,14z

Counties: Napa , Solano , and Sonoma counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 22 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
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

BIRDS

NAME	STATUS
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway's Rail *Rallus obsoletus obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Alameda Whipsnake (=striped Racer) *Masticophis lateralis euryxanthus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5524	Threatened
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

NAME	STATUS
Western Spadefoot *Spea hammondii* Population: Northern DPS 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 does not overlap 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. Your location overlaps the critical habitat. 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
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Callippe Silverspot Butterfly *Speyeria callippe callippe* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/3779	Endangered
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
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

FLOWERING PLANTS

NAME	STATUS
Contra Costa Goldfields *Lasthenia conjugens* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Sebastopol Meadowfoam *Limnanthes vinculans* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/404	Endangered
Soft Bird's-beak *Cordylanthus mollis ssp. mollis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered
Sonoma Sunshine *Blennosperma bakeri* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1260	Endangered

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Longfin Smelt *Spirinchus thaleichthys* https://ecos.fws.gov/ecp/species/9011#crithab	Proposed

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
SAN PABLO BAY NATIONAL WILDLIFE REFUGE https://www.fws.gov/our-facilities?$keywords="%5C%22SAN+PABLO+BAY+NATIONAL+WILDLIFE+REFUGE%5C%22"	11,257.84

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts

activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

NAME	BREEDING SEASON
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

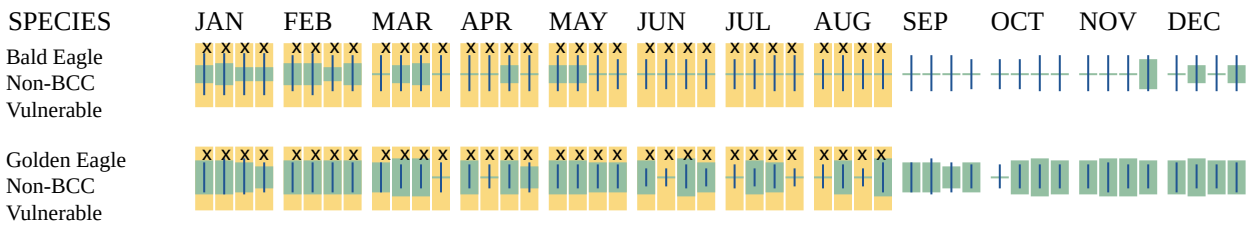
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (x)
Yellow bars with "x"; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15

NAME	BREEDING SEASON
Black Oystercatcher *Haematopus bachmani* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Scoter *Melanitta nigra* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10413	Breeds elsewhere
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Tern *Chlidonias niger surinamenisis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10557	Breeds elsewhere
Brandt's Cormorant *Urile penicillatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11903	Breeds Apr 15 to Sep 15
Brown Pelican *Pelecanus occidentalis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/6034	Breeds Jan 15 to Sep 30
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9458	Breeds Mar 21 to Jul 25
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31

NAME	BREEDING SEASON
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9436	Breeds Jan 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Common Loon *gavia immer* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/4464	Breeds Apr 15 to Oct 31
Common Murre *Uria aalge* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10453	Breeds Apr 15 to Aug 15
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Double-crested Cormorant *phalacrocorax auritus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/3478	Breeds Apr 20 to Aug 31
Elegant Tern *Thalasseus elegans* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8561	Breeds Apr 5 to Aug 5
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Heermann's Gull *Larus heermanni* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11955	Breeds Mar 15 to Aug 31

NAME	BREEDING SEASON
Lawrence's Goldfinch *Spinus lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Long-tailed Duck *Clangula hyemalis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/7238	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Nuttall's Woodpecker *Dryobates nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Red Knot *Calidris canutus roselaari* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8880	Breeds elsewhere
Red Phalarope *Phalaropus fulicarius* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10469	Breeds elsewhere

NAME	BREEDING SEASON
Red-breasted Merganser *Mergus serrator* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10693	Breeds elsewhere
Red-necked Phalarope *Phalaropus lobatus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10467	Breeds elsewhere
Red-throated Loon *Gavia stellata* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/9589	Breeds elsewhere
Ring-billed Gull *Larus delawarensis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10468	Breeds elsewhere
Santa Barbara Song Sparrow *Melospiza melodia graminea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Surf Scoter *Melanitta perspicillata* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10463	Breeds elsewhere
Tricolored Blackbird *Agelaius tricolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

NAME	BREEDING SEASON
Western Gull *Larus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11969	Breeds Apr 21 to Aug 25
Western Screech-owl *Megascops kennicottii cardonensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11923	Breeds Mar 1 to Jun 30
White-winged Scoter *Melanitta fusca* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10462	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds elsewhere
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10668	Breeds Mar 15 to Aug 10
Yellow-billed Magpie *Pica nuttalli* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

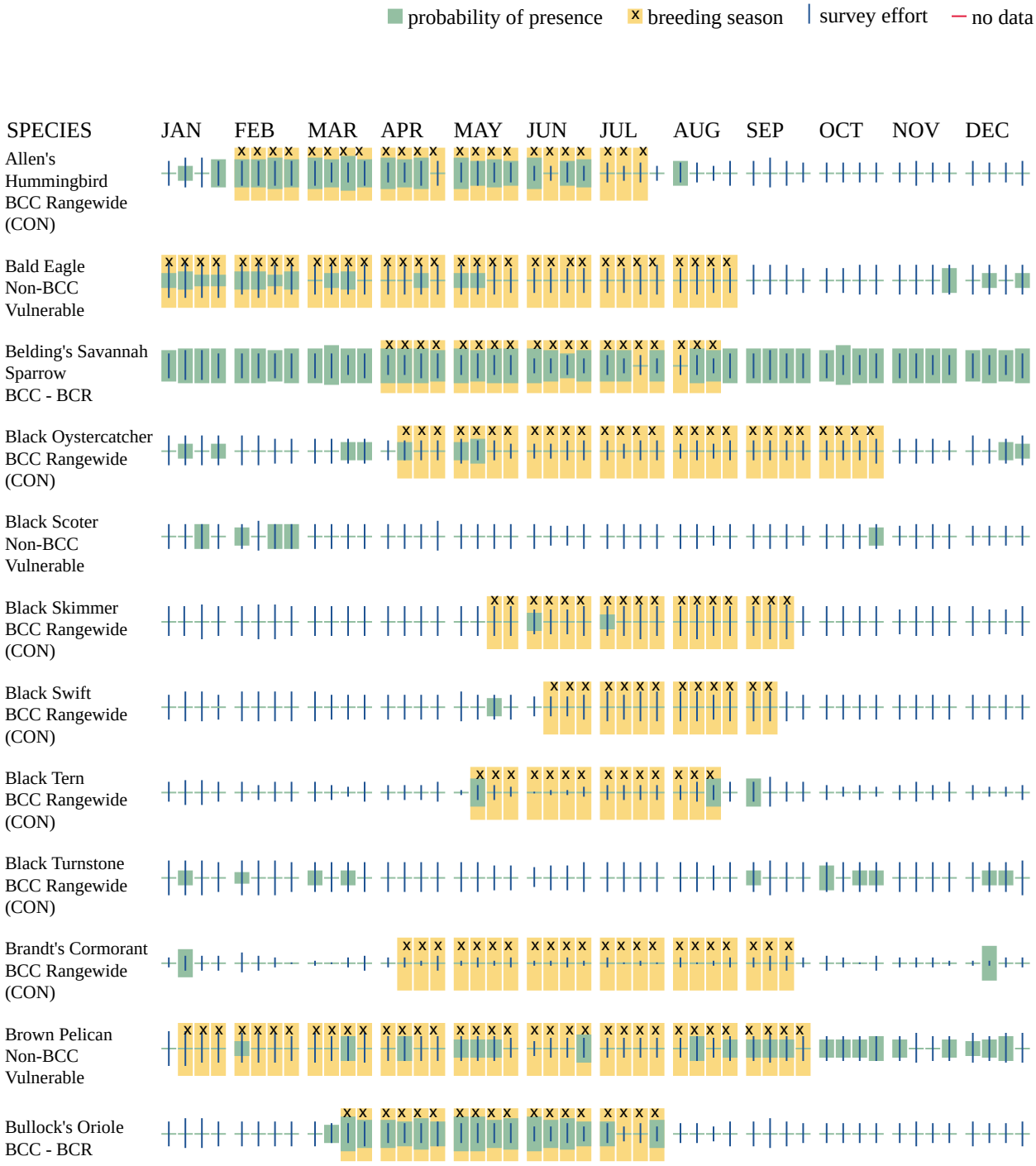
Probability of Presence (■)

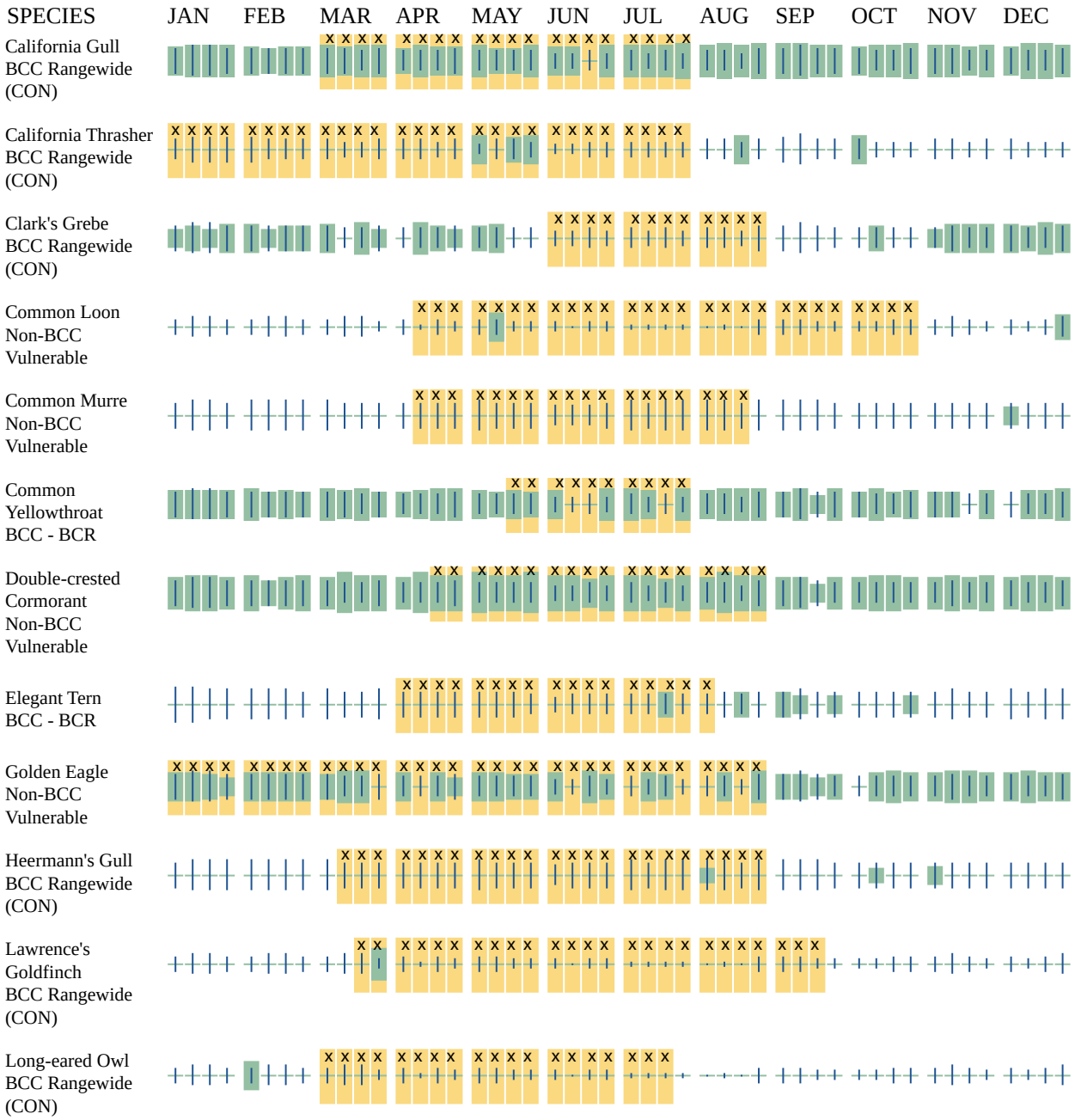
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (x)
Yellow bars with "x"; liberal estimate of the timeframe inside which the bird breeds across its entire range.
Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.




SPECIES
JAN
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MAR
APR
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AUG
SEP
OCT
NOV
DEC
California Gull BCC Rangewide (CON)
California Thrasher BCC Rangewide (CON)
Clark's Grebe BCC Rangewide (CON)
Common Loon Non-BCC Vulnerable
Common Murre Non-BCC Vulnerable
Common Yellowthroat BCC - BCR
Double-crested Cormorant Non-BCC Vulnerable
Elegant Tern BCC - BCR
Golden Eagle Non-BCC Vulnerable
Heermann's Gull BCC Rangewide (CON)
Lawrence's Goldfinch BCC Rangewide (CON)
Long-eared Owl BCC Rangewide (CON)
SPECIES
JAN
FEB
MAR
APR
MAY
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AUG
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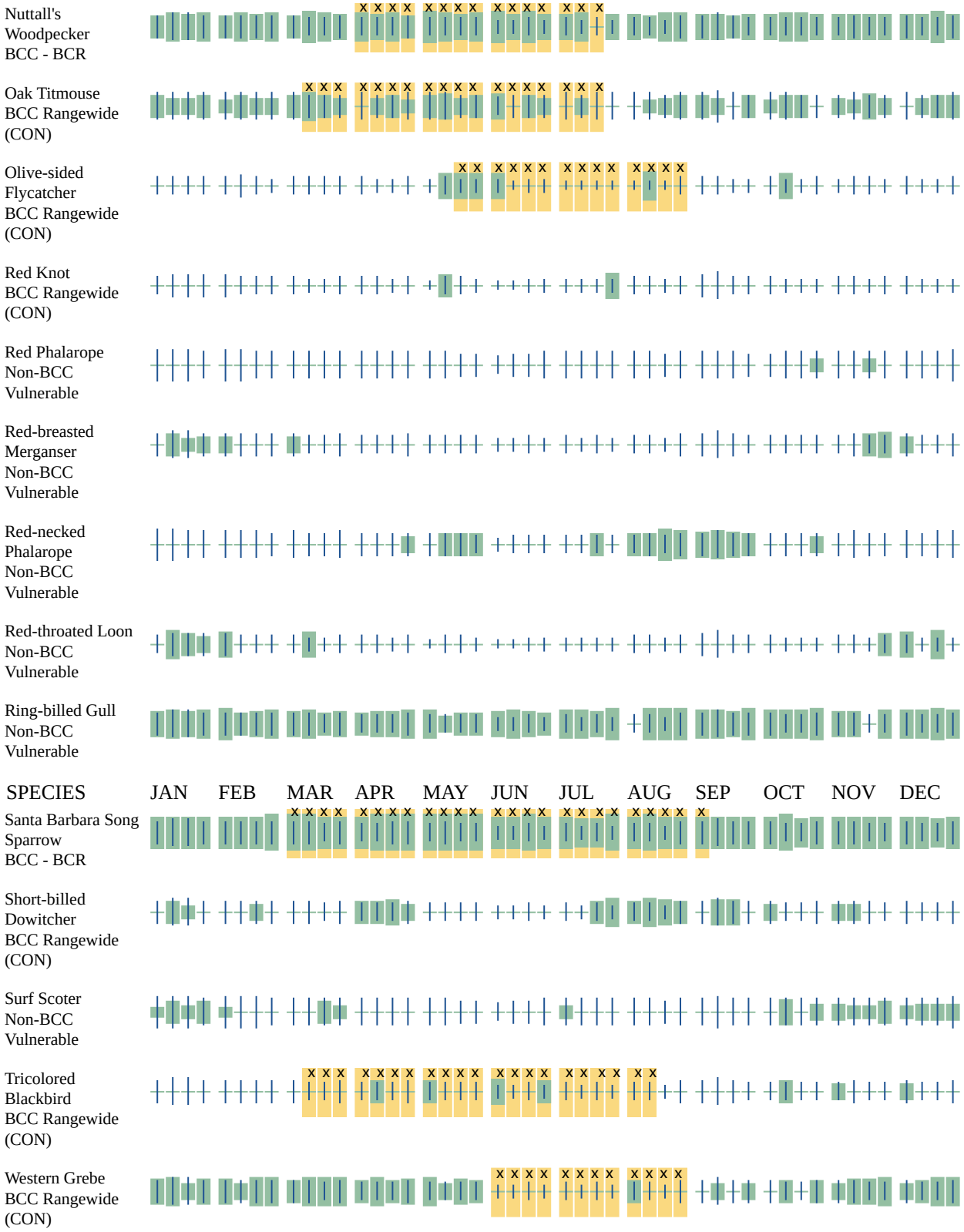
DEC
Long-tailed Duck Non-BCC Vulnerable
Marbled Godwit BCC Rangewide (CON)
Northern Harrier BCC - BCR


Nuttall's Woodpecker BCC - BCR
Oak Titmouse BCC Rangewide (CON)
Olive-sided Flycatcher BCC Rangewide (CON)
Red Knot BCC Rangewide (CON)
Red Phalarope Non-BCC Vulnerable
Red-breasted Merganser Non-BCC Vulnerable
Red-necked Phalarope Non-BCC Vulnerable
Red-throated Loon Non-BCC Vulnerable
Ring-billed Gull Non-BCC Vulnerable
SPECIES
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MAY
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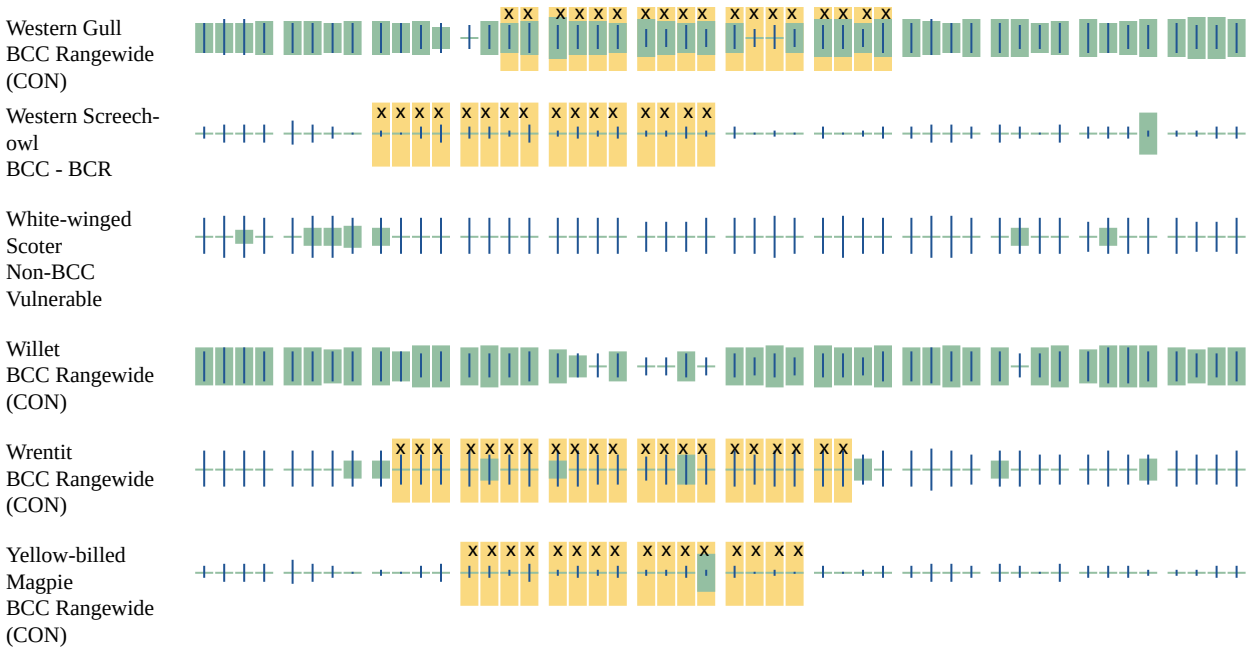
Santa Barbara Song Sparrow BCC - BCR
Short-billed Dowitcher BCC Rangewide (CON)
Surf Scoter Non-BCC Vulnerable
Tricolored Blackbird BCC Rangewide (CON)
Western Grebe BCC Rangewide (CON)



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBC
- R4SBAx
- R3UBHx

- R4SBCx

FRESHWATER EMERGENT WETLAND

- PEM1Ah
- PEM1Ch
- PEM1K

ESTUARINE AND MARINE WETLAND

- E2EM1Nh
- E2USM
- E2EM1N
- E2USN
- E2SBNh
- E2SBNx

FRESHWATER POND

- PUBK
- PUBHh

LAKE

- L2UBHh
- L2UBK1

ESTUARINE AND MARINE DEEPWATER

- E1UBL

IPAC USER CONTACT INFORMATION

Agency:	California Department of Transportation District 4
Name:	David Pecora
Address:	300 Lakeside Drive, Suite 400
Address Line 2:	Suite 400
City:	Oakland
State:	CA
Zip:	94612
Email	mkpdppecora@gmail.com
Phone:	9735259976

Pecora, David

From: Pecora, David
Sent: Thursday, June 5, 2025 7:17 AM
To: NMFS SpeciesList - NOAA Service Account
Subject: State Route 37 Sears Point to Mare Island Improvement Project

Federal Agency: Federal Highway Administration – California Division
Federal Agency Address: 650 Capitol Mall, Suite 4-100, Sacramento, CA 95814-4708
Non-Federal Agency Representative: California Department of Transportation
Non-Federal Agency Address: Caltrans District 04, 111 Grand Ave, Oakland, CA 94612
Non-federal agency conducting biological studies: AECOM, 300 Lakeside Drive, Suite 400, Oakland, CA 94612, USA
Point of contact: David Pecora, Senior Biologist at AECOM, 415-342-1337, David.pecora@aecom.com

Project Name: State Route 37 Sears Point to Mare Island Improvement Project

The project falls within the Sears Point, Cuttings Wharf, and Mare Island 7.5-minute quadrangles.
Quad Name **Sears Point**
Quad Number **38122-B4**

ESA Anadromous Fish

SONCC Coho ESU (T) -CCC
Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat - X
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - X
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds - **X**

Quad Name **Cuttings Wharf**
Quad Number **38122-B3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat - X
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - X
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds - **X**

Quad Name **Mare Island**
Quad Number **38122-A3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat - **X**

NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - X
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X

Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH - **X**
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds - **X**

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Appendix E Title VI Policy Statement

The following page is the Caltrans Title VI of the Civil Rights Act of 1964 non-discrimination policy statement.

California Department of Transportation

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September 2024

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Related non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at title.vi@dot.ca.gov or at (916) 639-6392, or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

TONY TAVARES
Director

Appendix F Responses to Comments on the Draft Supplemental Environmental Impact Report

The comments received during the public review period, and the responses to those comments, are provided in a separate volume.