Staff Summary for October 8-9, 2025

## 4. Morro Manzanita Take Provision (Consent)

**Today's Item** **Information ☐** **Action ☒**

Consider adopting the proposed regulation regarding take of Morro manzanita while a candidate species under the California Endangered Species Act (CESA), pursuant to Section 2084 of the California Fish and Game Code, and consider taking final action under the California Environmental Quality Act.

### Summary of Previous/Future Actions

- Morro manzanita officially became a candidate species under CESA — May 16, 2025
- Notice hearing — June 11-12, 2025
- Discussion hearing — August 13-14, 2025
- **Today's adoption hearing** — **October 8-9, 2025**

### Background

On May 16, 2025, the Commission published a notice in the California Regulatory Notice Register notifying the public that Morro manzanita is a candidate species under CESA. Candidate species are granted the same protections as a species listed under CESA, pursuant to Fish and Game Code Section 2085. CESA protections could, with no further action, potentially delay a critical bridge replacement project in San Luis Obispo County. To avoid such a delay, the Department recommended draft regulations that would allow the county to proceed with the bridge replacement project.

On August 1, 2025, the Commission published a notice of proposed regulations in the California Regulatory Notice Register consistent with the Department's recommended regulation. The proposed regulations authorize the county to take Morro manzanita while it is a candidate species through the bridge replacement project, provided the county adheres to a habitat mitigation plan and conditions set by federal and state agencies, which could ultimately benefit the species by creating a new mitigation site. For additional background, see Exhibit 1.

At its August 2025 meeting, the Commission provided an opportunity for the public to comment on the proposed regulations. No comments were received. Further details on the proposed regulations are available in the initial statement of reasons and proposed regulatory language (exhibits 2 and 3).

The San Luis Obispo County Department of Public Works, as the lead agency responsible for the project, adopted a mitigated negative declaration in compliance with the California Environmental Quality Act for the project (SCH no. 2021070094).

At today's meeting, the Commission is scheduled to determine whether to adopt the noticed addition of Section 749.14.

### Significant Public Comments (N/A)

Staff Summary for October 8-9, 2025

## Recommendation

***Commission staff:*** The Commission, in its independent judgment, reviewed and considered the lead agency's initial study and mitigated negative declaration; finds, as to those potential impacts within the Commission's powers and authorities as a responsible agency, that the mitigated negative declaration contains a complete, objective, and accurate reporting of the project's potential impacts and that mitigation measures have been incorporated into the project that avoid and/or substantially lessen any of the potentially significant effects of the project; further finds that no additional feasible mitigation measures within the Commission's authority are necessary to reduce the environmental impacts of the project to less than significant levels; and adopts the project for purposes of CEQA, and adopts the proposed regulation as recommended by the Department.

***Department:*** Adopt the proposed addition of Section 749.14 as described in the initial statement of reasons and identified in the proposed regulatory language.

## Exhibits

1. Staff summary for Agenda Item 24, June 11-12, 2025 Commission meeting, *for background purposes only*
2. Initial statement of reasons
3. Proposed regulatory language
4. Email in lieu of pre-adoption statement of reasons, received September 23, 2025
5. Economic and fiscal impact statement (STD 399) and addendum
6. South Bay Boulevard Bridge replacement biological opinion
7. South Bay Boulevard Bridge replacement coastal development permit
8. South Bay Boulevard Bridge replacement habitat mitigation and monitoring plan

## Motion

Moved by _____ and seconded by _____, that the Commission adopts the staff recommendations for items 3 through 9 on the consent calendar.

Staff Summary for June 11-12, 2025
(*For background purposes only*)

## 24. Morro Manzanita Take Provision

**Today's Item** **Information ☐** **Action ☒**

Receive a recommendation from the Department and consider authorizing publication of notice of intent to authorize take of Morro manzanita while a candidate species under the California Endangered Species Act, pursuant to Section 2084 of the California Fish and Game Code.

**Summary of Previous/Future Actions**

| | |
|---|---|
| • Morro manzanita officially became a candidate species under the California Endangered Species Act (CESA) | May 16, 2025 |
| • **Today's notice hearing** | **June 11-12, 2025** |
| • Discussion hearing | August 13-14, 2025 |
| • Adoption hearing | October 8-9, 2025 |

**Background**

On July 20, 2024, the Commission received a petition to list Morro manzanita (*Arctostaphylos morroensis)* as endangered under CESA. At its April 2025 meeting, after review of the Department's petition evaluation report, comments received and discussion, the Commission determined that listing Morro manzanita may be warranted and instructed staff to issue a notice indicating that Morro manzanita is a candidate under CESA. On May 16, 2025, a notice was published in the California Regulatory Notice Register notifying the public that Morro manzanita is a candidate species and temporarily afforded the same protections as a fully listed species, pursuant to Fish and Game Code Section 2085.

During the evaluation phase of the petition, it was brought to the Commission's attention that a project that has completed environmental review in San Luis Obispo County is susceptible to an extensive delay if Morro manzanita were to become a candidate species. The county is undertaking a project to replace the South Bay Boulevard Bridge (No. 49C-0351) (project) so that the bridge meets current seismic design standards and maintains safe, reliable service of a critical access corridor for the Los Osos and Morro Bay communities.

The Department has worked with county public works to draft regulations to allow the county to proceed with its project to replace the South Bay Boulevard Bridge so that the bridge meets seismic design and safety standards. The county plans to issue bids for construction between summer and fall 2025; therefore, this project, while not an emergency, has strict timelines for compliance and to ensure that construction can commence for public safety reasons. The Department considers the restoration and mitigation measures laid out in a habitat mitigation and monitoring plan (HMMP) to adequately compensate for impacts to Morro manzanita from the South Bay Boulevard Bridge project (exhibits 5 and 7). The proposed regulations benefit the county by allowing it to proceed with the South Bay Boulevard Bridge project and may benefit Morro manzanita by creating a Morro manzanita mitigation site that, if successfully implemented, will increase the total area occupied by Morro manzanita.

Staff Summary for June 11-12, 2025
(*For background purposes only*)

### *Draft Proposed Regulations*

The draft proposed Section 749.14 would allow take of Morro manzanita during CESA candidacy for the bridge project, and represents the culmination of the Department's internal discussions with county public works staff. The draft regulations authorize the county to take Morrow manzanita while undertaking the bridge project and associated mitigation and restoration actions, and lists the conditions the county must adhere to for the take authorization. The conditions require that the county comply with restrictions imposed by the U.S. Fish and Wildlife Service and the California Coastal Commission when those agencies reviewed the county bridge project. The conditions also require the county to comply with the negative declaration the county developed pursuant to CEQA. (Exhibits 5-7.)

Further details on the draft proposed regulations are available in the draft initial statement of reasons and draft proposed regulatory language (exhibits 2 and 3).

Today the Department will present an overview of the draft amendments (Exhibit 8).

### Significant Public Comments (N/A)

### Recommendation

***Commission staff:*** Authorize publication of intent to add Section 749.14 related to take of Morro manzanita during candidacy.

***Department:*** Authorize publication of notice of intent to add Section 749.14.

### Exhibits

1. Department memo transmitting the draft initial statement of reasons, received June 3, 2025
2. Draft initial statement of reasons
3. Proposed regulatory language
4. Economic and fiscal impact statement (STD. 399) and addendum
5. South Bay Boulevard Bridge Replacement biological opinion
6. South Bay Boulevard Bridge replacement coastal development permit
7. South Bay Boulevard Bridge Replacement HMMP
8. Department presentation

### Motion

Moved by _____ and seconded by _____ that the Commission authorizes publication of a notice of its intent to add Section 749.14, as discussed today.

State of California
Fish and Game Commission
Initial Statement of Reasons for Regulatory Action

Add Section 749.14
Title 14, California Code of Regulations
Re: Take of Morro Manzanita During Candidacy

I. Date of Initial Statement of Reasons:

II. Dates and Locations of Scheduled Hearings

(a) Notice Hearing:

Date: June 11, 2025 Location: Sacramento, CA

(b) Discussion Hearing:

Date: August 13, 2025 Location: Sacramento, CA

(c) Adoption Hearing:

Date: October 8, 2025 Location: Sacramento, CA

III. Description of Regulatory Action

(a) Statement of Specific Purpose of Regulatory Change and Factual Basis for Determining that Regulation Change is Reasonably Necessary

Unless otherwise specified, all section references in this document are to Title 14 of the California Code of Regulations (CCR). All references to "CDFW" or "Department" mean the California Department of Fish and Wildlife. All references to "County" mean San Luis Obispo County, California.

**Background**

On July 20, 2024, the Fish and Game Commission (Commission) received a petition from Dr. Christopher Kofron and Dr. Claudia Tyler to list Morro manzanita (*Arctostaphylos morroenis*) as an endangered species under the California Endangered Species Act (CESA). On July 30, 2024, the Commission transmitted the petition to the Department for review and recommendation pursuant to sections 2073 2073.5, Fish and Game Code.

FGC Section 2073.5 and Title 14, Section 670.1 requires that the Department evaluate the petition and submit a written evaluation with a recommendation to the Commission, which was received at the Commission's December 2024 meeting. Based upon the information contained in the petition and other relevant information, the Department determined in its evaluation that there is sufficient scientific information available to indicate that the petitioned action may be warranted, and recommended that the Commission accept the petition for further consideration pursuant to CESA.

The petition evaluation was made available to the public for a 30-day public comment period prior to the Commission taking any action on the petition. Subsequently, on April 16, 2025, the Commission determined that listing may be warranted pursuant to Section

2074.2, Fish and Game Code. Morro manzanita became a candidate species under CESA, effective upon publication of the notice of findings on May 16, 2025 (Office of Administrative Law notice number Z2025-0505-03).

Pursuant to Section 2074.6, Fish and Game Code the Department will undertake a one year status review. With the status review, the Commission makes a final determination whether the petitioned action to list the species as threatened or endangered is warranted, based on the Department's status review and other information in the administrative record (Section 2075.5, Fish and Game Code). Candidate species are protected from take under CESA pursuant to Section 2085, Fish and Game Code during the remainder of the CESA listing.

During candidacy, authority under Section 2084, Fish and Game Code grants the Commission the ability to consider, exemption from the take prohibition for these species. Additionally, the Commission may adopt regulations to authorize take of candidate species, based on the best available scientific information, when the take is otherwise consistent with CESA.

## Federal Statutory Background

Morro manzanita has been listed under the Federal Endangered Species Act (ESA) as threatened since 1994. In 2008, 2013, and 2022, the United States Fish and Wildlife Service (USFWS) conducted 5-year reviews for Morro manzanita to ensure that its classification as a threatened species under the ESA provided the appropriate level of protection (USFWS 2008, 2013, 2022). All three USFWS 5-year reviews concluded that Morro manzanita still met the definition of a threatened species under the ESA (CDFW, 2024).

## Biology

Morro manzanita is an erect, evergreen shrub in the heath family (Ericaceae). Morro manzanita typically grows from 0.5 m to over 4 m (1.6 to 13.1 ft) tall, with flower petals that are urn-shaped, and white to pink in color. Stems have gray, shredding bark. Unlike other manzanita species, Morro manzanita lacks the presence of basal burl (woody growth), which allows for species to resprout after fire. In lacking basal burl, Morro manzanita relies on seed back in the soil to re-propagate habitat following wildfire (CDFW, 2024).

Morro manzanita is restricted to the northeast side of Morro Bay to the southern end of Montana de Oro State Park, a distance of less than ten miles, and occurs primarily on stabilized sand dunes associated with Baywood fine sand. Approximately 75 percent of its historical habitat has been converted for residential use, resulting in highly fragmented populations. There are several occurrences in and around the town of Los Osos in San Luis Obispo County.

## San Luis Obispo County Public Works Project

The County proposes to replace the South Bay Boulevard Bridge (No. 49C-0351) originally constructed in 1966 (hereafter, “South Bay Boulevard Bridge project” or “Project”) which spans Los Osos Creek. South Bay Boulevard is one of the two main access routes in and out of Los Osos and the only direct connector between Los Osos and Morro Bay. As such, South Bay Boulevard is a critical access corridor for local residents and emergency vehicles, as well as for evacuation for the Diablo Canyon Power Plant. The purpose of the Project is to replace the existing 70-year old bridge so that it meets current seismic design standards and maintains safe, reliable service of a critical access corridor for the Los Osos and Morro Bay communities. The new bridge and road approaches will be relocated to the east side of the existing bridge to preserve access during construction, and then the existing bridge demolished once the new bridge is open for use.

## Project Mitigation

An Initial Study/ Mitigated Negative Declaration was prepared by the Public Works Department of San Luis Obispo County (SCH 2021070094) and adopted by the County in August of 2021, which calls for a mitigation monitoring plan strategy, and specifies mitigation measures for biological resources (San Luis Obispo County, 2021).

The County has been updating a Habitat Mitigation and Monitoring Plan (HMMP) since its original draft (November 2020) to consolidate the project impacts for federal, state, and county jurisdictional requirements from the Project (San Luis Obispo County, 2024). Temporary construction impacts in uplands would include approximately 0.6 acre of upland historic fill area that has been colonized by Morro manzanita, and the area is proposed to be restored at a 1:1 mitigation ratio after temporary construction impacts are complete (San Luis Obispo County, 2024). For issuance of a Coastal Development Permit, the California Coastal Commission additionally requires a 2:1 mitigation ratio for temporary construction impacts. Permanent impacts to Morro manzanita habitat are estimated at 0.24 acre based on the project footprint, and mitigation is proposed at a 3:1 replacement ratio (for a total of 2.52 acres of Morro manzanita chaparral habitat needing replacement) (San Luis Obispo County, 2024). The proposed temporary and permanent impact areas contain approximately 23 and 30 individual shrubs, respectively, that may be removed by the project (for a total of 113 shrubs requiring mitigation). Morro manzanita plantings will be planted in a spread pattern with adequate spacing to best simulate the species’ natural distribution (approximately 10 to 15 ft). (San Luis Obispo County, 2024)

The creation of the Morro manzanita mitigation site will be a benefit to recovery by increasing the total area occupied by Morro manzanita within its range by 0.48 acre. The restoration and mitigation areas will be managed under the HMMP finalized in collaboration with the Service. Further, the County will be developing and documenting improved techniques for removal, storage, and reinstallation of Morro manzanita individuals. More knowledge about Morro manzanita preservation and propagation will be a valuable tool to offset future impacts to Morro manzanita throughout its range and support its recovery

## Proposed Regulations

There are no existing regulations pertaining to the listing of Morro manzanita as threatened or endangered under CESA. The proposed addition of Section 749.14 to Title 14, CCR aims to create a special order allowing take of Morro manzanita during the CESA candidacy process for the described Project. The proposed addition of Section 749.14 represents the cumulation of the Department internal discussions with the County Public Works Department staff.

The proposed regulations are as follows:

**Section 749.14. Special Order Relating to Take of Morro Manzanita (*Arctostaphylos morroensis*) During Candidacy Period.**

749.14 (a): This subsection names the proposed Project for the exemption from the take prohibition during candidacy under CESA as authorized by subection 2084(b), Fish and Game Code. This subsection also lists the prerequisites for compliance for the exemption from the take prohibition to be granted:

749.14(a)(1):This paragraph names the USFWS Biological Opinion and Incidental Take Statement (2022-0025695-S7) that includes the terms, conditions, and measures required for compliance with ESA for the Project. It also mentions the HMMP to be finalized in coordination with USFWS as the design plans approach 100% to prepare for groundbreaking. This paragraph is necessary to provide the direct reference to the documents which prescribe the terms, conditions, and measures for compliance, to ensure that actions to minimize, avoid, and mitigate for Morro manzanita are included (by reference) in the regulation.

749.14(a)(2): This paragraph names the Initial Study/ Mitigated Negative Declaration (SCH 2021070094) that includes the mitigation measure required to mitigate identified impacts to a less-than-significant impact. This paragraph is necessary to provide the direct reference to another document which prescribes measures for compliance.

749.14(a)(3): This paragraph names the Coastal Development Permit issued by the California Coastal Commission issued in July 2023 that includes the terms, conditions, and measures required for compliance with the Project breaking ground in the coastal zone. This paragraph is necessary to provide the direct reference to an additional document that prescribes measures for compliance.

749.14(a)(4): This paragraph requires that the County provide Department staff with copies of required reports or notices pursuant to the USFWS Biological Opinion, Incidental Take Statement, and final HMMP. An email address is provided at which to receive the reports for Habitat Conservation Planning staff. This paragraph is necessary to ensure that the County keeps Department staff informed of Project developments and status as it relates to CESA compliance as well as directing the County how contact the Department.

749.14(a)(5): This paragraph requires a blanket compliance with all other laws and regulations to make clear that there are no other exemptions for take granted aside from those specified in this section. This sentence is necessary to make clear that there are

no other exemptions for any other state laws or regulations granted with this exemption from the CESA take prohibition.

749.14(b):This subsection states that no project or activity approval is granted by the proposed regulation. This paragraph is necessary to make it clear to the project proponent that they are fully responsible for project approvals by other agencies and that this regulation in itself does not approve a single project.

(b) Goals and Benefits of the Regulation

The goal of this regulation is to allow the County to proceed with its project to replace the South Bay Boulevard Bridge so that the bridge meets current seismic design and safety standards. The County is going out to bid for construction between summer and fall 2025. This project, while not an emergency, has strict timelines for compliance and to ensure that construction can commence for public safety reasons. The Department considers the restoration and mitigation measures laid out in the HMMP to adequately compensate for impacts to Morro manzanita from the South Bay Boulevard Bridge project. This regulation benefits the County by allowing them to proceed with the South Bay Boulevard Bridge project and may benefit Morro manzanita by creating a Morro manzanita mitigation site which, if successfully implemented, will increase the total area occupied by Morro manzanita.

(c) Authority and Reference Sections from Fish and Game Code for Regulation

Authority cited: Sections 399 and 2084, Fish and Game Code. Reference: Sections 399 and 2084, Fish and Game Code.

(d) Specific Technology or Equipment Required by Regulatory Change: None

(e) Identification of Reports or Documents Supporting Regulation Change

California Coastal Commission, Coastal Development Permit 3-22-0826, Issued to San Luis Obispo County Public Works Department, for South Bay Boulevard Bridge (July 17, 2023).

California Department of Fish and Wildlife (CDFW). 2024. Report to the Fish and Game Commission, petition evaluation for Morro manzanita (Arctostaphylos morroensis). California Natural Resources Agency, Sacramento CA. 16 pp. Available from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=227348&inline

San Luis Obispo County, Public Works Department, 2021. South Bay Boulevard Bridge Replacement Project Mitigated Negative Declaration – SCH 2021070094 adopted 8-24-2021 Available from https://www.slocounty.ca.gov/departments/public-works/forms-documents/environmental-determinations/south-bay-boulevard-bridge-mnd

San Luis Obispo County, Public Works Department, 2024. South Bay Boulevard Bridge Replacement Project Habitat Mitigation and Monitoring Plan. February 2024 draft.

U.S. Fish and Wildlife Service, 2022. Biological Opinion on South Bay Boulevard Bridge Replacement Project, San Luis Obispo County, California, 2022-0025695-S7

(f) Public Discussions of Proposed Regulations Prior to Notice Publication

The public receipt of petition occurred at the Commission's August 14-15, 2024 meeting. The Commission approved Department's request for 30-day extension October 9-10, 2024. The Commission received Department's 90-day evaluation report dated November 14, 2024 . The discussion to determine whether the petitioned action may be warranted was heard at the Commission's February 12-13, 2025 meeting. At the February 2025 meeting, Supervisor Gibson presented concerns regarding the potential listing of Morro manzanita. To o allow time for the Department to have conversations with the county about its concerns and to allow the county additional time to bring certain information to the attention of the Commission, the "may be warranted" decision was postponed until the April 16-17, 2025 meeting. A verbal update regarding a path forward for the county was presented at the April 2025 meeting.

IV. Description of Reasonable Alternatives to Regulatory Action

(a) Alternatives to Regulation Change

Another means to allow take of CESA candidate species is by Incidental Take Permit (ITP) pursuant to FGC Section 2081, subdivision (b), from the Department. An ITP allows a permittee to take CESA listed or candidate species if such taking is incidental to, and for the purpose of, carrying out an otherwise lawful activity. However, issuance of ITPs falls under Department authority and involves a more lengthy permit approval process, which is not feasible given this is an approximately $30 million infrastructure project, and all other project approvals are in place, and serves to replace a critical transportation corridor in the Morro Bay and Los Osos community for safety reasons.

(b) No Change Alternative

Without the proposed changes, the County would risk being in violation of CESA for the candidacy of Morro manzanita. Failure to adopt the proposed regulation could force the County to pursue taking Morro manzanita via the ITP process. Pursuing an ITP through the Department is more costly and time consuming than the discretionary take approach proposed by these regulations and would add costs to and delay the Project.

V. Mitigation Measures Required by Regulatory Action

The proposed regulatory action is consistent with the mitigation and reinforces the terms, conditions and measures authorized by the USFWS Biological Opinion, the Initial Study/ Mitigated Negative Declaration, the HMMP, and the Coastal Development Permit.

VI. Impact of Regulatory Action

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following initial determinations relative to the required statutory categories have been made:

(a) Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States

The Commission does not anticipate any adverse economic impacts to businesses that would affect their ability to compete with businesses from other states as a result of these regulations to allow for the discretionary take of Morro manzanita. The proposed regulations impose no costs that would create an adverse economic impact.

(b) Impact on the Creation or Elimination of Jobs Within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California; Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment

The Commission does not anticipate any adverse cost impacts to the creation or elimination of jobs within the state, the creation or elimination of businesses within the state, or the expansion of businesses within the state as a result of these regulations to allow for the discretionary take of Morro manzanita.

(c) Cost Impacts on a Representative Private Person or Business

The Commission does not anticipate any adverse cost impacts to a representative private person or business within the state as a result of these regulations to allow for the discretionary take of Morro manzanita. There are no anticipated costs or reporting requirements imposed by the allowance for discretionary take that would affect a private person or business.

(d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

The Commission does not anticipate any costs or savings to state agencies or any costs or savings in federal funding to the State as a result of these regulations to allow for the discretionary take of Morro manzanita. There are no anticipated changes in enforcement activities for the Department or other state agencies that would increase costs, nor are there any fees that would increase revenue.

Failure to adopt, however, would force San Luis Obispo County to pursue taking Morro manzanita via the Incidental Take Permit (ITP) process. The approximately $47,000 for the CDFW ITP Application fee with Complexity Fee would cover most of the Department's costs for processing the permit application; however, this would still leave the Department with a deficit of approximately $12,359.68 that would need to be absorbed in the existing budget.

(e) Nondiscretionary Costs/Savings to Local Agencies:

While the Commission does not anticipate any nondiscretionary costs or savings to local agencies as a result of the proposed regulations, failure to adopt them could force the County to pursue taking Morro manzanita via the Incidental Take Permit (ITP) process, which is more costly and time consuming than the discretionary take approach proposed by these regulations. The ITP process would add costs of approximately $5.342 million to the County's project and would delay the $30 million infrastructure

project to improve the seismic safety of the Morro Bay and Los Osos transportation corridor. The $5.342 million breaks down to the following:

- Approximately $47,000 for the CDFW ITP Application fee with Complexity Fee
- Approximately $5.295 million for CDFW required security for Habitat Management Lands Mitigation
- Lake and Streambed Standard Agreement fee of approximately $6,698

Additionally, County staff indicate that failing to adhere to the project's current timeline due to a delay would cost the project $27 million in programmed Federal funding, as well as increase the costs of the project by approximately $5.45 million. The cost increase associated with a 3-year delay would be as follows:

- Inflationary cost increases: 4.89% of $33 Million for 3 years equaling approximately $5.1 million
- Project manager labor costs to coordinate Federal funding revisions and to coordinate project revisions: $90,000
- Environmental consulting labor costs to update permits, agency authorizations, and update environmental commitment record: $80,000
- Consultant costs to update plans and specifications to latest Caltrans versions: $180,000

Combined total cost impact to the County from failing to adopt these regulations would be approximately $10.792 million.

(f) Programs Mandated on Local Agencies or School Districts: None

(g) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4, Government Code: None

(h) Effect on Housing Costs: None

VII. Economic Impact Assessment

(a) Effects of the Regulation on the Creation or Elimination of Jobs Within the State

The Commission does not anticipate any adverse cost impacts to the creation or elimination of jobs within the state as a result of these regulations to allow for the discretionary take of Morro manzanita. Failure to adopt these regulations, however, could lead to the county pursuing ITPs, which could directly cost the project and potentially cause the County to delay the bidding process for the project and affect contracted jobs.

(b) Effects of the Regulation on the Creation of New Businesses or the Elimination of Existing Businesses Within the State

The Commission does not anticipate any adverse cost impacts to the creation or elimination of businesses within the state, or the expansion of businesses within the

state as a result of these regulations to allow for the discretionary take of Morro manzanita.

(c) Effects of the Regulation on the Expansion of Businesses Currently Doing Business Within the State

The Commission does not anticipate any adverse cost impacts to the creation or elimination of businesses within the state, or the expansion of businesses within the state as a result of these regulations to allow for the discretionary take of Morro manzanita.

(d) Benefits of the Regulation to the Health and Welfare of California Residents

The Commission does not anticipate impacts on the health and welfare of California residents.

(e) Benefits of the Regulation to Worker Safety

The Commission does not anticipate impacts to worker safety as a result of the proposed regulations.

(f) Benefits of the Regulation to the State's Environment

The Commission anticipates benefits to the state's environment by allowing the County of San Luis Obispo to proceed with the South Bay Boulevard Bridge project and may benefit Morro manzanita by creating a mitigation site which, if successfully implemented, will increase the total area occupied by Morro manzanita. The project also prompted the County Public Works Department to conduct a seed germination study for Morro manzanita as part of the mitigation requirements, further contributing to the scientific research for propagation of this rare species.

(g) Other Benefits of the Regulation

None.

Unless otherwise specified, all section references in this document are to Title 14 of the California Code of Regulations (CCR).

Morro manzanita (*Arctostaphylos morroenis*) is an erect, evergreen shrub in the heath family (Ericaceae). Morro manzanita is restricted to the northeast side of Morro Bay to the southern end of Montana de Oro State Park, a distance of less than ten miles, and occurs primarily on stabilized sand dunes associated with Baywood fine sand. Approximately 75 percent of its historical habitat has been converted for residential use, resulting in highly fragmented populations.

Morro manzanita has been listed under the Federal Endangered Species Act (ESA) as threatened since 1994. On July 20, 2024, the Fish and Game Commission (Commission) received a petition to list Morro manzanita as an endangered species under the California Endangered Species Act (CESA). Based upon the information contained in the petition and other relevant information, the Department determined that there is sufficient scientific information available to indicate that the petitioned action may be warranted and recommended that the Commission accept the petition for further consideration pursuant to CESA. On April 16, 2025, the Commission determined that listing may be warranted pursuant to Section 2074.2, Fish and Game Code. Morro manzanita became a candidate species under CESA, effective upon publication of the notice of findings on May 16, 2025 (Office of Administrative Law notice number Z2025-0505-03). With the one-year status review pursuant to Section 2074.6, Fish and Game Code, the Commission makes a final determination whether the petitioned action to list the species as threatened or endangered is warranted.

Under Section 2084, Fish and Game Code, CESA provides that the Commission may adopt regulations to authorize take of candidate species, based on the best available scientific information, when the take is otherwise consistent with CESA.

San Luis Obispo County Public Works Project

The County of San Luis Obispo proposes to replace the South Bay Boulevard Bridge (No. 49C-0351) (“Project”) which spans Los Osos Creek so that it meets current seismic design standards and maintains safe, reliable service of a critical access corridor for the Los Osos and Morro Bay communities. The new bridge and road approaches will be relocated to the east side of the existing bridge to preserve access during construction, and then the existing bridge will be demolished once the new bridge is open for use.

Environmental review has completed on the Project, and it is going out to bid for construction to start in early 2026.

- An Initial Study/ Mitigated Negative Declaration was prepared by the Public Works Department of San Luis Obispo County (SCH 2021070094) and adopted by the County in August of 2021, which calls for a mitigation monitoring plan strategy, and specifies mitigation measures for biological resources.

- The County has been updating a Habitat Mitigation and Monitoring Plan (HMMP) since its original draft (November 2020) to consolidate the project impacts for federal, state, and county jurisdictional requirements from the Project.
- The California Coastal Commission is currently extending its authorization via the Coastal Development Permit 3-22-0826, Issued to San Luis Obispo County Public Works Department, for South Bay Boulevard Bridge (July 17, 2023).
- Biological Opinion issued by U.S. Fish and Wildlife Service for the South Bay Boulevard Bridge Replacement Project, San Luis Obispo County, California, 2022-0025695-S7

Proposed Regulations

The proposed addition of Section 749.14 to Title 14, CCR aims to create a special order allowing take of Morro manzanita during the CESA candidacy process for the described Project and lists the prerequisites for compliance for the exemption from the take prohibition to be granted. Additionally the regulation states that no project or activity approval is granted by the proposed regulation.

Benefit of the Regulations:

The creation of the Morro manzanita mitigation site will be a benefit to recovery by increasing the total area occupied by Morro manzanita within its range by 0.48 acre. The restoration and mitigation areas will be managed under the HMMP finalized in collaboration with the Service. Further, the County will be developing and documenting improved techniques for removal, storage, and reinstallation of Morro manzanita individuals. More knowledge about Morro manzanita preservation and propagation will be a valuable tool to offset future impacts to Morro manzanita throughout its range and support its recovery

Consistency and Compatibility with Existing Regulations:

The proposed regulations are neither inconsistent nor incompatible with existing state regulations. Section 20, Article IV, of the state Constitution specifies that the Legislature may delegate to the Commission such powers relating to the protection and propagation of fish and wildlife as the Legislature sees fit. The Legislature has delegated to the Commission the power to adopt regulations governing the candidacy of species under CESA (California Fish and Game Code sections 2080 *et seq.*). No other state agency has the authority to adopt regulations governing exemption from the take prohibition of candidate species under CESA. The Commission has reviewed its own regulations and finds that the proposed regulations are neither inconsistent nor incompatible with existing state regulations. The Commission has searched the CCR for any regulations regarding the adoption of regulations for the exemption from the take prohibition from CESA; therefore, the Commission has concluded that the proposed regulations are neither inconsistent nor incompatible with existing state regulations.

## Proposed Regulatory Language

749.14, Title 14, California Code of Regulations, is added to read:

**§749.14 Take of Morro Manzanita (*Arctostaphylos morroensis*) During Candidacy Period.**

(a) The commission authorizes the take of Morro manzanita during the candidacy period for the South Bay Boulevard Bridge Replacement Project in San Luis Obispo County, California, and accompanying mitigation and restoration actions, provided that the County of San Luis Obispo does all of the following:

(1) Implements and adheres to all terms, conditions, and measures in the Biological Opinion, Incidental Take Statement (2022-0025695-S7) dated April 25, 2022, and final Habitat Mitigation and Monitoring Plan for the South Bay Boulevard Bridge Replacement Project, San Luis Obispo County, California;

(2) Implements and adheres to all terms, conditions, and measures in the initial study/mitigated negative declaration for the South Bay Boulevard Bridge Replacement Project, ED20-217 (300455) (SCH 2021070094) dated April 2019;

(3) Implements and adheres to all terms and conditions, including standard and special conditions, in Coastal Development Permit CDP 3-22-0826 for the South Bay Boulevard Bridge Replacement Project, issued July 17, 2023; and

(4) Provide the department, by emailing NativePlants@wildlife.ca.gov, with copies of all reports and notices relating to Morro manzanita that it is required to provide to the United States Fish and Wildlife Service pursuant to the Biological Opinion, Incidental Take Statement (2022-0025695-S7), and the final Habitat Mitigation and Monitoring Plan for the South Bay Boulevard Bridge Replacement Project, San Luis Obispo County, California;

(b) Nothing in this section is intended to be nor shall be construed to be a general project or activity approval. It shall be the responsibility of the County of San Luis Obispo to obtain all necessary permits and approvals and to comply with all applicable federal, state, and local laws.

Note: Authority cited: Section 2084, Fish and Game Code.
Reference: Section 2084, Fish and Game Code.

**FGC@FGC**

**From:** Alminas, Ona
**Sent:** Tuesday, September 23, 2025 2:03 PM
**To:**
**Cc:**
**Subject:** 749.14 Morro manzanita PSOR - Take during candidacy

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Greetings,
The Department of Fish and Wildlife's Regulations Unit submits this email to notify the California Fish and Game Commission that there have been no substantive comments received, amendments to the proposed regulatory text, or additional information gathered for the proposed 749.14 Morro manzanita take during candidacy ("2084") rulemaking since the notice of the Initial Statement of Reason. Therefore, this email is submitted in lieu of a Pre-Adoption Statement of Reasons.

Please let me know if there are any questions, thanks!
Ona Alminas

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CALIFORNIA DEPARTMENT OF FISH and WILDLIFE
Ona Alminas, M.S. (she/her)
Regulations Unit Manager

715 P Street, 17th Floor
Sacramento, CA 95814

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STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

# ECONOMIC AND FISCAL IMPACT STATEMENT (REGULATIONS AND ORDERS)

STD. 399 (Rev. 10/2019)

## ECONOMIC IMPACT STATEMENT

| DEPARTMENT NAME | CONTACT PERSON | EMAIL ADDRESS | TELEPHONE NUMBER |
|---|---|---|---|
| California Fish and Game Commission | Dixie Van Allen | fgc@fgc.ca.gov | 916 902-9201 |

| DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400 | NOTICE FILE NUMBER |
|---|---|
| Add Section 749.14, Title 14, CCR, Re: Take of Morro Manzanita During CESA Candidacy | Z |

**A. ESTIMATED PRIVATE SECTOR COST IMPACTS** *Include calculations and assumptions in the rulemaking record.*

1. Check the appropriate box(es) below to indicate whether this regulation:

- [X] a. Impacts business and/or employees
- [ ] b. Impacts small businesses
- [ ] c. Impacts jobs or occupations
- [ ] d. Impacts California competitiveness
- [ ] e. Imposes reporting requirements
- [ ] f. Imposes prescriptive instead of performance
- [ ] g. Impacts individuals
- [ ] h. None of the above (Explain below):

***If any box in Items 1 a through g is checked, complete this Economic Impact Statement.***
***If box in Item 1.h. is checked, complete the Fiscal Impact Statement as appropriate.***

2. The California Fish and Game Commission (Agency/Department) estimates that the economic impact of this regulation (which includes the fiscal impact) is:

- [X] Below $10 million
- [ ] Between $10 and $25 million
- [ ] Between $25 and $50 million
- [ ] Over $50 million *[If the economic impact is over $50 million, agencies are required to submit a Standardized Regulatory Impact Assessment as specified in Government Code Section 11346.3(c)]*

3. Enter the total number of businesses impacted: _____

Describe the types of businesses (Include nonprofits): Construction contractors, individual parcel owners near bridge project.

Enter the number or percentage of total businesses impacted that are small businesses: _____

4. Enter the number of businesses that will be created: 0 eliminated: 0

Explain: No effects on businesses from regulation adoption, but failure to adopt could delay bidding process for project.

5. Indicate the geographic extent of impacts:

- [ ] Statewide
- [X] Local or regional (List areas): San Luis Obispo County

6. Enter the number of jobs created: _____ and eliminated: 0

Describe the types of jobs or occupations impacted: The county has not yet contracted for the bridge project, and is awaiting the proposed regulation before requesting bids. Without the regulation, the bidding process will be delayed and may impact jobs.

7. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here? [ ] YES [X] NO

If YES, explain briefly: _____

STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

# ECONOMIC AND FISCAL IMPACT STATEMENT (REGULATIONS AND ORDERS)

STD. 399 (Rev. 10/2019)

## ECONOMIC IMPACT STATEMENT (CONTINUED)

### B. ESTIMATED COSTS *Include calculations and assumptions in the rulemaking record.*

1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime? $ 0

   a. Initial costs for a small business: $ 0 Annual ongoing costs: $ 0 Years: 3

   b. Initial costs for a typical business: $ 0 Annual ongoing costs: $ 0 Years: 3

   c. Initial costs for an individual: $ 0 Annual ongoing costs: $ 0 Years: 3

   d. Describe other economic costs that may occur:

2. If multiple industries are impacted, enter the share of total costs for each industry: Only the construction industry is affected, if the regulation is not adopted and the bridge project is delayed.

3. If the regulation imposes reporting requirements, enter the annual costs a typical business may incur to comply with these requirements. *Include the dollar costs to do programming, record keeping, reporting, and other paperwork, whether or not the paperwork must be submitted.* $

4. Will this regulation directly impact housing costs? ☐ YES ☒ NO

   If YES, enter the annual dollar cost per housing unit: $

   Number of units:

5. Are there comparable Federal regulations? ☒ YES ☐ NO

   Explain the need for State regulation given the existence or absence of Federal regulations: While Morro manzanita is protected federally, take of a candidate species under CESA requires state authorization, which the proposed regulation provides.

   Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: $ 0

### C. ESTIMATED BENEFITS *Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. Briefly summarize the benefits of the regulation, which may include among others, the health and welfare of California residents, worker safety and the State's environment: The goal is to allow the county to proceed with the South Bay Boulevard Bridge project to meet seismic safety standards. Restoration & mitigation measures in the project adequately compensate for impacts to Morro manzanita and may increase the total area occupied by Morro manzanita through a required mitigation site.

2. Are the benefits the result of: ☐ specific statutory requirements, or ☒ goals developed by the agency based on broad statutory authority?

   Explain: Fish & Game Code Section 2084 allows take of a candidate species where necessary and consistent with CESA.

3. What are the total statewide benefits from this regulation over its lifetime? $ 0

4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: The Commission does not anticipate the expansion of businesses within the state as a result of the regulation allowing discretionary take of Morro Manzanita. Contractors for the county have already anticipated the bridge project and planned accordingly.

### D. ALTERNATIVES TO THE REGULATION *Include calculations and assumptions in the rulemaking record. Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. List alternatives considered and describe them below. If no alternatives were considered, explain why not: The county could pursue an incidental take permit (ITP) if the take is incidental to, and for the purpose of, carrying out an otherwise lawful activity, such as the bridge project. However, issuing an ITP is a lengthy and costly approval process, especially for an approx. $30 million infrastructure project ready to bid. The project replaces a critical transportation corridor in the county for safety reasons.

STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

# ECONOMIC AND FISCAL IMPACT STATEMENT (REGULATIONS AND ORDERS)

STD. 399 (Rev. 10/2019)

## ECONOMIC IMPACT STATEMENT (CONTINUED)

2. Summarize the total statewide costs and benefits from this regulation and each alternative considered:

Regulation: Benefit: $ 0 Cost: $ 0

Alternative 1: Benefit: $ 0 Cost: $ 0

Alternative 2: Benefit: $ 0 Cost: $ 0

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives: Econ. impacts from delaying the project due to failure to adopt the regulation are difficult to quantify; the delay would primarily affect costs of the project and not necessarily impose economic impacts to businesses or private persons.

4. Rulemaking law requires agencies to consider performance standards as an alternative, if a regulation mandates the use of specific technologies or equipment, or prescribes specific actions or procedures. Were performance standards considered to lower compliance costs? ☐ YES ☒ NO

Explain: Performance standards were not considered as they would not allow the project to move forward without a CESA violation, as would be allowed under the proposed regulation for the discretionary take of Morro manzanita.

**E. MAJOR REGULATIONS** *Include calculations and assumptions in the rulemaking record.*

***California Environmental Protection Agency (Cal/EPA) boards, offices and departments are required to submit the following (per Health and Safety Code section 57005). Otherwise, skip to E4.***

1. Will the estimated costs of this regulation to California business enterprises **exceed $10 million**? ☐ YES ☐ NO

***If YES, complete E2. and E3***
***If NO, skip to E4***

2. Briefly describe each alternative, or combination of alternatives, for which a cost-effectiveness analysis was performed:

Alternative 1: _____

Alternative 2: _____

*(Attach additional pages for other alternatives)*

3. For the regulation, and each alternative just described, enter the estimated total cost and overall cost-effectiveness ratio:

Regulation: Total Cost $ _____ Cost-effectiveness ratio: $ _____

Alternative 1: Total Cost $ _____ Cost-effectiveness ratio: $ _____

Alternative 2: Total Cost $ _____ Cost-effectiveness ratio: $ _____

4. Will the regulation subject to OAL review have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding $50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through12 months after the major regulation is estimated to be fully implemented?

☐ YES ☒ NO

*If YES, agencies are required to submit a Standardized Regulatory Impact Assessment (SRIA) as specified in Government Code Section 11346.3(c) and to include the SRIA in the Initial Statement of Reasons.*

5. Briefly describe the following:

The increase or decrease of investment in the State: The Commission does not anticipate any adverse cost impacts or cost benefits that would materially affect investment in the state, as a result of the regulation to allow for the discretionary take of Morro manzanita. The take is specific to the South Bay Boulevard Bridge project and would not spur or decrease investment.

The incentive for innovation in products, materials or processes: None. Incidental take of Morro manzanita for the South Bay Boulevard Bridge Project will not lead to any innovation, as the removal and replanting procedures for the species is well established.

The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency: Benefits the county by allowing the South Bay Boulevard Bridge project to proceed, and may benefit Morro manzanita by creating a mitigation site which, if successful, will increase the total area occupied by Morro manzanita.

STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

**ECONOMIC AND FISCAL IMPACT STATEMENT**

**(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

# FISCAL IMPACT STATEMENT

**A. FISCAL EFFECT ON LOCAL GOVERNMENT** *Indicate appropriate boxes 1 through 6 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

☐ 1. Additional expenditures in the current State Fiscal Year which are reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

$ _____

☐ a. Funding provided in _____

Budget Act of _____ or Chapter _____ , Statutes of _____

☐ b. Funding will be requested in the Governor's Budget Act of _____

Fiscal Year: _____

☐ 2. Additional expenditures in the current State Fiscal Year which are NOT reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

$ _____

*Check reason(s) this regulation is not reimbursable and provide the appropriate information:*

☐ a. Implements the Federal mandate contained in _____

☐ b. Implements the court mandate set forth by the _____ Court.

Case of: _____ vs. _____

☐ c. Implements a mandate of the people of this State expressed in their approval of Proposition No. _____

Date of Election: _____

☐ d. Issued only in response to a specific request from affected local entity(s).

Local entity(s) affected: _____

_____

☐ e. Will be fully financed from the fees, revenue, etc. from: _____

Authorized by Section: _____ of the _____ Code;

☐ f. Provides for savings to each affected unit of local government which will, at a minimum, offset any additional costs to each;

☐ g. Creates, eliminates, or changes the penalty for a new crime or infraction contained in _____

☐ 3. Annual Savings. (approximate)

$ _____

☐ 4. No additional costs or savings. This regulation makes only technical, non-substantive or clarifying changes to current law regulations.

☒ 5. No fiscal impact exists. This regulation does not affect any local entity or program.

☐ 6. Other. Explain _____

_____

STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

**ECONOMIC AND FISCAL IMPACT STATEMENT**
**(REGULATIONS AND ORDERS)**

STD. 399 (Rev. 10/2019)

## FISCAL IMPACT STATEMENT (CONTINUED)

**B. FISCAL EFFECT ON STATE GOVERNMENT** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

$ _____

*It is anticipated that State agencies will:*

☐ a. Absorb these additional costs within their existing budgets and resources.

☐ b. Increase the currently authorized budget level for the _____ Fiscal Year

☐ 2. Savings in the current State Fiscal Year. (Approximate)

$ _____

☒ 3. No fiscal impact exists. This regulation does not affect any State agency or program.

☐ 4. Other. Explain _____

_____

**C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

$ _____

☐ 2. Savings in the current State Fiscal Year. (Approximate)

$ _____

☒ 3. No fiscal impact exists. This regulation does not affect any federally funded State agency or program.

☐ 4. Other. Explain _____

_____

| FISCAL OFFICER SIGNATURE | DATE |
|---|---|
| DocuSigned by: Dan Reagan 6558B761E2D347D... | 7/9/2025 |

*The signature attests that the agency has completed the STD. 399 according to the instructions in SAM sections 6601-6616, and understands the impacts of the proposed rulemaking. State boards, offices, or departments not under an Agency Secretary must have the form signed by the highest ranking official in the organization.*

| AGENCY SECRETARY | DATE |
|---|---|
| Bryan Cash 7/16/2025 | 7/2/25 |

*Finance approval and signature is required when SAM sections 6601-6616 require completion of Fiscal Impact Statement in the STD. 399.*

| DEPARTMENT OF FINANCE PROGRAM BUDGET MANAGER | DATE |
|---|---|
| | |

# STD. 399 Addendum

## Add Section 749.14
## Title 14, California Code of Regulations
## Re: Take of Morro Manzanita During Candidacy

### Background

Morro manzanita has been listed under the Federal Endangered Species Act (ESA) as threatened since 1994. On July 20, 2024, the Fish and Game Commission (Commission) received a petition to list morro manzanita as an endangered species under the California Endangered Species Act (CESA). Based upon the information contained in the petition and other relevant information, the California Department of Fish and Wildlife (Department/CDFW) determined that there is sufficient scientific information to indicate the petition action may be warranted and recommended that the Commission accept the petition for further consideration pursuant to CESA. On April 16, 2025, the Commission determined that listing may be warranted pursuant to Section 2074.2, Fish and Game Code. On May 16, 2025, Morro manzanita became a candidate species under CESA effective upon publication of the notice in the California Regulatory Notice Register.

Under Section 2084, Fish and Game Code, CESA provides that the Commission may adopt regulations to authorize take of candidate species, based on the best available scientific information, when the take is otherwise consistent with CESA.

*San Luis Obispo County Public Works Project*

The County of San Luis Obispo (the County) proposes to replace the South Bay Boulevard Bridge (No. 49C-0351) (Project), which spans Los Osos Creek, so that it meets current seismic design standards and maintains safe, reliable service of a critical access corridor for the Los Osos and Morro Bay communities.

Environmental review was completed for the Project, and the County is going out to bid for construction to start in early 2026.

*Proposed Regulations*

The proposed addition of Section 749.14 to Title 14, CCR aims to create a take allowance for Morro manzanita during the CESA candidacy process for the described Project and is necessary so that the County is not in violation of CESA if Morro manzanita is impacted during bridge construction.

### Economic Impact Statement

*Section A. Estimated Private Sector Cost Impacts*

Question 4. Number of businesses that will be created or eliminated.

The Commission does not anticipate any adverse cost impacts to the creation or elimination of businesses within the state, or the expansion of businesses within the state as a result of these regulations to allow for the discretionary take of Morro manzanita. While the County has yet to accept bids for contractors for the project, it is unlikely that new construction firms would be

created to bid on the work due to the high capital requirements of establishing those types of firms, and the project will ultimately go to existing firms.

Question 6. Number of jobs that will be created or eliminated.

The Commission does not anticipate any adverse cost impacts to the creation or elimination of jobs within the state as a result of these regulations to allow for the discretionary take of Morro manzanita. However, failure to adopt these regulations could lead to the County pursuing Incidental Take Permits (ITPs), which could directly cost the project and potentially cause the county to delay the bidding process for the project and affect contracted jobs. It is difficult to quantify the number of jobs that would be affected because the County has not yet accepted bids for contractors yet, but due to the necessity of having a seismically stable bridge the project will go through regardless of adoption, so it could be argued that while bidding could be delayed, the jobs will ultimately remain unchanged.

*Section B. Estimated Costs*

Question 1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime?

None. The proposed regulations to allow for the discretionary take of Morro Manzanita should not materially affect any businesses or individuals, as they do not introduce any fees or other costs that a representative private person or business would be mandated to pay.

*Section C. Estimated Benefits*

Question 1. Briefly summarize the benefits of the regulation.

The goal of this regulation is to allow the County to proceed with its project to replace the South Bay Boulevard Bridge so that the bridge meets current seismic design and safety standards. The Department considers the restoration and mitigation measures laid out in the HMMP to adequately compensate for impacts to Morro manzanita from the Project. This regulation benefits the County by allowing them to proceed with the Project and may benefit Morro manzanita by creating a mitigation site which, if successfully implemented, will increase the total area occupied by Morro manzanita.

Question 3. What are the total statewide benefits from this regulation over its lifetime?

The direct statewide economic benefits of the project are $0, as the discretionary take of Morro manzanita will not create any savings statewide for businesses or individuals.

Question 4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation.

The Commission does not anticipate any adverse cost impacts to the creation or elimination of businesses within the state, or the expansion of businesses within the state as a result of these regulations to allow for the discretionary take of Morro manzanita. The take of the species would not constitute a reason for any businesses to expand or contract their operations, and the indirect impact on the construction companies that the County is currently engaged with for this project is unlikely to cause them to expand, as they generally must be large enough to take on such an endeavor in order to compete for the bid.

*Section D. Alternatives to the Regulation*

Question 1. List all alternatives considered and describe them below. If no alternatives were considered, explain why not:

Another means to allow take of CESA candidate species is by ITPs pursuant to FGC Section 2081, subdivision (b), from the Department. An ITP allows a permittee to take CESA listed or candidate species if such taking is incidental to, and for the purpose of, carrying out an otherwise lawful activity, including for research or monitoring activities of such activity. However, issuance of ITPs falls under Department authority and involves a more lengthy and costly permit approval process, which is not feasible given this is an approximately $30 million infrastructure project, and all other project approvals are in place, and serves to replace a critical transportation corridor in the Morro Bay and Los Osos community for safety reasons. The ITP process would add costs of approximately $5.342 million to the County's project and would delay the $30 million infrastructure project by approximately three years, which would further increase the project costs to the County by approximately $5.45 million (see Section A of the Fiscal Impact Statement).

Without the proposed changes, the County would risk being in violation of CESA for the candidacy of Morro Manzanita.

**Fiscal Impact Statement**

*A. Fiscal Effect on Local Government*

Answer 5. Explain:

The adoption of the regulation will not have any fiscal effect on local governments; however, while the Commission does not anticipate any nondiscretionary costs or savings to local agencies as a result of the proposed regulations, failure to adopt them could force the County to pursue taking Morro manzanita via the ITP process. Pursuing an ITP through the Department is more costly and time consuming than the discretionary take approach proposed by these regulations and would add costs to and delay the $30 million infrastructure project to improve the seismic safety of the Morro Bay and Los Osos transportation corridor. The ITP process would add costs of approximately $5.342 million to the County's project and would delay the $30 million infrastructure project to improve the seismic safety of the Morro Bay and Los Osos transportation corridor. The $5.342 million breaks down to the following:

- Approximately $47,000 for the CDFW ITP Application fee with Complexity Fee
- Approximately $5.295 million for CDFW required security for Habitat Management Lands Mitigation
- Lake and Streambed Standard Agreement fee of approximately $6,698

Additionally, County staff indicate that failing to adhere to the Project's current timeline due to a delay would cost the project $27 million in programmed federal funding, as well as increase the costs of the project by approximately $5.45 million. The cost increase associated with a three year delay would be as follows:

- Inflationary cost increases: 4.89% of $33 Million for three years = approximately $5.1 million
- Project manager labor costs to coordinate federal funding revisions and to coordinate project revisions: $90,000
- Environmental consulting labor costs to update permits, agency authorizations, and update environmental commitment record: $80,000
- Consultant costs to update plans and specifications to latest Caltrans versions: $180,000

Combined total cost impact to the County from failing to adopt these regulations would be approximately $10.792 million, in addition to the County losing out on $27 million in programmed federal funding.

*B. Fiscal Effect on State Government*

Answer 3. No fiscal impact exists. This regulation does not affect any State agency or program:

This regulation will not affect any state agency or program if adopted. However, failure to adopt would force San Luis Obispo County to pursue taking Morro manzanita via the ITP process. The approximately $47,000 for the CDFW ITP Application Fee with Complexity Fee would cover most of the Department's costs for processing the permit application; however, this would still leave the Department with a deficit that would need to be absorbed in the existing budget. The costs are described in Table 1 below:

**Table 1: Estimated Costs to CDFW for ITP Processing**

| **Personal Services** | **Hourly Rate** | **CAL HR FY 2024/25 Full Max Monthly Salary** | **Estimated Hours** | **Totals** |
|---|---|---|---|---|
| Regional Manager | $117.89 | 20,748.00 | 8.00 | **$943.09** |
| Environmental Program Manager Supervisory (Region and HCPB review time) | $86.07 | 15,148.00 | 20.00 | **$1,721.36** |
| Sr Environmental Scientist Supervisor (Region and HCPB) | $74.43 | 13,100.00 | 40.00 | **$2,977.27** |
| Sr Environmental Scientist Specialist (Region and Habitat Conservation Planning Branch) | $58.07 | 10,221.00 | 430.00 | **$24,971.76** |

| Personal Services | Hourly Rate | CAL HR FY 2024/25 Full Max Monthly Salary | Estimated Hours | Totals |
|---|---|---|---|---|
| Associate Government Program Analyst (Admin support ITP) | $42.89 | 7,549.00 | 20.00 | **$857.84** |
| Attorney III (Review time for CESA candiate ITP/HM Lands) | $84.54 | 14,879.00 | 8.00 | **$676.32** |
| CDFW Land Agent (HM Lands review and processing) | $51.49 | 9,063.00 | 10.00 | **$514.94** |
| **Total Salary & Wages** | | | | $32,662.59 |
| Staff Benefits-Permanent Staff (FY 2024-25)[1] | 50.625% | | | $16,535.44 |
| **TOTAL PERSONAL SERVICES** | | | | **$49,198.03** |
| **OVERHEAD - Indirect Costs[3] (FY 2024-25)** | 20.68% | | | **$10,174.15** |
| **TOTAL COSTS TO CDFW** | | | | **$59,372.18** |

The costs of the ITP process for the county can be broken down in Table 2:

**Table 2: Costs to San Luis Obispo County from ITP Process**

| **Costs to the County for ITP (does not include their staff time or consultant fees)** | |
|---|---|
| CDFW ITP Application fee with Complexity Fee max | $47,012.50 |
| CDFW required Security for Habitat Management Lands Mitigation | $5,295,000. |
| Total Burden to County for ITP application/HM Lands Security | **$5,342,013.** |

The difference between the $47,012.50 CDFW ITP Application fee with Complexity Fee and the costs of $59,372.18 to the Department for ITP processing would leave the Department with an estimated **$12,359.68** in costs that would need to be absorbed by the Department's budget if these regulations are not adopted.

**United States Department of the Interior**
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
2022-0025695-S7

April 25, 2022

Barrett Holland
District Biologist
California Department of Transportation, District 5
50 Higuera Street
San Luis Obispo, California 93401

Subject: Biological Opinion on South Bay Boulevard Bridge Replacement Project, San Luis Obispo County, California

Dear Barrett Holland:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the California Department of Transportation's (Caltrans) proposed funding and oversight of the San Luis Obispo County's (County) replacement of South Bay Boulevard Bridge over Los Osos Creek (project) and its effects on the federally threatened California red-legged frog (*Rana draytonii*), the federally threatened Morro shoulderband snail (*Helminthoglypta walkeriana*), the federally endangered tidewater goby (*Eucyclogobius newberryi*), the federally threatened Morro manzanita (*Arctostaphylos morroensis*), and designated critical habitat for both the Morro shoulderband snail and the tidewater goby, in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 et seq.).

We received your request for formal consultation on October 20, 2021, via electronic mail. After reviewing your request, we sent you an electronic mail on November 24, 2021, informing you that we did not concur with your determination that the proposed action may affect, but is not likely to adversely affect the California red-legged frog. We received your December 27, 2021, request to initiate formal consultation on the proposed action's impacts to the California red-legged frog and for our concurrence that the proposed project meets the criteria for inclusion under the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (PBO) (Service 2011). We have based this biological opinion on information that accompanied your October 20, 2021, request for consultation, including the biological assessment (Caltrans 2021), the Mitigated Negative Declaration (SLO 2019), various correspondences, and information in our files.

**California Red-Legged Frog**

Under the administration of the PBO (Service 2011), you are required to notify us of project activities that may adversely affect the California red-legged frog and its designated critical habitat. Caltrans has assumed the Federal Highway Administration's (FHWA) responsibilities under the Act for this action in accordance with Section 1313, Surface Transportation Project Delivery Program, of the Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012, as described in the National Environmental Policy Act Assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012) and codified in 23 U.S.C. 327. You have determined that the proposed action may affect and is likely to adversely affect the California red-legged frog and requested that such effects be addressed via the PBO. The project is not located within designated critical habitat for the species. Caltrans will implement all minimization measures described on pages 7 through 12 of the PBO.

The proposed project is discussed in detail in the project's biological assessment (Caltrans 2021) and below in the project description. Summarized briefly, Caltrans, in cooperation with the County, is proposing to replace the South Bay Boulevard Bridge (49C-0351) at Los Osos Creek with a new bridge.

You have determined that replacing the bridge on South Bay Boulevard at Los Osos Creek, as described in the biological assessment (Caltrans 2021), satisfies the four criteria outlined in the PBO for projects that are likely to result in adverse effects to the California red-legged frog, but would not affect the long-term viability of those populations. Project effects of this nature were analyzed in the PBO under the Effects of the Action section (Service 2011, pp. 29-34). You also propose to implement the measures outlined in the PBO for avoiding and minimizing effects to the California red-legged frog. Based on the information in your biological assessment (Caltrans 2021), the proposed project is consistent with, and appropriate for, inclusion under the PBO. Caltrans must implement all avoidance and minimization measures, reasonable and prudent measures, and terms and conditions of the PBO. You have requested our concurrence with your determination that the potential adverse effects of the proposed action on the California red-legged frog are appropriate for analysis under the PBO. We have reviewed the project activities and determined that the project is suitable for inclusion under the PBO. We will not discuss this species for the remainder of this biological opinion.

## BIOLOGICAL OPINION

### DESCRIPTION OF THE PROPOSED ACTION

The County, with oversight by Caltrans, proposes to replace the South Bay Boulevard Bridge (No. 49C-0351), which spans Los Osos Creek within unincorporated San Luis Obispo County, approximately 2,000 feet southeast of the City of Morro Bay, California. The bridge has been identified as seismically deficient. The bridge has been programmed to be replaced rather than retrofitted under the Highway Bridge Program, as replacement was identified as the most cost effective retrofit alternative. The project is funded by the FHWA as administered by Caltrans.

The County would replace the existing 189-foot long, 37-foot-wide bridge with a new 300-foot-long, 50-foot-wide bridge immediately east of the existing bridge. The proposed replacement bridge consists of a two-span concrete bridge on pile foundations with a center support pier. The replacement bridge deck would be widened to accommodate a pedestrian lane for public access and future extension of the California Coastal Trail along South Bay Boulevard. Approach lanes would be realigned within the minimum length necessary to meet the new bridge. The County would demolish the existing roadway approaches along with the existing bridge after construction of the new bridge and roadway approaches are complete and operational. The County also would remove the abandoned approach road sections, and those areas would be used for stormwater features and habitat mitigation areas. The primary mitigation area is a 0.4-acre area on Santa Ysabel Road that would be used for staging and storage during construction and converted to Morro manzanita chaparral as part of the mitigation strategy after construction has been completed. The project area is entirely within a County right-of-way, including all permanent and temporary impact areas and proposed habitat mitigation and restoration.

The County has divided the project into three phases: year 1, construction of new bridge; year 2, demolition of old bridge; and 5 years of habitat restoration, mitigation, maintenance and monitoring. Within the construction and demolition phases, activities are divided between dry season, June through October (22 weeks or 110 work days), and outside the dry season, November through June (30 weeks or up to 150 work days). Construction is estimated to take 30 months to complete and is estimated to commence in June 2022 (ending in November 2024) or June 2023 (ending in November 2025). However, the intended schedule to construct the new bridge in the first year and demolish the existing bridge in the second year may not be feasible given contractor approach and construction contingencies. All work below the high tide line in Los Osos Creek will be conducted during two consecutive dry seasons of 5 months duration, June 1 to October 31. Work in upland areas will take place outside the dry season, which will include implementation of wet weather minimization measures, as appropriate. All work will take place during daytime hours, unless special permission is acquired from the County engineer for night work necessary for critical work items on a case-by-case basis.

**Proposed Mitigation**

To offset the effects to special status species and habitats, the County is proposing to restore temporary impacts at a 1:1 ratio, permanent impacts to Morro manzanita chaparral at a 3:1 ratio, and permanent impacts to oak woodland at a 4:1 ratio. All mitigation activities are proposed to occur within the action area and replace impacted habitats with native plant species. The mitigation activities proposed are:

- Drainage patterns and topography will be restored or improved to pre-project conditions.

- Temporary impact areas will be restored to pre-existing conditions by removing all structures (trestles, trestle piles, cofferdams) and restoring pre-existing substrate contours and vegetation by hydroseeding, container plants, or both.

- Temporary impacts to Morro manzanita chaparral will be restored to pre-existing contours, soil conditions, and vegetation using a combination of hydroseeding and container plants. The 33 Morro manzanita plants to be removed for construction access and staging will be stored during construction and replanted after construction.

- Permanent Morro manzanita chaparral impacts to 0.24 acre and 13 individual plants will be mitigated at a 3:1 mitigation ratio, requiring 0.72 acre and approximately 39 Morro manzanita plants.

- Oak woodland impacts include removal of trees with diameter at breast height (DBH) of 4 inches or more is anticipated to include 9 trees in the permanent impact footprint for the realigned approach roads and additional trees in the temporary construction disturbance area, for a total of 15 to 25 trees. Replacement plantings at a 4:1 replacement ratio would correspond to up to 100 replacement plantings. All plantings will occur within 1 acre in the action area.

- Weed control will be implemented using hand methods in the restoration and mitigation areas for 5 years.

- Maintenance and monitoring of restoration and mitigation areas will occur for 5 years. The County proposes to maintain at least 75 percent success of replaced plants in the restoration and mitigation areas.

General Conservation Measures

1. Prior to initiation of any construction activities, including vegetation clearing or grubbing, sturdy high visibility fencing will be installed to protect wetlands adjacent to designated work areas. This fencing will be placed to avoid unnecessary adverse impacts to these areas. No construction work (including storage of materials) will occur outside of the specified project limits. The fencing will remain in place during the entire construction period, be monitored periodically by a Service-approved biologist, and maintained as needed by the contractor.

2. Prior to any vegetation removal or ground disturbance, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the special status species and their habitats, the specific measures that are being implemented to conserve the species for the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

3. The Service-approved biologist will conduct pre-activity surveys for Morro shoulderband snails no more than 1 week prior to onset of initial ground disturbance activities within or adjacent to vegetation, including vegetation removal, materials and

equipment staging, and any earthwork. The survey process will involve moving and searching under all vegetation, and anthropogenic artifacts present (e.g., woodpiles, tires, debris), and will result in destruction or uprooting of vegetation. In addition, if any live snails are found during the preconstruction surveys, the Service-approved biologist will conduct daily Morro shoulderband snail pre-activity surveys at the beginning of each work day to check for and remove any Morro shoulderband snails. Pre-activity Morro shoulderband snail surveys will be conducted before work occurs during any day with rainy or wet weather. Morro shoulderband snails of any life stage will be captured and moved out of harm's way to a pre-approved receiver site. The size, age class, location of capture, and release site location will be recorded for each relocated Morro shoulderband snail. Empty shells will be noted on a map, counted, and classified by size and age and will be left in place.

4. Vegetation clearing will be done outside nesting bird season (February 1 to September 1). If it is not possible to avoid nesting season, preconstruction nesting bird surveys will be conducted by a qualified biologist experienced in bird identification and nest surveys, prior to the onset of work activities, including vegetation removal. If an active nest is detected during the preconstruction surveys, the qualified biologist will notify Caltrans and the California Department of Fish and Wildlife (CDFW) to coordinate the appropriate course of action required. Caltrans will contact the Service if the species is federally listed or protected under the Migratory Bird Treaty Act. In addition, any unoccupied nests (excluding raptors) found within the action area will be removed to discourage nesting. Demolition of the existing bridge will be scheduled to avoid the swallow nesting season, if feasible. Nesting swallows may use the existing bridge commencing in March or April. To deter swallows from nesting on the existing or new bridge, appropriate nesting deterrent methods will be implemented prior to the start of nesting season to deter active nesting during the proposed construction period (applicable to both construction and demolition construction phases). Nesting deterrents may include removal of unoccupied nests or installation of netting over appropriate nesting surfaces, or both.

5. Temporary erosion control measures (such as silt fences, sterile rice straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed for disturbed areas. Earth dikes, drainage swales, and ditches will be provided to intercept, divert, and convey surface runoff and sheet flow, prevent erosion, and reduce pollutant loading. Specific areas that may need such measures will be identified on the construction drawings.

6. All oils, fuels, and other toxicants spilled or deposited near the project site will be removed and disposed of according to applicable laws and regulations.

7. Fueling of machinery and equipment will be conducted only in designated upland areas that will prevent accidental spills from reaching the creek, wetlands, or other sensitive plant communities.

8. The topography of the equipment access route(s) will be restored when each construction phase is complete.

9. Native vegetation will be used to revegetate and stabilize affected stream banks and disturbed areas.

10. Standard dust control measures will be implemented to avoid excessive dust transported outside the action area.

11. Native grasses and vegetation will be established in areas disturbed by construction to minimize erosion as soon as possible after disturbance.

12. Erosion control and stabilization measures will be incorporated into road construction.

13. Temporary construction impact areas will be restored to pre-existing conditions as defined in the finalized Habitat Mitigation and Monitoring Plan (HMMP).

14. Authorization from the U.S. Army Corps of Engineers and a coastal development permit from the California Coastal Commission and the Local Coastal Program will be obtained prior to construction, and any additional minimization and avoidance measures provided in these permits will be implemented.

Measures for Aquatic Work for Water Quality and Tidewater Goby

1. Work below the mean high tide line will be limited to the work window June 1 to October 31 or as otherwise directed by the regulatory permits to minimize migratory fish presence, potential for precipitation events and associated runoff effects, increased creek flow, and potential for more extreme storm induced tide and wave conditions.

2. A qualified, Service-approved biologist will monitor installation of the approved dewatering containment system and all dewatering activities that could impact tidewater goby and their habitat.

3. Following installation of the approved dewatering containment system, the Service-approved biologist will use seines and dipnets to capture and translocate fishes and other aquatic organisms trapped within the containment area. All captured organisms will be immediately released into areas of the creek that will not be affected by dewatering.

4. All dewatering pump intakes will be screened with screening appropriate to exclude all life stages of tidewater goby from entrainment in the pumping system.

5. Dewatering operations will be halted periodically to allow the qualified Service-approved biologists to seine the exclusion area for additional trapped fishes and aquatic

organisms. All captured organisms will be immediately released into areas of the creek that will not be affected by dewatering.

6. Installation of the approved dewatering containment system will be conducted, to the greatest extent possible (detailed in M. Stillman, County of San Luis Obispo, pers. comm. 2022), at low tidal levels when water within the containment area is at minimal levels and fishes and other aquatic organisms may be in lower abundance.

7. Equipment will not be operated directly within tidal waters or the live Los Osos Creek channel. The containment system will be removed after work is completed.

8. Turbid water from construction activities in the creek will be contained and prevented from being transported in amounts that are deleterious to fish, or in amounts that could violate state pollution laws. Silt fences or other means will be used to contain sediment. If sediment is not being contained adequately, as determined by visual observation, the activity will cease.

9. Appropriate best management practices (including filtration, as appropriate) will be implemented to prevent the entry of excavated material, silt laden water, and other contaminants into the live creek channel. Due to the high salt content and other potential contaminants, water pumped from the containment area will not be deposited in upland areas. All potentially contaminated materials from the containment areas will be removed from the site and properly disposed of in compliance with State and Federal law.

10. The equipment access route to the streambed to install or remove temporary piles, construct the trestles and bridge components, and demolish the existing bridge will be selected to minimize disturbance of wetlands.

11. The access route within wetlands (salt marsh) will be covered with crane pads, plywood or similar materials to minimize rutting, vegetation trampling and other ground disturbance. These materials will be removed as soon as equipment access needs are complete.

12. Roads used during construction will be swept and cleaned of accumulated earth and debris in the construction zone during project construction, particularly before predicted rainfall events.

13. Excavated materials deposited or stored onsite temporarily, including sediment excavated from the creek bed, will not be placed in or adjacent to open water channels or wetlands and will be wetted and/or covered as necessary to prevent runoff and erosion.

14. A Spill Prevention Control and Countermeasure Plan (SPCCP) will be prepared for construction to minimize the potential for spills or leaks of fuels and other potentially

hazardous substances, and to provide maximum efficiency in response to and cleanup of any spills or leaks.

15. Bridge abutments will be designed to minimize disturbances to essential fish habitat and stream banks.

16. Sidecasting of road materials into Los Osos Creek will be prohibited.

17. In-water structures will be composed of clean materials and will be limited to the minimum necessary footprint to support construction activities.

18. Cofferdams will be designed to exclude anticipated high-water conditions plus an additional reasonable margin of safety.

19. Construction schedule will be managed to achieve removal of instream structures at the end of the dry season to the maximum extent possible.

20. Piles will not be installed using an impact hammer, except to test vertical pile capacity.

21. Hollow steel piles will not be used unless required to meet engineering requirements.

22. Peak sound pressure levels will be monitored during any driving of steel piles using an impact hammer.

23. If monitored sound pressure levels exceed 180 dB, additional measures will be implemented potentially including an air bubble curtain, dewatering the area using a cofferdam or use of a smaller hammer.

24. All temporary piles and old bridge piles will be removed completely, to the extent feasible.

25. Piles will be removed using a crane or vibratory hammer.

26. The project will obtain coverage under the General Permit for Storm Water Discharges associated with Construction and Land Disturbance Activities (Order no. 20120006DWQ), and a SWPPP will be prepared.

27. During construction, erosion control measures (e.g., silt fencing, fiber rolls, and barriers) will remain available on site and will be utilized as necessary to prevent erosion and sedimentation in wetland areas. No synthetic plastic mesh products will be used for erosion control and use of these materials on site is prohibited.

28. Erosion control measures will be checked to ensure that they are intact and functioning effectively and maintained on a weekly basis throughout the duration of construction.

29. The contractor will also apply adequate dust control techniques, such as site watering, during construction to protect water quality.

30. Groundwater discharged to Los Osos Creek from dewatering activities during the construction period will be allowed to settle in a temporary tank (or equivalent) prior to discharge and provided with erosion protection at the pipe outlet.

31. Dewatering discharge will be allowed to settle prior to discharge to the creek.

32. Drilling for the cast-in-drilled-hole piles will utilize a temporary steel casing installed to the full depth of the drill hole, if feasible.

33. If full length temporary casing is not feasible, steel casing will be installed to at least three feet below the ground surface.

34. Drilling will be monitored to detect any discharge of drilling fluid from the casing, streambed or adjacent areas.

35. Containment (washed gravel-filled bags wrapped in plastic sheeting, or equivalent) will be used at the drill hole to collect and contain any drilling fluid leakage and prevent any discharges to the streambed.

36. Absorbent material and disposal bags (or equivalent cleanup materials) will be maintained onsite to cleanup any drilling fluid spillage.

37. All spillage of drilling fluids (including residual solids) will be removed from the streambed and adjacent areas using cleanup materials.

38. Any discharge of drilling fluids to the streambed will be reported to Regional Water Quality Control Board, California Department of Fish and Wildlife, and the Service within 24 hours of discharge.

## ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

### Jeopardy Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR 402.02).

The jeopardy analysis in this biological opinion relies on four components: (1) the Status of the Species, which describes the current rangewide condition of the Morro shoulderband snail, tidewater goby, and Morro manzanita, the factors responsible for that condition, and their survival and recovery needs; (2) the Environmental Baseline, which analyzes the condition of the Morro shoulderband snail, tidewater goby, and Morro manzanita in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of species; (3) the Effects of the Action, which determines all consequences to the Morro shoulderband snail, tidewater goby, and Morro manzanita caused by the proposed action that are reasonably certain to occur in the action area; and (4) the Cumulative Effects, which evaluates the effects of future, non-Federal activities, that are reasonably certain to occur in the action area, on the Morro shoulderband snail, tidewater goby, and Morro manzanita.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the current status of the Morro shoulderband snail, tidewater goby, and Morro manzanita, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of the Morro shoulderband snail, tidewater goby, and Morro manzanita in the wild by reducing the reproduction, numbers, and distribution of that species.

**Adverse Modification Determination**

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

The destruction or adverse modification analysis in this biological opinion relies on four components: (1) the Status of Critical Habitat, which describes the rangewide condition of the critical habitat for the Morro shoulderband snail and the tidewater goby; (2) the Environmental Baseline, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the Effects of the Action, which are all consequences to critical habitat caused by the proposed action that are reasonably certain to occur in the action area; and (4) Cumulative Effects, which evaluate the effects of future non-Federal activities in the action area that are reasonably certain to occur.

For the section 7(a)(2) determination regarding destruction or adverse modification, the Service begins by evaluating the effects of the proposed Federal action and the cumulative effects. The Service then examines those effects against the condition of all critical habitat described in the listing designation to determine if the proposed action's effects are likely to appreciably diminish the value of critical habitat as a whole for the conservation of the species.

STATUS OF THE SPECIES

## Morro Shoulderband Snail

### Legal Status

The Service listed the Morro shoulderband snail as endangered on December 15, 1994 (Service 1994). We completed a recovery plan for the species and four plants from western San Luis Obispo County in September 1998 (Service 1998). We designated critical habitat on February 7, 2001 (Service 2001) and completed a 5-year status review for the species in 2006 (Service 2006). In 2019, we completed a species status assessment (SSA) report the recommended downlisting the Morro shoulderband snail from endangered to threatened status (Service 2019). We published the reclassification of Morro shoulderband snail from endangered to threatened with section 4(d) rule on February 3, 2022 (Service 2022).

### Natural History

The Morro shoulderband snail is a member of the terrestrial snail family Helminthoglyptidae. Its genus, *Helminthoglypta*, is a complex of many species of shoulderband snail, each with a relatively small range (Burke et al. 1999). The Big Sur shoulderband snail (*H. umbilicata*) occurs sympatrically (occupies the same geographic area but does not interbreed) with the Morro shoulderband snail (Walgren 2003). We once considered that that the Chorro shoulderband snail (*H. morroensis*) occupied a distinctly different geographic distribution from the Morro shoulderband snail (Roth and Tupen 2004); however, now have information that Morro and Chorro shoulderband snails occur sympatrically (Tenera Environmental 2006). Walgren (2003) previously documented intermediate forms of these two species.

At the time of listing, the Service believed the species was restricted to sandy soils of coastal dune and dune scrub habitats in the area of Los Osos, Baywood Park, and Morro Bay. Roth (1985) speculated perhaps as few as several hundred Morro shoulderband snails remained throughout the geographic range of the species. A very limited survey for the species conducted in 1992 did not identify any live snails (Service 1994); however, subsequent surveys conducted primarily in association with proposed development projects have consistently identified live individuals indicating the population is more robust than previously thought. Pre-construction surveys conducted as part of the Los Osos Wastewater Project demonstrate that the Morro shoulderband snail occupies a diversity of both native and non-native habitats throughout its geographic range (SWCA 2013, SWCA 2014).

In native habitat underlain by Baywood fine sand soils, the Morro shoulderband snail typically occurs in accumulated organic understory or duff and on the undersides of shrub branches near the soil surface. Plant species commonly associated with the presence of Morro shoulderband snail include mock heather (*Ericameria ericoides*), dune lupine (*Lupinus chamissonis*), seaside wooly sunflower (*Eriophyllum staechadifolium*), deerweed (*Acmispon glaber* [*Lotus scoparius*]), and sand almond (*Prunus fasciculata var. punctata*). Morro shoulderband snails also occur in

non-native iceplant species (e.g., *Carpobrotus edulis, C. chilensis*) and the nonnative grassland dominated by perennial veldt grass (*Ehrharta calycina*). Past and current observations (Walgren 2003, SWCA 2013, SWCA 2014) indicate that the microclimate necessary for the species' survival and reproduction is defined more by plant species physiognomy and soils than presence of any particular plant species.

Morro shoulderband snails are most active when increased moisture availability facilitates their ability to disperse, find food, and mate. In the dry season, Morro shoulderband snails, like other terrestrial snail species, aestivate in accumulated litter or attached to the branches of shrubs. As with other snails in the genus *Helminthoglypta*, this species aestivates by producing an epiphragm (a seal of dried mucus in the aperture of the shell) to reduce water loss during the dry season. Information on the bronze shoulderband (*Helminthoglypta arrosa*), a similar terrestrial snail species found in coastal scrub in northern California, indicates that smaller individuals are more often found aestivating under vegetation and leaf litter. They also aestivate under vegetation on the ground (van der Laan 1973a) or on the twigs of shrubs. This may also be the case for Morro shoulderband snail as it if found in habitats with a similar plant species composition to that of the bronze shoulderband.

Like most terrestrial snails, the Morro shoulderband snail is an herbivore, feeding predominantly on detritus. Fungi may be a potential food source for Morro shoulderband snails although as with the bronze shoulderband, dead material is strongly preferred over living material for those acceptable plant species (van der Laan 1973b).

**Rangewide Status**

Based on the recovery plan and our SSA report (Service 1998, Service 2019), we conclude that the status of the Morro shoulderband snail has improved throughout its range due to the substantial amount of habitat that has been preserved that was previously at risk for development, along with land use decisions and management activities undertaken by the County and landowners since the time of listing. The SSA report contains an accounting of conservation and management efforts (Service 2019). Overall, our analysis indicates that the intent of the downlisting criteria for the Morro shoulderband snail has been met (Service 2022); however, delisting criteria have not yet been achieved.

At the time of its listing, threats to the Morro shoulderband snail included habitat loss and degradation, competition from non-native snail species, negative effects of off-highway vehicle activity, and use of pesticides. Since then, several of these threats have been ameliorated; however, habitat loss, and especially habitat degradation due to changes in habitat community structure and composition, continue to constitute a substantial threat to the species. Dehydration is a major threat to all terrestrial mollusks; therefore, another threat to the Morro shoulderband snail is exposure resulting from partial or complete removal of protective, sheltering vegetation that provides a more mesic microclimate. As with other species of *Helminthoglypta*, the Morro shoulderband snail is subject to predation by small mammals and snakes (van der Laan 1980, Huntzinger et al. 2008). Although no formal studies have provided evidence that disturbance

during aestivation may adversely affect Morro shoulderband snails, individuals likely survive careful capture and relocation into nearby suitable habitat (SWCA 2014). Absent any additional studies, we must consider that some individuals could suffer physiological stress or even death if their epiphragm is affected or individuals experience desiccating conditions because of disturbance during aestivation.

**Recovery**

The Service prepared a recovery plan for Morro shoulderband snail and four plants from western San Luis Obispo County in 1998 (Service 1998). The recovery goal for the Morro shoulderband snail is delisting. Recovery actions for the Morro shoulderband snail focus on securing and protecting suitable occupied habitat in all identified conservation planning area sufficient to support populations of the species in the long-term (i.e., at least 50 years). There are four Conservation Planning Areas defined: Area 1: Morro Spit, Area 2: West Pecho, Area 3: South Los Osos, Area 4: Northeast Los Osos. The recovery plan specifies that Morro shoulderband snail populations and their habitats are secured in all four Conservation Areas with populations large enough to minimize the short-term chance of extinction, as shown by life history studies. There must be adequate progress on control of exotic pest plants (including veldt grass) to assure that occupied habitat can remain intact and usable to the snail. Progress must have been made toward assessing possible threats, including competition from, or predation by non-native snails and use of pesticides. It is important to continue efforts to survey for Morro shoulderband snail in potential habitat within the snail's historic range to ascertain whether undiscovered populations exist; if so, delisting criteria will have to be reviewed. Delisting criteria for the Morro shoulderband snail are the following: sufficient populations and suitable habitats (as shown by life history studies) from each of the four Conservation Planning Areas (and, if necessary, any newly located populations) must be secured from the known threats, including exotic pest plants. Possible threats, including competition from non-native snails, predation by non-native snails, and use of pesticides, must have been assessed and effectively controlled or removed. The sites must be under permanent management to maintain the desired vegetation structure and control pests and human incursions.

The SSA report concluded that the intent of the downlisting criteria for the Morro shoulderband snail has been met; however, delisting criteria have not yet been achieved (Service 2019). The Service reclassified the Morro shoulderband snail from endangered to threatened in 2022 (Service 2022).

**Critical Habitat for Morro Shoulderband Snail**

The Service designated critical habitat for the Morro shoulderband snail on February 7, 2001 (Service 2001). It includes three units covering 2,566 acres in western San Luis Obispo County. The action area is within designated Unit 3.

The phrases "primary constituent elements" (PCEs) and "physical and biological features" (PBFs) are synonymous. Critical habitat rules published before February 11, 2016, used the

term PCE, while critical habitat rules published after that date use the term PBF. In cases where a critical habitat rule numbers PCEs specifically (e.g., PCE-1, PCE 1), we will use the terms as defined in the critical habitat designation to avoid confusion.

The critical habitat designation for Morro shoulderband snail does not contain a numerical list of what are termed in the document as "primary constituent elements", but instead, describes designated units as providing the following physical and biological features: sand or sandy soils needed for reproduction; a slope not greater than 10 percent to facilitate movement of individuals; and the presence of native coastal dune scrub vegetation. This vegetation is typically, but not exclusively, represented by mock heather, buckwheat (*Eriogonum* spp.), eriastrum, chamisso lupine, dudleya (*Dudleya* spp.), and in more inland locations, California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and black sage (*Salvia mellifera*). Critical habitat was delineated in the Los Osos area in three units: Unit 1: Morro Spit and West Pecho; Unit 2: South Los Osos; and Unit 3: Northeast Los Osos. Some of the habitat in the critical habitat units could be improved through habitat rehabilitation or improved management (e.g., removal of nonnative species).

**Tidewater Goby**

**Legal Status**

The Service listed the tidewater goby as endangered on March 7, 1994 (59 FR 5494) and designated critical habitat for the tidewater goby on February 6, 2013 (78 FR 8745). We published a recovery plan for the tidewater goby on December 12, 2005 (Service 2005) and a 5-year review in September 2007 (Service 2007). The Service published a proposed rule to downlist the tidewater goby on March 13, 2014 (79 FR 14339). During the public comment period, the Service received substantial comments regarding the proposed change in species status, and the tidewater goby remains listed as endangered.

**Natural History**

The tidewater goby is endemic to California and is one of the only species of fish to live exclusively in brackish water coastal lagoons, estuaries, and marshes in California (Swift et al. 1989, Moyle 2002). Tidewater goby habitat is characterized by fairly still, but not stagnant, brackish water. They can withstand a wide range of habitat conditions and have been documented in waters with salinity levels that range from 0 to 42 parts per thousand (ppt), temperatures ranging from 46 to 77 degrees Fahrenheit and water depths from 10 to 79 inches (Irwin and Soltz 1984, Swift et al. 1989, Smith 1998). Most tidewater goby collections occurred in water of approximately one-third ocean salinity; (i.e., 12 ppt or less; Service 2005). Tidewater gobies are generally found over substrate that has a high percentage of sand and gravel (Worcester 1992) and are often clumped in areas that have sparse to medium dense cover by aquatic plants or algae (Worcester 1992). Tidewater gobies often migrate upstream and are commonly found up to 0.6 mile up from a lagoon or estuary (Service 2005), and have been recorded as far as 3 to 5 miles upstream of tidal areas (Irwin and Soltz 1985).

Tidewater gobies feed on small invertebrates, including amphipods, ostracods, snails, mysids, and aquatic insect larvae, particularly chironomid larvae (Swift et al. 1989). Predators of tidewater gobies include staghorn sculpin (*Leptocottus armatus*), prickly sculpin (*Cottus asper*), starry flounder (*Platichthys stellatus*), and largemouth bass (*Micropterus salmoides*); native birds and other predatory fish likely also prey on gobies (Swift et al. 1997, Swift et al. 1989).

The tidewater goby is primarily an annual species (Swift et al. 1989), although there is some variation in life history and some individuals have lived up to 3 years in captivity (Swenson 1999). If reproductive output during a single season fails, few (if any) tidewater gobies survive into the next year. Reproduction typically peaks from late April or May to July and can continue into November or December depending on the seasonal temperature and amount of rainfall (Swift et al. 1989, Worcester 1992, Goldberg 1977). Males begin the breeding ritual by digging burrows at least 3 to 4 inches apart in clean, coarse sand of open areas. Unlike most other fish, females court the males (Swift et al. 1989). Once chosen by a male, females will then deposit eggs into the burrows, averaging 400 eggs per spawning effort (Swift et al. 1989, Swenson 1995). Males remain in the burrows to guard the eggs and fan the eggs to circulate water, frequently foregoing feeding (Moyle 2002).

Within 9 to 11 days after eggs are laid, larvae emerge and are approximately 0.16 to 0.24 inch (Swift et al. 1989, Service 2005). Larval traits (larval duration, size at settlement, and growth rate) are correlated with water temperature, which varies considerably in the seasonally closed estuaries that tidewater gobies inhabit (Spies and Steele 2016). Larval tidewater gobies are pelagic for an average of 21 to 27 days and settle once they grow to approximately 0.47 to 0.51 inch in standard length (Spies et al. 2014). When they reach this life stage, they become substrate-oriented, spending the majority of time on the bottom rather than in the water column. Both males and females can breed more than once in a season, with a lifetime reproductive potential of 3 to 12 spawning events (Swenson 1999). Vegetation is critical for over-wintering tidewater gobies because it provides refuge from high water flows and tidewater goby densities are greatest among emergent and submerged vegetation (Moyle 2002).

Because they typically live for approximately one year and inhabit a seasonally changing environment, population sizes of tidewater gobies vary greatly spatially and seasonally, with recorded numbers ranging from 0 to 18.39 individuals per square foot (Swenson 1995). After the spring spawning season, there is typically an annual die-off of adults (Swift et al. 1989; Swenson 1995).

**Rangewide Status**

Historically, the tidewater goby occurred in at least 150 California coastal lagoons and estuaries, from Tillas Slough near the Oregon/California border south to Agua Hedionda Lagoon in northern San Diego County (Swift et al. 1989); the southern extent of its distribution has been reduced by several miles after the mouth of Agua Hedionda Lagoon was permanently modified to be open to the ocean and no longer supports tidewater gobies. The species is currently known to occur in 103 localities, although the number of sites fluctuates with climatic conditions and

the current status is unknown in 12 localities. Currently, the most stable populations are in lagoons and estuaries of intermediate size (5 to 124 acres) that are relatively unaffected by human activities (Service 2005).

Local populations of tidewater gobies are best characterized as metapopulations (Lafferty et al. 1999a), or "a network of semi-isolated populations with some level of regular or intermittent migration and gene flow among them, in which individual populations may go extinct but can then be recolonized from other populations" (Groom et al. 2006). Therefore, the stability of a metapopulation depends on the connectivity of subpopulations.

Tidewater gobies enter the marine environment when sandbars are breached during storm events. Lafferty et al. demonstrated that tidewater gobies were able to disperse at least 5.6 miles (Lafferty et al. 1999b), and genetic analysis suggests that this species can disperse much further, with genetic assignment tests showing movement of individuals up to approximately 30 miles (Jacobs et al. 2005). The species' tolerance of high salinities for short periods of time enables it to withstand marine environment conditions of approximately 35 ppt salinity, thereby allowing the species to re-establish or colonize lagoons and estuaries following flood events (Swift et al. 1997). Genetic studies indicate that the tidewater goby population is highly geographically structured, indicating that there is low geneflow (Dawson et al. 2001; Dawson et al. 2002) and thus natural recolonization events are likely rare. Swift et al. (2016) estimates that the southernmost population of tidewater goby has been separated from other lineages for 2 to 4 million years, and it has been recognized as a distinct species (*Eucyclogobius kristinae*, the southern tidewater goby), but as of now the tidewater goby remains listed under the Endangered Species Act as one entity.

Native predators are not known to be important regulators of tidewater goby population size in the lagoons of southern California. Rather, population declines are attributed to environmental conditions. The decline of the tidewater goby is attributed primarily to habitat loss or degradation resulting from urban, agricultural, and industrial development in and around coastal wetlands, lagoons, and estuaries (Irwin and Soltz 1985). High flows naturally and periodically breach lagoon barriers and expose tidewater gobies to tidal conditions, but artificial breaching has been observed to cause tidewater goby stranding and mortality (Swift et al. 2018). Artificial breaching, especially during periods of low inflow, not only flushes tidewater gobies out into the ocean but also drains water from the lagoon and thus reduces the size of available habitat for this species; this can also concentrate predators within this reduced lagoon footprint. Some extirpations appear to be related to pollution, upstream water diversions, and the introduction of non-native predatory fish species, most notably centrarchid sunfish (*Lepomis* spp.) and bass (*Micropterus* spp.) (Swift et al. 1989). These threats continue to affect some of the remaining populations of tidewater gobies. Climate change and the attendant sea level rise may further reduce suitable habitat for the tidewater goby as lagoons and estuaries are inundated with saltwater (Cayan et al. 2006) and severe storms interacting with increased sea levels may breach lagoons more frequently.

In 2014, the Service issued a 12-month finding proposing to reclassify the tidewater goby as threatened under the Act. During the public comment period, we received substantive comments regarding the proposed change in the species' status and new scientific information has been published regarding the species. The tidewater goby remains listed as endangered and its overall population and range is currently stable, but still faces ongoing and likely increasing threats of urbanization, artificial breaching, stochastic environmental conditions, and introduced predators. The southernmost population of tidewater goby remains critically endangered because this species has become extirpated from 5 of the 13 historical localities, 4 of which cannot be restored.

**Recovery**

The goal of the tidewater goby recovery plan (Service 2005) is to conserve and recover the tidewater goby throughout its range by managing threats and maintaining viable metapopulations within each recovery unit while retaining morphological and genetic adaptations to regional and local environmental conditions. The decline of the tidewater goby is attributed primarily to habitat loss or degradation resulting from urban, agricultural, and industrial development in and around coastal wetlands. The recovery plan identifies six recovery units: North Coast Unit, Greater Bay Unit, Central Coast Unit, Conception Unit, Los Angeles/Ventura Unit, and South Coast Unit.

The recovery plan specifies that the tidewater goby may be considered for downlisting when:

1. Specific threats to each metapopulation (e.g., coastal development, upstream diversion, channelization of rivers and streams) have been addressed through the development and implementation of individual management plans that cumulatively cover the full range of the species; and

2. A metapopulation viability analysis based on scientifically-credible monitoring over a 10-year period indicates that each recovery unit is viable. The target for downlisting is for individual sub-units within each recovery unit to have a 75 percent or better chance of persistence for a minimum of 100 years.

The tidewater goby may be considered for delisting when the downlisting criteria have been met and a metapopulation viability analysis projects that all recovery units are viable and have a 95 percent probability of persistence for 100 years.

**Tidewater Goby Critical Habitat**

We originally designated critical habitat for the tidewater goby on November 20, 2000 (65 FR 69693). In January 2008, we finalized a revised designation of critical habitat (73 FR 5920). On October 19, 2011, we published another proposed revision to critical habitat (76 FR 64996), and on February 6, 2013, we published a final rule designating revised critical habitat for the tidewater goby (78 FR 8745).

Under the Act and its implementing regulations, we are required to identify the physical and biological features (PBFs) essential to the conservation of the tidewater goby in areas occupied at the time of listing. We consider the PBFs that, when present in the appropriate quantity and spatial arrangement to provide for a species' life-history processes, are essential to the conservation of the species. The PBFs specific to the tidewater goby include:

PBF 1: Persistent, shallow (in the range of approximately 0.3 to 6.6 feet), still-to-slow-moving water in lagoons, estuaries, and coastal streams with salinity up to 12 ppt, which provide adequate space for normal behavior and individual and population growth that contain one or more of the following:

- PBF 1a: Substrates (e.g., sand, silt, mud) suitable for the construction of burrows for reproduction;

- PBF 1b: Submerged and emergent aquatic vegetation, such as *Potamogeton pectinatus*, *Ruppia maritima*, *Typha latifola*, and *Scirpus* spp., that provides protection from predators and high flow events; or

- PBF 1c: Presence of a sandbar(s) across the mouth of a lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, thereby providing relatively stable water levels and salinity.

Critical habitat includes areas outside the geographical area occupied at the time of listing that contain suitable aquatic habitat in coastal lagoons or estuaries, provide connectivity between source populations or may provide connectivity in the future, or may be more isolated but represent unique adaptations to local features (habitat variability, hydrology, microclimate). In total, we designated 45 critical habitat units within the geographical area occupied at listing and 20 critical habitat units outside the geographical area occupied at listing that we have determined are essential for the conservation of the species.

Approximately 12,156 acres fall within the boundaries of the 65 critical habitat units designated by the 2013 final revised critical habitat rule. Revised critical habitat for the tidewater goby now occurs in Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties, California. Overall, the critical habitat for this species has remained stable but is still threatened by coastal development.

**Morro Manzanita**

**Legal Status**

The Service listed the Morro manzanita as threatened in 1994 (59 FR 64613). The Morro manzanita was included in the Recovery Plan for Morro Shoulderband Snail and Four Plants

from Western San Luis Obispo County published on September 28, 1998 (Service 1998). The Service completed a 5-year review for Morro manzanita on December 12, 2013 (59 FR 64613).

**Natural History**

Morro manzanita is a long-lived shrub in the heath family (Ericaceae), with mature individuals reaching 12 feet in height. Morro manzanita produces white to pink downward-facing, urn-shaped flowers starting in December. Orange-red fruits mature in summer and contain 8 to 10 seeds each; seed dispersal occurs in the fall.

Although we do not know whether the flowers are self-compatible, extensive research revealed that pollination is required for reproduction. In 1998 and 1999, Tyler and Odion found that bumblebees (*Bombus vosnesenskii*) are the dominant pollinators, though anthophorid bees (*Anthophora urbana*), several bee flies (*Bombylius* spp.), and syrphid flies (family Syrphidae) are also known pollinators. The authors also noted surprisingly low pollinator activity for both years surveyed (Tyler et al. 1998 and 2000). Only 10 percent of flowers examined in 1998 produced fruits. Pollinator abundance and abiotic factors (i.e., climate) may play a role in annual and seasonal variation (Tyler et al. 1998).

Birds and large mammals (coyote (*Canis latrans*) and mule deer (*Odocoileus hemionus*)) are thought to aid Morro manzanita in seed dispersal (Keeley and Hays 1976). This secondary dispersal (which occurs after the parent plant initially sets seed) is limited, however, as evidenced by 90 percent fewer seeds present in soil cores 5 feet (1.5 meters) away from Morro manzanita compared to samples taken from beneath the canopy (Tyler and Odion 1996).

There is a clear difference in a basic life history trait that separates the genus *Arctostaphylos* into two functional groups. One group resprouts from a woody burl following canopy removal by fire or mechanical action. The other group has lost this ability to resprout and, as such, reproduce only by seed. Lacking a woody burl from which it can resprout, Morro manzanita is an obligate-seeding species. Seeds of obligate seeders are long-lived and inhibited from germinating until primary dormancy is released by a specific mechanism. The dormancy mechanism allows the species to build up a seed bank that is persistent (Tyler and Odion 1996).

For Morro manzanita and other obligate-seeding species of manzanita, maintenance and regeneration are dependent upon mass germination triggered by fire (Tyler and Odion 1996). Fire breaks also create open areas where seedlings can germinate and individuals establish. The life history of an obligate seeder can only be successful if the interval between fires is long enough for seeds to accumulate the quantity required to replace the parent generation. The number of seeds in the soil that must accumulate is very high, as seed mortality has been found to be substantial in chaparral burns (Tyler et al. 2000). However, suppressing fire for too long could lead to the development of climax, closed-canopy chaparral stands, eventually having an adverse effect on populations of Morro manzanita by precluding expansion into otherwise suitable habitat and maintenance of even-aged, eventually-senescing stands; this is referred to as “senescence risk” (Ne’eman et al. 1999).

Morro manzanita is found in association with coastal dune scrub, maritime chaparral, and coast live oak woodland communities (Service 1998). In openings between the shrubs, these communities support a diversity of native and nonnative herbaceous species.

Morro manzanita is primarily found on Baywood fine sand soils (ancient wind-blown beach sands), developed on ancient sand dunes deposited during the Pleistocene epoch. The species is found on a variety of slopes and aspects, though cover is concentrated within two slope categories: 9 to 15 percent slopes, and 15 to 30 percent slopes (McGraw 2005, Tyler and Odion 1996). On steep slopes, particularly on the north-facing slopes of the Irish Hills, it can be found in almost pure stands. This narrow habitat preference makes this species particularly vulnerable to habitat loss and fragmentation. Approximately 75 percent of its historical habitat has been converted for residential use, resulting in highly fragmented populations. The limited dispersal abilities of this species further exacerbates the threat of habitat fragmentation.

**Rangewide Status**

Morro manzanita ranges from the northeast side of Morro Bay to the southern end of Montaña de Oro State Park, a distance of less than 10 miles. The distribution of Morro manzanita is correlated with the distribution of Baywood fine sands. Based on the distribution of these sands, the historical distribution of Morro manzanita is estimated to have comprised between 2,000 and 2,700 acres. In 1994 when the species was listed, it was estimated that the range covered by Morro manzanita was 840-890 acres (Service 1994). In 2013, we estimated that approximately 75 percent of the former range of the species had been converted to urban development, and the existing extent of Morro manzanita has been reduced to less than 400 acres. The species is continuously threatened by habitat conversion and fragmentation.

Because stands of Morro manzanita, and maritime chaparral in general, grow so densely, it is difficult to count numbers of individuals during surveys. As variation in stand density and the growth habits of the species make demographic studies difficult, actual abundance may have been significantly lower than those reported by LSA Inc. (LSA 1992) (McGuire and Morey 1992). Therefore, estimates of abundance have typically been based on the density of cover instead. During their surveys in 1991, LSA (1992) used five cover classes and percent, 50 to 75 percent, 25 to 50 percent, 5 to 25 percent, and 1 to 5 percent. Based on this approach, LSA estimated approximately 153,000 Morro manzanita plants occurred across the species' range at the time of listing. LSA made these estimates based on a helicopter flyover and walkover surveys of Morro manzanita populations within Montaña de Oro State Park and above Cabrillo Estates. LSA assumed that an individual plant covered approximately 100 square feet (9.3 square meters) or 11.3 feet (3.4 meters) in diameter. However, McGuire and Morey produced a lower estimate than LSA (using a 15-foot diameter per individual), estimating that the total species population would be closer to 86,500 individuals (McGuire and Morey 1992).

**Recovery**

The recovery objective for Morro manzanita is delisting. Morro manzanita can be considered for delisting when all three of the following have been achieved: (1) 90 percent of existing acreage supporting high (75-100 percent) and medium (25-75 percent) cover of Morro manzanita and 85-90 percent of low (1-24 percent) cover supporting Morro manzanita are secured from human-induced threats in preserves in the Northeast Los Osos, South Los Osos and West Pecho Conservation Planning Areas with no greater fragmentation by roads, residences, or other areas of human use than currently exists, (2) evidence that the acreage and approximate cover classes of Morro manzanita in preserves can be maintained over time and that preserves are not made unmanageable by small size, proximity to urban development, or fragmentation, and (3) site-specific management plans have been successfully implemented for the preserves. Because habitat in the Conservation Planning Areas must remain unfragmented to recover this species, habitat attrition must be restricted to isolated or remnant patches of Morro manzanita that are unlikely to be viable over the long term. Highest priority for securing sites should be given to stands where Morro manzanita is the dominant in terms of cover, where large blocks of occupied habitat are still present, and where Morro manzanita habitat can be secured that abuts other protected lands, as in the South Los Osos Conservation Planning Area.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) (50 CFR 402.02) define the environmental baseline as "the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline."

**Action Area**

The implementing regulations for section 7(a)(2) of the Act (50 CFR 402.02) define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The action area includes the bridge construction impact area, construction staging areas, potential mitigation areas and a minimum 100-foot-wide buffer. The total size of the action area is approximately 49 acres. The action area is approximately 700 feet wide at the location of the bridge; because of a large creek meander, the action area includes approximately 1,350 linear feet of the Los Osos Creek channel (1,050 feet downstream of the bridge and 300 feet upstream).

**Habitat Characteristics of the Action Area**

The action area is within Morro Bay State Park and Morro Estuary Natural Preserve, and includes a portion of the estuary at the mouth of Los Osos Creek. The Morro Bay watershed covers approximately 76 square miles and includes two major tributaries: Chorro Creek and Los Osos Creek. The 2,300-acre Morro Bay estuary is one of 28 estuaries in the National Estuary Program (managed by the Morro Bay National Estuary Program), a program designated and funded by the U.S. Environmental Protection Agency to protect estuaries of national significance.

The habitats of the action area consist of Morro manzanita chaparral, coyote brush scrub, Lompoc ceanothus chaparral, eroded dune slope, coast live oak woodland, pickleweed salt marsh, California bulrush marsh, arroyo willow stands, non-native grass and iceplant stands, ruderal disturbed areas, and open water in the Los Osos Creek channel.

**Existing Conditions in the Action Area**

The action area includes the South Bay Boulevard Bridge and its right-of way. Although this is a developed feature, the action area contains and is adjacent to unique ecosystems endemic to the specific location. Although there are stands of invasive species, such as iceplant and veldt grass, and some small disturbed areas, the majority of vegetated areas are dominated by native habitat types, including local endemic species, in relatively good condition.

**Previous Consultations in the Action Area**

We are unaware of previous consultations that overlap with the action area.

**Condition (Status) of the Species in the Action Area**

**Morro shoulderband snail**

Within the action area, suitable Baywood fine sand soils occur south of Los Osos Creek. Coyote brush scrub has colonized historic fill northwest of the existing bridge. Although coastal dune scrub vegetation does not occur within the action area, a few areas of open Morro manzanita chaparral, Lompoc ceanothus chaparral, and coyote brush scrub may provide suitable habitat for Morro shoulderband snail. The species may also be associated with nonnative species such as veldt grass and ice plant that occur in the action area.

Protocol-level surveys were not conducted for this project. Several survey efforts have been conducted in the action area and vicinity over the last 15 years. No live Morro shoulderband snails were found during these efforts, but a total of six empty shells have been found. No Morro shoulderband snail surveys were conducted at the Santa Ysabel Avenue staging area for this project. However, there is a Morro shoulderband snail relocation receiver site nearby to receive Morro shoulderband snails relocated from the County sewer project. Therefore, because Morro

shoulderband snails occur nearby and the action area contains suitable habitat and vegetation, we consider Morro shoulderband snails to be present within the action area.

**Morro shoulderband snail Recovery**

The action area is within Conservation Planning Area 4, Northeast Los Osos, and contains suitable habitat on Baywood fine sand soils. The action area is adjacent to protected lands with known populations of Morro shoulderband snail and is in the County right-of-way, and thus will be managed in a manner similar to a protected land because activities will be analyzed for potential environmental impacts. The habitats within the action area are suitable but are not characterized as the ideal coastal dune scrub. Instead, Morro manzanita chaparral, Lompoc ceonothus chaparral, and coyote brush scrub provide suitable habitat for the species. The habitats are relatively intact, with areas of invasive veldt grass and iceplant on the edges of the action area.

**Condition of Morro shoulderband snail Critical Habitat in the Action Area**

The action area is within Morro shoulderband snail designated critical habitat Unit 3. The action are contains two of the three primary constituent elements defined in the 2001 designation of critical habitat: sand or sandy soils and a slope not greater than 10 percent. Although there are no areas characterized as coastal dune scrub within the action area, the third PCE, we now know Morro shoulderband snails occupy many different native and non-native vegetation types. Within the action area, Baywood fine sand soils occur south of Los Osos Creek and north of the existing bridge. Although coastal dune scrub vegetation does not occur within the action area, a few areas of open Morro manzanita chaparral, Lompoc ceonothus chaparral, and coyote brush scrub within the action area can be considered to provide all three primary constituent elements.

**Tidewater Goby**

Tidewater goby was detected within or nearby the action area in 1968-70, 1981, and 2001, but was not detected within the action area during protocol surveys conducted for the project in 2016. The survey was conducted during drought conditions, as reflected in high salinity levels (above 32 ppt) in the survey area, likely due to the lack of freshwater inputs from Los Osos Creek. Since that time, normal inflow of fresh water reestablished in the creek during subsequent rain events, particularly during 2019 and 2020. During these more favorable conditions, the tidewater goby population in Los Osos Creek likely recovered and could utilize additional areas within the creek. This species has been found within Los Osos Creek in previous years, which indicates suitable habitat for tidewater goby is present. Therefore, tidewater goby has the potential to occur within the action area. However, the lack of sandy substrate in Los Osos Creek creates unfavorable breeding conditions.

**Tidewater Goby Recovery**

The action area for the proposed project is located within Los Osos Creek recovery sub-unit CC 3j. The recovery plan described the habitat of this sub-unit as being 250 acres within the Morro Estuary Natural Preserve. The most recent observation of tidewater gobies was in 2001 (Service 2005), and prior to that, tidewater gobies have not been observed here since 1981. Infrequent tidewater goby observations could be due to the designation of Los Osos Creek as "Water Quality Limited" by the State Water Resources Control Board caused by excessive pollutants and stressors entering the creek from urban and agricultural development within the watershed resulting in low dissolved oxygen, high nutrients, and sedimentation and siltation.

**Condition of Tidewater Goby Critical Habitat in the Action Area**

Los Osos Creek, upstream of the existing bridge, falls within tidewater goby critical habitat Unit SLO-9. Based on data collected during the protocol surveys for tidewater goby, the water depth within the action area is adequate (less than 6 feet) and the Los Osos Creek channel within the action area provides adequate space for growth and reproduction. Water depths due to the tides range from 0 feet (exposed) to an average of 2 to 3 feet at high tide, or up to 5 feet at spring high tides. The channel width, including the shoreline salt marsh, increases with higher tide stages up to approximately 100-feet wide. The action area provides suitable substrates (soft mud) for burrowing, but no sandy substrates for breeding. Submerged and emergent aquatic vegetation of the types listed was not found within the action area during the field surveys, but emergent aquatic vegetation is present in salt marsh and will be accessible to tidewater goby at higher tide stages for refuge. In regard to salinity, tidewater goby is more commonly associated with lower salinity levels than ocean and estuarine salinities that will occur in the absence of a barrier, about 35 ppt. Elevated salinity levels do occur regularly in the action area (Caltrans 2021). The confluence of Los Osos Creek with Morro Bay is not closed by a sand bar; however, the large water volume of the adjacent Morro Bay may stabilize conditions somewhat compared to a site closer to an ocean inlet. Overall, it is assumed the action area offers the primary constituent elements of critical habitat for tidewater goby at various times.

**Morro Manzanita**

Morro manzanita is typically associated with Baywood fine sand soils. Morro manzanita occurs throughout the action area, but not exclusively on Baywood fine sands. It also occurs on fill installed when the existing bridge was constructed, and a few individuals occur in substrate with Baywood fine sands outside the historic fill limit to the northwest of the bridge.

Morro manzanita is found on a variety of slopes and aspects in association with coast live oak woodland, and in abundance within Morro manzanita chaparral and Lompoc ceanothus chaparral in the action area. Approximately 46 Morro manzanita shrubs are located within the project impact area.

**Morro Manzanita Recovery**

The Northeast Los Osos Conservation Planning Area supports the most northern intact population of Morro manzanita. The action area does not meet one of the three recovery objectives for habitat needed for recovery of Morro manzanita. The small linear shape of the action area is not ideal to support the need for broad swaths of protected habitat dominated by Morro manzanita. Because the action area is adjacent to larger parcels of protected lands, improvements and maintenance of Morro manzanita habitat in the action area can benefit Morro manzanita recovery.

EFFECTS OF THE ACTION

The implementing regulations for section 7(a)(2) define effects of the action as "all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action" (50 CFR 402.02).

In conducting this analysis, we have considered factors such as 5-year reviews, published scientific studies and literature, and professional expertise of Service personnel in determining whether effects are reasonably certain to occur. We have also determined that certain consequences are not caused by the proposed action, such as the increase or spread of disease, poaching, or collecting, because they are so remote in time, or geographically remote, or separated by a lengthy causal chain, so as to make those consequence not reasonably certain to occur.

**Effects of the Proposed Action**

**Effects of the Proposed Action on the Morro shoulderband snail**

Construction of New Bridge

Pre-activity surveys for Morro shoulderband snail will be conducted prior to ground-disturbing activities and during wet weather work or foggy work days that provide conditions for snail movement. If the Service-approved biologist locates a live Morro shoulderband snail in the action area, it will be captured and relocated to a pre-determined receiver site. The Morro shoulderband snail could be injured or killed during capture and relocation. The individual Morro shoulderband snail may not survive the relocation process. The County proposes to obtain a Service-approved biologist to perform these activities, who will have the experience needed to minimize impacts to Morro shoulderband snail from capture and relocation.

Construction activities could result in direct impacts to Morro shoulderband snails during clearing and grubbing and construction activities in upland portions of the action area. Construction disturbance could affect all life stages of Morro shoulderband snails, if present in

upland areas in the action area. Suitable Morro shoulderband snail habitats, including Morro manzanita chaparral, Lompoc ceanothus chaparral, and coyote brush scrub, will be directly and indirectly be impacted by project activities. Permanent impacts to habitats will result from realigning the north approach road (0.24 acre of Morro manzanita chaparral), and potentially from stormwater runoff from the realigned road to adjacent intact habitats. Temporary impacts to habitats will occur in construction access and staging areas (0.6 acre of Morro manzanita chaparral, 0.08 acre of Lompoc ceanothus chaparral, and 1.37 acres of coyote brush scrub), and there is a potential for additional impacts from construction-related disturbance outside the construction area within the action area during the 30-month construction period.

The County proposes to further refine the direct impact areas to minimize habitat disturbance. Project areas will be confined within high visibility fencing which will minimize additional impacts to habitats. The County also proposes to implement erosion control measures which will minimize impacts to habitats from stormwater runoff.

Demolition of Old Bridge

Pre-activity surveys for Morro shoulderband snail will be conducted prior to bridge demolition activities that may occur during wet weather or foggy work days that provide conditions for snail movement. If the Service-approved biologist locates a live Morro shoulderband snail in the action area, it will be captured and relocated to a pre-determined receiver site. The Morro shoulderband snail could be injured or killed during capture and relocation. The County proposes to obtain a Service-approved biologist to perform these activities, who will have the experience needed to minimize impacts to Morro shoulderband snail from capture and relocation.

If Morro shoulderband snails are present during bridge demolition activities, they could be injured or killed by equipment or personnel. Morro shoulderband snail habitat could be impacted by stormwater runoff from work areas or fuel or oil leaks from equipment into adjacent intact Morro shoulderband snail habitat. The County proposes to implement pre-activity surveys during conditions suitable for Morro shoulderband snail movement, as well as erosion control measures and spill prevention measures that will reduce the likelihood of these impacts to Morro shoulderband snail habitat and individuals.

Habitat Restoration, Mitigation and Monitoring

Removal of plants for storage and relocation could result in injury or mortality to all life stages of Morro shoulderband snail if present in leaf litter below the plants or in the base or canopy of plants. All life stages of Morro shoulderband snail could be injured or killed during weed control activities, habitat monitoring, and installation of irrigation equipment within restored habitat and mitigation sites. Trash and debris and restoration and mitigation sites could attract predators that could prey upon Morro shoulderband snails. The County proposes to obtain a Service-approved biologist to conduct these activities with the necessary experience to minimize the likelihood of these impacts.

**Effects of the Proposed Action on Morro Shoulderband Snail Recovery**

Construction and Demolition

Permanent and temporary impacts to suitable Morro shoulderband snail habitat from construction of the new bridge and demolition of the existing bridge could result in a decrease of suitable habitat available for Morro shoulderband snail recovery within Conservation Planning Area 4, Northeast Los Osos. The construction and demolition phase is expected to last 30 months, during which time the suitable habitat impacted temporarily and permanently by the project activities will be unavailable to support recovery of Morro shoulderband snail. The County proposes to restore temporary impact areas and mitigate for permanent impacts to Morro shoulderband snail habitats, which, over time, would offset the removal of this habitat during the construction and demolition phase.

Habitat Restoration, Mitigation and Monitoring

Once habitat restoration and mitigation activities are complete and success criteria has been reached, the restoration of temporary habitat impacts and creation of mitigation sites to offset permanent impacts would result in overall improvement of habitats available for recovery. Restoration and mitigation activities include species monitoring which will improve our knowledge of population dynamics. Weeds will be controlled for 5 years within restoration and mitigation sites resulting in improved habitat conditions within the Northeast Los Osos Conservation Planning Area, and could result in improved opportunities for species recovery.

**Effects of the Proposed Action on Critical Habitat of the Morro Shoulderband Snail**

Construction of the new bridge will result in 2.29 acres of critical habitat being removed for at least 30 months during construction and demolition phases. Following construction, 2.08 acres will be restored within 5 years. The 0.24 acre of permanent critical habitat loss will be replaced within the action area at a ratio of 3:1, resulting in a net gain of 0.48 acre of critical habitat. With the implementation of the Habitat Mitigation and Monitoring Plan, the condition of the critical habitat will likely improve as a result of maintenance, irrigation, and weed control activities.

Other impacts to critical habitat could result from stormwater runoff from road surfaces into habitat outside the restoration and mitigation areas. The County proposes to implement erosion control measures that will minimize the likelihood of these impacts.

**Effects of the Proposed Action on the Tidewater Goby**

Construction of the New Bridge

Due to salinity levels of Los Osos Creek, tidewater gobies are more likely to be upstream of the action area where salinity level is more favorable to tidewater goby, and we expect very few, if

any tidewater gobies to be in the action area. Potential impacts to tidewater goby are injury or death during installation of in-water structures, such as temporary trestle, cofferdams, and falsework for permanent pile construction. However, installation techniques, which include a gradual increase in noise and vibration, will decrease the likelihood of potential injury or death of tidewater gobies because gobies would be able to leave the area of impact before incurring harm.

Cofferdam installation could trap fish that will be stranded when the area is dewatered. However, cofferdams will be installed from shoreline to channel if feasible to encourage tidewater goby in the area to leave. Dewatering of cofferdams will be monitored and any trapped fish will be captured and released in a suitable channel location to avoid stranding of fish. Cofferdams will be designed to exclude anticipated high water levels so that once dewatered, tidewater goby are not expected to be able to get into dewatered areas.

The installation and removal of in-water structures may cause localized increases in turbidity. However, while suitable habitat requirements for tidewater goby have been documented for dissolved oxygen, pH, salinity, temperature, they have not been documented for turbidity (Ambrose and Orme 2000). Similarly, turbidity is not listed as a key habitat parameter for tidewater goby (Stillwater Science 2006). Although adverse effects from turbidity have not been documented, the County proposes to keep increases to turbidity to a minimum. The requirements to reduce or eliminate construction-related turbidity increases specified in the Water Quality Control Plan are expected to prevent significant increases in turbidity. Provided construction activities are managed such that these objectives are met, adverse effects to water quality from increased turbidity are not expected to occur.

Noise and turbidity from trestle installation and cofferdam installation could make conditions in Los Osos Creek even less favorable to foraging. However, the amount of tidewater goby foraging in the area is expected to be very low if at all due to the lack of vegetation and high salinity level in this portion of Los Osos Creek. The bridge is slightly larger than the existing bridge, so ultimately, the shading will be increased by an insignificant increment. The aquatic substrate in the action area is unvegetated, and so shading will not reduce existing vegetation. The shading will not impact tidewater goby individuals and will not cause a significant adverse change in the tidewater goby habitat from pre-project condition.

For most installation activities, including oscillation, rotation, vibration, or screw-in pile installation methods, fish may be driven from the project area by noise or vibration, but this effect is not expected to be significant. However, it is possible that the level of water column noise generated by pile driving could cause physical injury to fish. The project has been designed to minimize pile driving, the primary source of underwater noise and vibration. A very small amount of pile driving may be required to verify pile capacity but will be very limited in duration and intensity. A pile drivability study was performed by the project geotechnical engineer to determine approximately how many pile strikes per pile will be required to verify load capacity of the temporary piles. The study concluded that seven to ten strikes per pile will be sufficient for this purpose. If the contractor load tests three to four piles per day maximum as proposed, it

would total 30 total pile strikes per day. The short and temporary duration of this activity will not cause a significant impact to tidewater goby juveniles and adults who may be upstream of the action area.

Tidewater goby could be impacted by stormwater runoff during the construction and demolition phases by removing the vegetation surrounding Los Osos Creek. However, conservation measures have been proposed that will avoid the impacts from stormwater runoff from terrestrial construction areas. In addition, the design of the new bridge construction includes greatly improved stormwater control structures and design as a result of increased water quality requirements. Therefore, it is expected that the new bridge will result in a reduction of road-based pollutants, debris, and sediment entering Los Osos Creek and an overall improvement of water quality, which would likely result in a benefit to tidewater gobies and their habitat.

Demolition of Old Bridge

Demolition of the existing bridge will require installation of in-water structures such as temporary demolition trestle and cofferdams. Impacts to tidewater goby from bridge demolition are the same as discussed for bridge construction.

Removal of the existing bridge will restore full sunlight to that portion of the channel, which is expected to result in improved marsh productivity and benthic community structure (invertebrate density and diversity). Recovery of the benthic community and increased salt marsh productivity should occur relatively quickly following bridge demolition.

For permanent impacts, the project will have an incremental beneficial effect by restoring 32 square feet of soft-bottom habitat from removal of the existing bridge supports. No new in-water structures are proposed, so there will be no direct adverse effects from structures on tidewater goby.

Habitat Restoration, Mitigation and Monitoring

Habitat restoration could impact tidewater goby or habitat if stormwater or irrigation runoff is allowed to enter Los Osos Creek. Decreased water quality could reduce the ability of the water to support tidewater goby by increasing nutrients or decreasing oxygen. However, the proposed conservation measures will reduce the likelihood of these impacts.

**Effects of the Proposed Action on Tidewater Goby Recovery**

As discussed in the effects to the species section, we expect that the proposed action could result in some mortality of tidewater gobies. We expect that tidewater goby populations in the vicinity of the action area would persist despite these effects. As discussed in the status of the species section, tidewater goby populations naturally fluctuate widely within and between years, and we expect that the tidewater goby within and upstream of the action area would be able to rebound from any losses caused by the proposed project. We do not expect the proposed action to affect

genetic diversity between recovery subunits or our ability to address the habitat and predation-related threats identified in the recovery plan (Service 2005).

The design of the new bridge construction includes greatly improved stormwater control. Therefore, by decreasing transport of road-based pollutants, debris, and sediment into Los Osos Creek, it is expected that the new bridge will result in increasing the quality of habitat for tidewater goby, if present.

**Effects of the Proposed Action on Tidewater Goby Critical Habitat**

The action area contains two elements of PCE 1 of tidewater goby critical habitat unit SLO-9: slow moving shallow water in coastal streams and soft substrate for burrowing, but not breeding. The proposed project will temporarily impact these two elements of PCE 1 from dewatering, temporary pile installation and removal. These activities will temporarily remove the slow moving water and burrowing substrate. Project impacts to tidewater goby critical habitat, include temporary construction impacts to 0.49 acre below the high tide line, which includes 0.38 acre of unvegetated channel and 0.11 acre of pickleweed salt marsh. Approximately half of these impacts will occur during each of two dry season construction periods. Impacts will occur within approximately 200 linear feet of the Los Osos Creek channel. Temporary trestles will extend across 30 linear feet of channel length, and shoreline dewatering areas between 40 and 50 linear feet.

No permanent adverse impacts to tidewater goby critical habitat are proposed. Removal of the existing bridge piers will permanently restore approximately 32 square feet (less than 0.001 acre) of critical habitat.

The design of the new bridge construction includes greatly improved stormwater control as a result of increased requirements. Therefore, it is expected that the new bridge will result in a benefit to tidewater goby critical habitat by decreasing transport of road-based pollutants, debris, and sediment to the waterway.

**Effects of the Proposed Action on Morro Manzanita**

Construction of the New Bridge

Project impacts to Morro manzanita habitat include temporary construction impacts to 33 Morro manzanita individuals within 0.60 acre of Morro manzanita chaparral, and permanent impacts to 13 Morro manzanita individuals within 0.24 acre of Morro manzanita chaparral. Morro manzanita individuals could be trampled or crushed by equipment or vehicles. Runoff from work areas and road surfaces could impact Morro manzanita chaparral outside the temporary and permanent impact areas. The County proposes reduce the project footprint as much as possible and to delineate work areas with high visibility fence. The County also proposes to implement robust erosion control measures. These measures will reduce the likelihood of stormwater runoff and construction equipment impacts to Morro manzanita outside the project impact areas.

Demolition of the Existing Bridge

Runoff from work areas and road surfaces could impact Morro manzanita chaparral outside the temporary and permanent impact areas. If project boundary fencing is disregarded, Morro manzanita individuals could be trampled or crushed by equipment or vehicles.

Habitat Restoration, Mitigation and Monitoring

Morro manzanita individuals removed from the project site and stored for later use could die if they were removed improperly of not maintained. Morro manzanita planted following construction could die if adequate maintenance is not maintained. Weed control using herbicide could injure or kill Morro manzanita individuals if herbicide contacts the plant or soil within the dripline.

**Effects of the Proposed Action to Morro Manzanita Recovery**

The creation of the Morro manzanita mitigation site will be a benefit to recovery by increasing the total area occupied by Morro manzanita within its range by 0.48 acre. The restoration and mitigation areas will be managed under the Habitat Mitigation and Monitoring Plan finalized in collaboration with the Service. Further, the County will be developing and documenting improved techniques for removal, storage, and reinstallation of Morro manzanita individuals. More knowledge about Morro manzanita preservation and propagation will be a valuable tool to offset future impacts to Morro manzanita throughout its range and support its recovery.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. We do not consider future Federal actions that are unrelated to the proposed action in this section because they require separate consultation pursuant to section 7 of the Act. We are unaware of any non-Federal actions that are reasonably certain to occur in the action area that would adversely affect the Morro shoulderband snail, tidewater goby, or Morro manzanita.

CONCLUSION

The regulatory definition of “to jeopardize the continued existence of the species” focuses on assessing the effects of the proposed action on the reproduction, numbers, and distribution, and their effect on the survival and recovery of the species being considered in the biological opinion. For that reason, we have used those aspects of the status of the Morro shoulderband snail, tidewater goby, and Morro manzanita as the basis to assess the overall effect of the proposed action on the species.

**Summary of Effects to Morro Shoulderband Snail**

Morro Shoulderband Snail Reproduction

Injury or mortality of individuals would result in a decrease in reproductive capacity in the action area; however, due to the small number of individuals expected to occur in the action area, we do not expect an appreciable reduction for the species. We do not expect that the capture and relocation of individuals will measurably affect the reproductive capacity of these individuals.

Morro Shoulderband Snail Numbers

Injury or mortality of individuals would reduce the number of Morro shoulderband snails within the action area; however, due to the small numbers of individuals expected on the subject parcel, this loss would not appreciably reduce the numbers of individuals in this geographic area.

Morro Shoulderband Snail Distribution

The action area represents only a very small portion (less than 0.78 percent) of the estimated 6,250-acre range of the species. As such, the loss of individuals within the action area is not expected to change or reduce the distribution of Morro shoulderband snail.

Morro Shoulderband Snail Recovery

The action area is within Conservation Planning Area 4, Northeast Los Osos from the recovery plan (Service 1998). The action area is also within critical habitat unit 3, Northeast Los Osos. The proposed project will result in a loss of suitable habitat for 30 months during construction. However, after restoration and mitigation measures are complete, the Conservation Planning Area will receive a net increase of 0.48 acre of suitable habitat managed under a Habitat Mitigation and Monitoring Plan. Thus, the overall impact of the project is not expected to reduce the likelihood of recovery for the Morro shoulderband snail.

After review of the current status of the Morro shoulderband snail, the environmental baseline for species in the action area, the effects of the proposed action, the effects on recovery, and the potential for cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the Morro shoulderband snail. We reached this conclusion because:

1. With the implementation of the proposed conservation measures, we expect very few Morro shoulderband snails to be injured or killed during the implementation of the proposed action.

2. The project activities include restoration and mitigation of habitat for the Morro shoulderband snail that includes maintenance activities. The restored and created habitats could be higher quality than what was available within the action area prior to proposed project activities, which may improve Morro shoulderband snail recovery potential.

**Summary of Effects to Tidewater Goby**

Tidewater Goby Reproduction

The action area does not contain suitable breeding habitat for tidewater goby, so we do not expect any impacts to tidewater goby reproduction from the proposed activities.

Tidewater Goby Numbers

There is a small chance that the proposed action could result in mortality of an unknown quantity, but likely small, number of tidewater gobies. Tidewater goby habitat would be temporarily disturbed during project activities, which could cause tidewater gobies to avoid the project area. Dewatering activities could kill or injure tidewater gobies if they are present in the project area. The impacts to tidewater goby habitat will be temporary, and the impacts to tidewater goby individuals will be minor, because few if any tidewater gobies are expected to occur in the project area. Therefore, we do not expect the loss of individuals to have long-term population-level effects that would reduce appreciably the likelihood of both the survival and recovery of the tidewater goby.

Tidewater Goby Distribution

We expect the proposed action to have no effects to the distribution of the tidewater goby. The proposed action could result in occasional mortality of individuals or removal of valuable habitat features, but we do not expect these effects to be of a magnitude that would result in a reduction in the species' distribution.

Tidewater Goby Recovery

We expect that the proposed action could result in mortality of tidewater gobies and temporarily disturb habitat within the action area. Because of the proposed conservation measures, we expect the extant Los Osos Creek population within and upstream of the action area to persist despite the loss of individuals from proposed activities, and that effects to habitat would be limited to small areas and occur infrequently. As discussed in the status of the species section, tidewater goby populations naturally fluctuate widely within and between years, and we expect that the populations within the action area would be able to rebound from any mortality of individuals caused by the proposed action. We do not expect the proposed action to affect our ability to address the habitat degradation and predation related threats identified in the recovery plan (Service 2005). Therefore, we do not expect the effects of the proposed action to appreciably reduce the likelihood of recovery of the tidewater goby.

After reviewing the current status of the tidewater goby, the environmental baseline for the action area, the effects of the proposed woody materials management, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the tidewater goby because:

1. The project will impact a small portion of tidewater goby habitat. The stormwater runoff control improvements in the new bridge design will reduce discharge of road-borne contaminants into Los Osos Creek, which would likely result in improved water quality of tidewater goby habitat as compared to pre-project conditions.

2. With the implementation of the proposed conservation measures, we expect very few tidewater gobies to be injured or killed during the implementation of the proposed action.

**Summary of Effects to Morro Manzanita**

Morro Manzanita Reproduction

The proposed project will impact Morro manzanita reproduction by temporarily and permanently removing Morro manzanita from the action area. The restoration and mitigation sites will take some time to reestablish conditions that will support reproduction. An increase in Morro manzanita numbers will be supported by installation of container stock to offset losses. Management and maintenance of restoration and mitigation sites will improve the conditions for reproduction by removing invasive species that may encroach on Morro manzanita and prevent seed germination.

Morro Manzanita Numbers

The proposed project will decrease Morro manzanita numbers by 46 individuals for at least 30 months. Ultimately, 33 Morro manzanita individuals that will be stored during that time will be reinstalled in the temporary disturbance areas. Thirteen individual Morro manzanita removed from permanent impact areas will be replaced at a ratio of 3:1, or 39 individuals, for a net increase of 26 Morro manzanita individuals within the action area.

Morro Manzanita Distribution

We expect the effects from the proposed action to have a small local effect on the distribution of Morro manzanita due to the relatively small area where Morro manzanita will be impacted by the proposed project. The mitigation area created by removal of Santa Isabel Road will result in an overall increase in Morro manzanita distribution locally. Therefore, we do not anticipate the proposed action to appreciably influence the overall distribution of Morro manzanita within the action area or rangewide.

Morro manzanita Recovery

The creation of the Morro manzanita mitigation site will be a benefit to recovery by increasing the total area occupied by Morro manzanita within its range. The conversion of Santa Ysabel Road to Morro manzanita chaparral habitat will reduce habitat fragmentation in the Northeast Los Osos Conservation Planning Area. The restoration and mitigation areas will be managed under the HMMP, finalized in collaboration with the Service. Further, the County will be developing and documenting improved techniques for removal, storage, and reinstallation of Morro manzanita individuals, as well as propagation from seed. More knowledge about Morro manzanita preservation and propagation will be a valuable tool to help offset future impacts to Morro manzanita throughout its range and support its recovery.

After reviewing the current status of Morro manzanita, the environmental baseline for the action area, the effects of the proposed South Bay Boulevard Bridge Replacement project and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of Morro manzanita because:

1. The project area is small; and therefore, the level of impact to the Morro manzanita population, as a whole, will be negligible.

2. The County will implement avoidance and minimization measures that will greatly reduce the quantity of Morro manzanita plants impacted and will mitigate for unavoidable impacts, which may result in an overall increase in Morro manzanita plants. The conversion of Santa Ysabel Road to Morro manzanita chaparral habitat for mitigation will reduce habitat fragmentation in the Northeast Los Osos Conservation Planning Area, which will improve the conditions to support recovery.

**Summary of Effects to Morro Shoulderband Snail Critical Habitat**

We anticipate that the proposed project will result in the removal 2.05 acres of critical habitat for 30 months. However, the habitat restoration and mitigation activities will result in a net gain of 0.48 acre of suitable habitat within the critical habitat unit. Also, impacts to critical habitat from stormwater runoff from work areas or road surfaces will be avoided with the implementation of the proposed conservation measures.

After reviewing the current status of the critical habitat of the Morro shoulderband snail, the environmental baseline of critical habitat for the action area, the effects of the proposed project activities on critical habitat, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to result in the destruction or adverse modification of critical habitat of the Morro shoulderband snail because:

1. The effects on the primary constituent elements would be small; and

2. The effects on the conservation value and function of critical habitat would be minimized.

**Summary of Effects to Tidewater Goby Critical Habitat**

We expect that the proposed action could result in some temporary reduction in quality of tidewater goby habitat during the construction of the bridge and from temporary increase in shading of the water column. However, we expect these temporary impacts to be minor relative to the pre-project habitat quality and the conservation measures that are proposed. In summary, we expect adverse effects to tidewater goby critical habitat, but we expect them to be very limited in severity and scope.

After reviewing the current status of the critical habitat of the tidewater goby, the environmental baseline of critical habitat for the action area, the effects of the proposed project activities on critical habitat, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to result in the destruction or adverse modification of critical habitat of the tidewater goby because:

1. The effects on the various primary constituent elements would be small; and

2. The effects on the conservation value and function of critical habitat would be minimized.

## INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened wildlife species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species; however, limited protection of listed plants is provided at section 9(a)(2) to the extent that the Act prohibits the removal and reduction to possession of federally listed plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of listed plants on

non-Federal areas in violation of State law or regulation or in the course of a violation of a State criminal trespass law.

## AMOUNT OR EXTENT OF TAKE

We anticipate that Morro shoulderband snail and tidewater goby could be taken as a result of the proposed action. We expect the incidental take to be in the form of death, injury, or capture if they are present during vegetation removal or project activities. Both Morro shoulderband snails and tidewater gobies could be killed or injured if they are captured for relocation. Furthermore, Morro shoulderband snails and tidewater gobies may be harmed if their reproductive fitness is decreased by having to search for alternative foraging sites or, for Morro shoulderband snail, alternative aestivation sites during the length of the project.

We cannot quantify the precise number of Morro shoulderband snails or tidewater gobies that may be taken as a result of the action that Caltrans and the County has proposed because both Morro shoulderband snails and tidewater gobies are small in size and cryptic in nature. Morro shoulderband snails of all age classes can be very difficult to locate during pre-activity surveys, and could easily be missed and subsequently injured or killed by project equipment or activities. Tidewater gobies could easily migrate into the action area undetected during project activities and be injured or killed by project equipment or workers. The protective measures proposed by Caltrans and the County are likely to prevent mortality or injury of most individuals. In addition, finding a dead or injured Morro shoulderband snail or tidewater goby is unlikely.

Consequently, we are unable to reasonably anticipate the actual number of Morro shoulderband snails or tidewater gobies that would be taken by the proposed action; however, we must provide a level at which formal consultation would have to be reinitiated. The Environmental Baseline and Effects Analysis sections of this biological opinion indicate that adverse effects to Morro shoulderband snail and tidewater goby would likely be low given the nature of the proposed activities, and we, therefore, anticipate that take of Morro shoulderband snail and tidewater goby would also be low. We also recognize that for every Morro shoulderband snail or tidewater goby found dead or injured, other individuals may be killed or injured that are not detected, so when we determine an appropriate take level we are anticipating that the actual take would be higher and we set the number below that level.

Therefore, if two Morro shoulderband snails or two tidewater gobies of any age class are found dead or injured at any time throughout the project, Caltrans must contact our office immediately to reinitiate formal consultation. Project activities that are likely to cause additional take should cease as the exemption provided pursuant to section 7(o)(2) may lapse and any further take could be a violation of section 9 prohibitions.

## REASONABLE AND PRUDENT MEASURES

The measures described below are non-discretionary, and must be undertaken by Caltrans or made binding conditions of any grant or permit issued to the County, as appropriate, for the

exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to assume and implement the terms and conditions or (2) fails to require the County to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the impacts of the incidental take of Morro shoulderband snail and tidewater goby:

1. Biologists must be authorized by the Service before they survey for, capture, or relocate Morro shoulderband snail and tidewater goby in the action area as described in the terms and conditions below.

2. Morro shoulderband snail and tidewater goby relocation receiver sites should be located with habitat characteristics that will provide optimum survivability of translocated individuals.

3. The mitigation and monitoring strategy will be finalized in collaboration with the Service.

TERM AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, Caltrans must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline reporting and monitoring requirements. These terms and conditions are nondiscretionary.

1. The following term and condition implement reasonable and prudent measure 1:

    a Caltrans must request our approval of any biologist that conduct project activities (i.e., survey) associated with the Morro shoulderband snail and tidewater goby, pursuant to this biological opinion in the action area. Such requests must be in writing, and be received by the Ventura Fish and Wildlife Office at least 30 days prior to any such activities being conducted. Information included in a request for authorization should include: (1) relevant education; (2) relevant training on species identification, survey techniques; (3) a summary of field experience conducting requested activities (to include project/research information); (4) a summary of biological opinions under which they were authorized to work with the listed species and at what level (such as construction monitoring versus surveying), this should also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project; (5) any

Federal recovery permits [10(a)1(A)] authorizing the individual to work with the species (to include permit number, authorized activities, and name of permit holder); and (6) any relevant professional references with contact information.

2. The following term and condition implement reasonable and prudent measure 2:

    a. Caltrans and the County will provide the Service the location of relocation receiver sites for Morro shoulderband snail and tidewater goby for approval. Receiver site information will include microhabitat, physiognomy, and GIS shapefiles and metadata.

3. The following terms and conditions implement reasonable and prudent measure 3:

    a Caltrans and the County will collaborate with the Service to finalize the Habitat Mitigation and Monitoring Plan within 120 days from the construction start date.

    b. The applicant must allow Service access to the action area to observe how the project is being implemented, particularly with regard to measures to minimize take, adherence to the project description and these terms and conditions.

REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), Caltrans must report the progress of the action and its impact on the species to the Service as specified in this incidental take statement. Caltrans must submit annual monitoring reports that are created by the County as described in the biological assessment (Caltrans 2021) for 5 years after initial mitigation activities take place. Caltrans must submit a report to the Service following initial pre-activity surveys and vegetation removal. The initial activity report should be sent to fw8venturasection7@fws.gov. The initial activity report should include:

1. The Service-approved Morro shoulderband snail receiver site location.

2. The number of Morro shoulderband snails observed, relocated, and GIS shapefiles of receiver site with microhabitat characteristics including physiognomy, soil moisture, litter type, litter moisture, number of Morro shoulderband snail individuals incidentally observed.

Furthermore, Caltrans must submit a final construction report to the Service's Ventura Fish and Wildlife Office via electronic mail within 90 days following completion of the proposed project. The final construction report should be sent to fw8venturasection7@fws.gov and must describe all activities that were conducted under this biological opinion, including activities and conservation measures that were described in the proposed action and required under the terms and conditions, and discuss any problems that were encountered in implementing conservation

measures or terms and conditions and any other pertinent information. The final construction report must also include the following information:

1. The type of activities that occurred in the action area (e.g., construction activities, monitoring, surveying).

2. The location of these activities, including shapefiles and metadata.

3. Description of the habitat in which these activities occurred.

4. The Morro shoulderband snail and tidewater goby observed in the action area.

5. The results of any surveys conducted for Morro shoulderband snail and tidewater goby.

6. The number of Morro shoulderband snail, tidewater goby, and Morro manzanita killed or injured during project activities, if any, the dates and times of mortality or injury, the veterinarian or repository that specimens were sent to.

7. The locations of mitigation sites.

8. Morro shoulderband snail and tidewater goby relocation locations and conditions, including GPS coordinates and shapefiles.

9. Summary of invasive species removal, both plant and animal.

10. An analysis of the effectiveness of the avoidance and minimization measures and recommendations for future measures.

11. Any other pertinent information.

DISPOSITION OF DEAD OR INJURED SPECIMENS

As part of this incidental take statement and pursuant to 50 CFR 402.14(i)(1)(v), upon locating dead or injured species discussed in this document, initial notification within 3 working days of its finding must be made by telephone and in writing to the Ventura Fish and Wildlife Office (805-644-1766). The report must include the date, time, location of the carcass, a photograph, cause of death or injury, if known, and any other pertinent information.

Caltrans must take care in handling injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. Caltrans must transport injured animals to a qualified veterinarian. Should any treated animals survive, Caltrans must contact the Service regarding the final disposition of the animal(s). The remains of any animals must be placed with educational or research institutions holding the appropriate State and Federal permits, such as the Santa Barbara Natural History Museum (Contact: Paul

Collins, Santa Barbara Natural History Museum, Vertebrate Zoology Department, 2559 Puesta Del Sol, Santa Barbara, California 93460, (805) 682-4711, extension 321), or any other place designated in writing by the Service.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that Caltrans and/or the County develop and publish methodologies for Morro manzanita removal, storage and transplantation, and seed propagation.

2. We recommend that the Service-approved biologist(s) relocate any other native reptiles or amphibians found within work areas to suitable habitat outside of project areas if such actions are in compliance with State laws.

3. We encourage Caltrans, the County, and/or other researchers to participate in and support research on Morro shoulderband snail. Research topics could include, but are not limited to: survey techniques for non-protocol conditions, relocation survivorship, micro-habitat conditions for aestivation, preferred habitat physiognomy, dispersal and migration studies, and the effects of predation or competition on Morro shoulderband snail. We encourage Caltrans to coordinate with the Service and the California Department of Fish and Wildlife to develop research proposals under the Service's Endangered Species Conservation Grants (Section 6 Traditional) Program.

4. We encourage Caltrans and the County to conduct protocol surveys for Morro shoulderband snail within restoration and mitigation sites to support recovery by increasing our knowledge of Morro shoulderband snail populations in the Northeast Los Osos Conservation Planning Area.

5. We encourage Caltrans and the County to implement recovery goals for tidewater goby recovery sub-unit CC 3j by implementing a regular water quality monitoring program, conducting regular surveys for tidewater goby, working with urban and agricultural use planning to reduce water quality impacts, and increasing public awareness of the species and its unique habitat requirement and dependence on water quality.

6. Oak tree replacement is generally conducted at a 10:1 to 20:1 ratio due to the extended length of time it takes for them to grow back to the same stature. Therefore, we recommend that Caltrans and the County adopt this level of replacement for oak trees to be consistent with other mitigation efforts. Manzanitas are also very slow growing and

take many years to recover to their previous stature and we recommend a similar replacement ratio for them as well.

The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats.

## REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, the exemption issued pursuant to section 7(o)(2) may have lapsed and any further take could be a violation of section 4(d) or 9. Consequently, we recommend that any operations causing such take cease pending reinitiation.

If you have any questions about this biological opinion, please contact Debora Kirkland of our staff by electronic mail at debora_kirkland@fws.gov.

Sincerely,

JENNY MAREK Digitally signed by JENNY MAREK
Date: 2022.04.25 18:46:20 -07'00'

Acting for Stephen P. Henry
Field Supervisor

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**California Coastal Commission**

# COASTAL DEVELOPMENT PERMIT

## CDP 3-22-0826

## South Bay Boulevard Bridge Replacement

**Permittee: San Luis Obispo County Public Works Department**

**Issue Date: July 17, 2023**



Coastal development permit (CDP) number 3-22-0826 was approved by the California Coastal Commission on July 12, 2023. CDP 3-22-0826 allows for the replacement of the existing 189-foot-long, 37-foot-wide, three-span South Bay Boulevard Bridge with a new 300-foot-long, 50-foot-wide, two-span concrete bridge located immediately east of the existing bridge; on-site bicycle and pedestrian enhancements; off-site public trail connections; habitat restoration, and related improvements. CDP 3-22-0826 is subject to certain terms and conditions, including the standard and special conditions beginning on page 2 of this CDP.

By my signature below, the CDP is issued on behalf of the California Coastal Commission:

DocuSigned by:
Kevin Kahn
DEF0E587E71C402...

Kevin Kahn, Central Coast District Manager, for Kate Huckelbridge, Executive Director

**Acknowledgement**

The undersigned Permittees acknowledge receipt of this CDP and agree to abide by all terms and conditions thereof. The undersigned Permittees acknowledge that Government Code Section 818.4 (that states in pertinent part that "a public entity is not liable for injury caused by the issuance of any permit") applies to the issuance of this CDP.

San Luis Obisipo County Public Works Dept. — Date 7/17/23

Please note that this CDP is not valid unless and until a copy of it with the signed acknowledgement has been returned to the California Coastal Commission's Central Coast District Office (14 Cal. Admin. Code Section 13158).

### Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

### Special Conditions

This permit is granted subject to the following special conditions:

1. **Final Plans. PRIOR TO COMMENCEMENT OF CONSTRUCTION,** the Permittee shall submit two full-size sets of Revised Final Plans to the Executive Director for review and written approval. The Revised Final Plans shall be prepared by a licensed professional or professionals (i.e., architect, surveyor, geotechnical engineer, etc.), shall be based on current professionally surveyed and certified topographic elevations for the entire site, and shall include a graphic scale. The Revised Final Plans shall be in substantial conformance with the proposed 65% design plans (titled "South Bay Bridge Replacement") and dated received in the Coastal Commission's Central Coast District office on September 14, 2022, and shall show all on- and off-bridge project components, including CCT trail connections.

2. **As-Built Plans**. **WITHIN THREE MONTHS OF COMPLETION OF CONSTRUCTION**, the Permittee shall submit two copies of As-Built Plans for Executive Director review and approval showing all development authorized by this coastal development permit; all property lines; and all project elements. The As-Built Plans shall be substantially consistent with the approved Final Plans per Special Condition 1. The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall provide

complete photographic coverage of the permitted bridge and related structures and project elements at this location (e.g., the new bike lane, sidewalks, off-site CCT trails, and associated development).

3. **Final Mitigation and Monitoring Report. PRIOR TO COMMENCEMENT OF CONSTRUCTION**, the Permittee shall submit a final South Bay Boulevard Bridge Replacement Project Habitat Mitigation and Monitoring Plan consistent with the Draft Report dated February 2023.

4. **Protection of Archeological Resources**. The Permittee shall comply with all the Cultural Resources Mitigation Measures identified in the "South Bay Boulevard Bridge Replacement Project ED20-217; 30455 Mitigated Negative Declaration dated April 2019" and included as Exhibit 3 as enforceable requirements of this CDP. With respect to Cultural Resource Mitigation Measure CR-1; local Native American Tribes shall be included, at their discretion, in the pre-construction archeological briefing. Moreover, with respect to Cultural Resource Mitigation Measure CR-3; local Native American Tribes known to be ethnographically and geographically affiliated with the project area shall specifically include Northern Chumash Tribal Council, yak tityu tityu yak tiłhini Northern Chumash Tribe, and the Salinan Tribe of Monterey and San Luis Obispo Counties, and the Permittee shall allow each tribe to be equally represented in all tribal cultural monitoring pursuant to said condition. In addition, "initial ground disturbance activities" shall be understood to mean native soil disturbance, including during the mitigation and revegetation of the project site.

5. **Minor Modifications.** All requirements of the terms and conditions of this CDP, including related to any Executive Director-approved plans, shall be enforceable components of the CDP. Minor adjustments to the terms and conditions of this CDP, including to any special conditions and/or required plans, may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; (2) do not adversely impact coastal resources; and (3) do not legally require a CDP amendment or new CDP.

6. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: (i) that the site is subject to hazards from episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal and riverine flooding, and the interaction of same; (ii) to assume the risks to the Permittee and the property that is the subject of this CDP of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims due to such hazards), expenses, and amounts paid in settlement arising from any injury or damage.

# South Bay Boulevard Bridge Replacement Project
# Habitat Mitigation and Monitoring Plan

~~DRAFT~~February 5, 2024

**San Luis Obispo County**

**Federal Project BRLS-5949(137)**

**Prepared by**
**San Luis Obispo County**
**Public Works Department**
**Environmental Programs Division**

**November 2020**
**Rev. February 2023, August 2023, February 2024**

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## Appendix

# 1 Introduction

This Habitat Mitigation and Monitoring Plan (HMMP) was prepared to describe the methods proposed to mitigate for project-related impacts to federal, state, and county jurisdictional areas associated with implementation of the South Bay Boulevard Bridge Replacement Project (project). Implementation of the project is anticipated to result in temporary impacts to areas subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Central Coast Regional Water Quality Control Board (RWQCB), the California Department of Fish and Wildlife (CDFW). The project site is also within the coastal zone, subject to regulation by the California Coastal Commission (CCC) and the San Luis Obispo County Local Coastal Program. The HMMP follows the guidelines presented in the Checklist for Compensatory Mitigation Proposals (USACE 2008a) and the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (USACE 2008b). The Natural Environment Study (NES) and the Biological Assessment prepared for the project fully describe the project scope and review the project-related impacts to biological resources in greater detail (County 2021a and b).

Revisions that are specific to a particular agency requirement are indicated in the text or by using footnotes (i.e., CCC, USACE, RWQCB, and CDFW).

# 2 Project and Site Description

This section identifies the responsible party for the project, provides the location of the project, and summarizes the project description. More detailed information about the physical and biological setting of the site and project description are available in the NES.

## 2.1 Responsible Parties and Financial Assurances

The County of San Luis Obispo Department of Public Works (County) is the project applicant. Therefore, the County is the party responsible for fulfilling all the mitigation obligations pursuant to the anticipated conditions of the USACE Nationwide Permit Authorization and the other pertinent regulatory permits acquired for the project. Correspondences to the County as the responsible party for the project should be sent to:

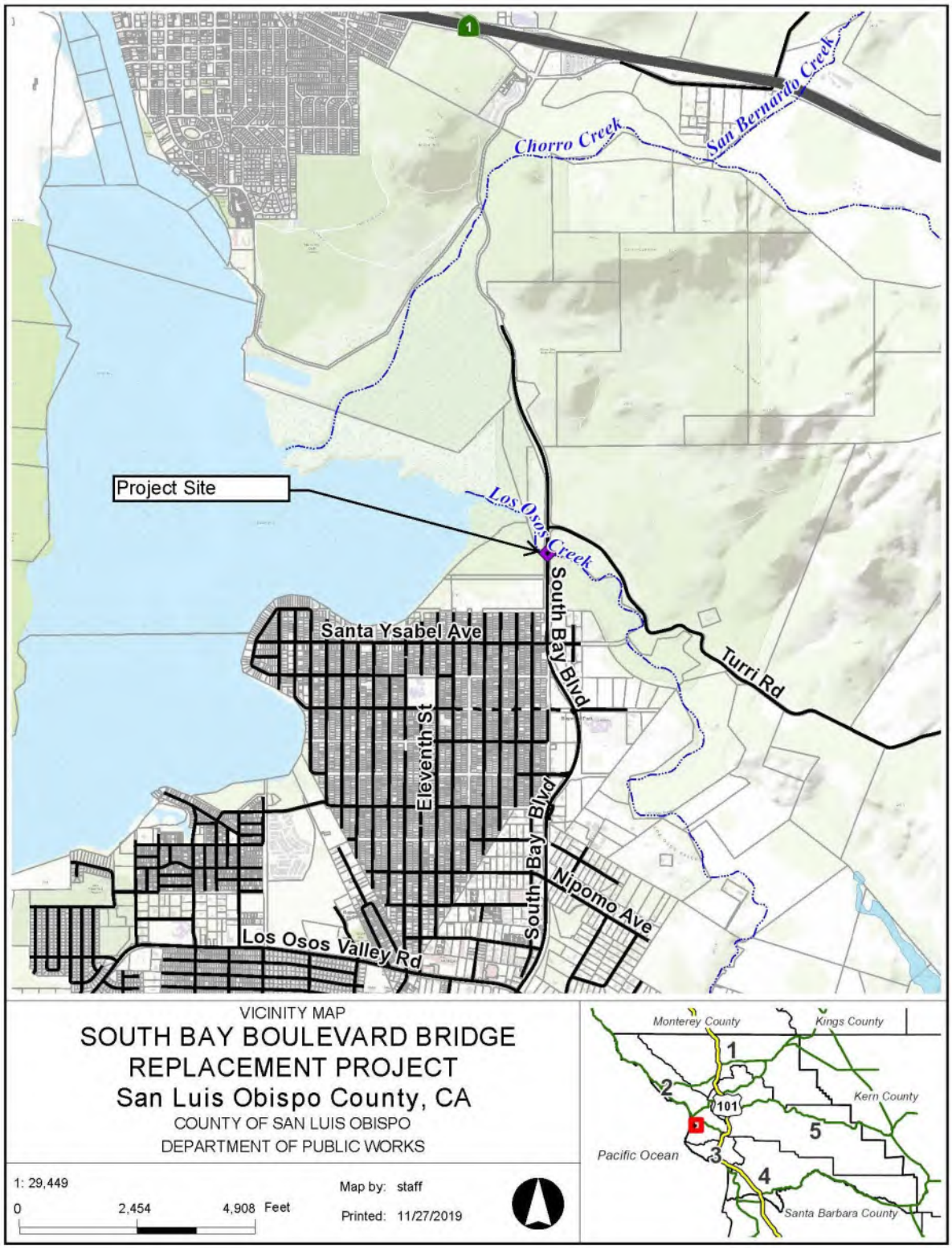
County of San Luis Obispo
Department of Public Works
County Government Center, Room 206
San Luis Obispo, California 93408

The County has allocated sufficient funding in the overall project budget to implement the requirements outlined in this HMMP and any other contingency actions that may become necessary during the mitigation and monitoring phase of the project development.

## 2.2 Project Location

The South Bay Boulevard Bridge (No. 49C-0351) spans Los Osos Creek within unincorporated San Luis Obispo County, approximately 2,000 feet southeast of the City of Morro Bay, California (35.33509ºN, 120.82332ºW) (Figure 1). South Bay Boulevard is approximately four miles long and extends from Bay Oaks Drive near Los Osos Valley Road on the south, in the community of Los Osos, to State Route 1 on the north, near the City of Morro Bay. The project site is located within the Morro Bay South, California 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle. South Bay Boulevard is classified as a rural arterial in the County's Estero Area Plan and serves approximately 15,000 vehicles per day. The existing and proposed bridges are located within existing County right-of-way (ROW).

**Figure 1: Project Location Map**



## 2.3 Project Summary

The County proposes to replace the existing South Bay Boulevard Bridge that crosses Los Osos Creek where it enters Morro Bay. The bridge has been identified as seismically deficient and the project would replace it with a modern concrete bridge that would provide adequate capacity, and reliable, safe service for the public.

The replacement bridge is proposed to be a two-span bridge, cast-in-place prestressed concrete box girder bridge. Compared to the existing bridge (189 feet long and 37 feet wide), the replacement bridge would be larger at 300 feet long and 50 feet wide. The bridge abutments and center bent would be supported on cast-in-drilled-hole (CIDH) concrete piles. The center bent would be located above the high tide line (HTL). No permanent structures or fill are expected to extend below the HTL. Excavation for the abutments would be approximately 10 to 15 feet deep, and the CIDH pile shafts would be drilled over 50 feet deep in temporary casings. If drilling slurry is used, it would be contained for off-site disposal.

Constructing the new bridge would require temporary falsework and temporary support piles, which may be located below the HTL. Temporary falsework piles would be inside shoreline cofferdams. Two temporary work trestles composed of timber and steel decking would also be installed on temporary piles, one for construction of the new bridge and one for demolition of the existing bridge. The trestles, temporary falsework, and all support piles would be removed completely when construction is complete.

Constructing the new bridge center support and removing the existing bridge piles during demolition would require dewatering below the HTL. Dewatering would be limited to localized shoreline construction zones; creek flow would not be blocked or diverted at any time.

The road approaches along South Bay Boulevard would be realigned to align with the new bridge. The road approach realignment would be the minimum necessary to safely approach the new bridge and the South Bay Boulevard - Turri Road intersection would remain as is.

Construction staging would be in the County right-of-way on South Bay Boulevard to the north and south of the bridge. A secondary staging and material storage area would be established south of the bridge at the east end of Santa Ysabel Avenue.

Temporary construction impacts may impact up to approximately 0.3 acre below the HTL in Los Osos Creek for dewatering areas and the work trestles. This area would likely be split between year 1 and year 2 construction impacts (i.e., would not impact the entire area for both construction seasons). This impact area may include temporary impacts in salt marsh located under and adjacent to the bridge.

Temporary construction impacts in uplands would include approximately 0.6 acre of upland historic fill area that has been colonized by a federally protected plant, Morro manzanita. Temporary construction impacts in uplands would also affect other Environmentally Sensitive Habitat Areas (ESHA) and ruderal/disturbed lands. These areas are proposed to be restored to pre-existing conditions, or in the case of ruderal habitats, enhanced as part of the proposed mitigation.

Permanent impacts from constructing the new bridge are limited to the bridge foundations, center pier, and realigned road approaches, all of which would be above the HTL and outside of wetlands. No permanent impacts below the HTL or in wetlands are anticipated.

Permanent impacts in uplands would affect approximately 0.24 acre of Morro manzanita habitat, and 0.08 acre of native oak woodland. Mitigation is proposed at a 3:1 replacement ratio.

Construction is expected to take approximately two years to complete. Construction activities below the HTL would be restricted to the dry season (June 1 to October 31) to take advantage of

lower creek flow and reduced likelihood of precipitation. Generally, construction of the new bridge is expected to occur in year 1 and demolition of the old bridge in year 2.

For the purposes of this HMMP, the project limits include the entire project site and all the project elements outlined in the project description. The project limits are depicted as the Project Impact Area (PIA; red line) in Figures 2a, 2b, and 2c.

**Figure 2a: Project Impact Areas (north) [Fig 3a from NES]**

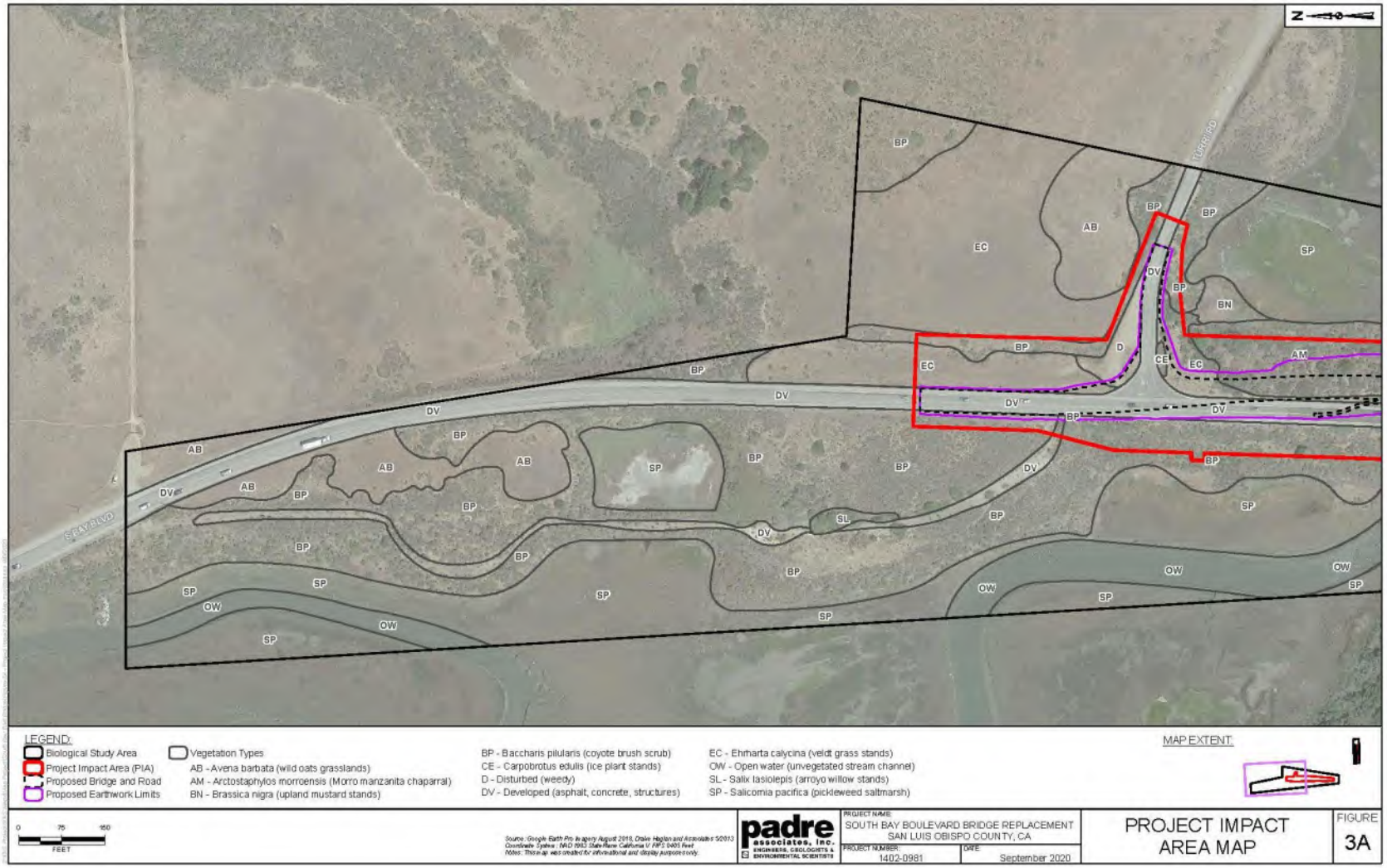


**Figure 2b: Project Impact Areas (south) [Fig 3b from NES]**

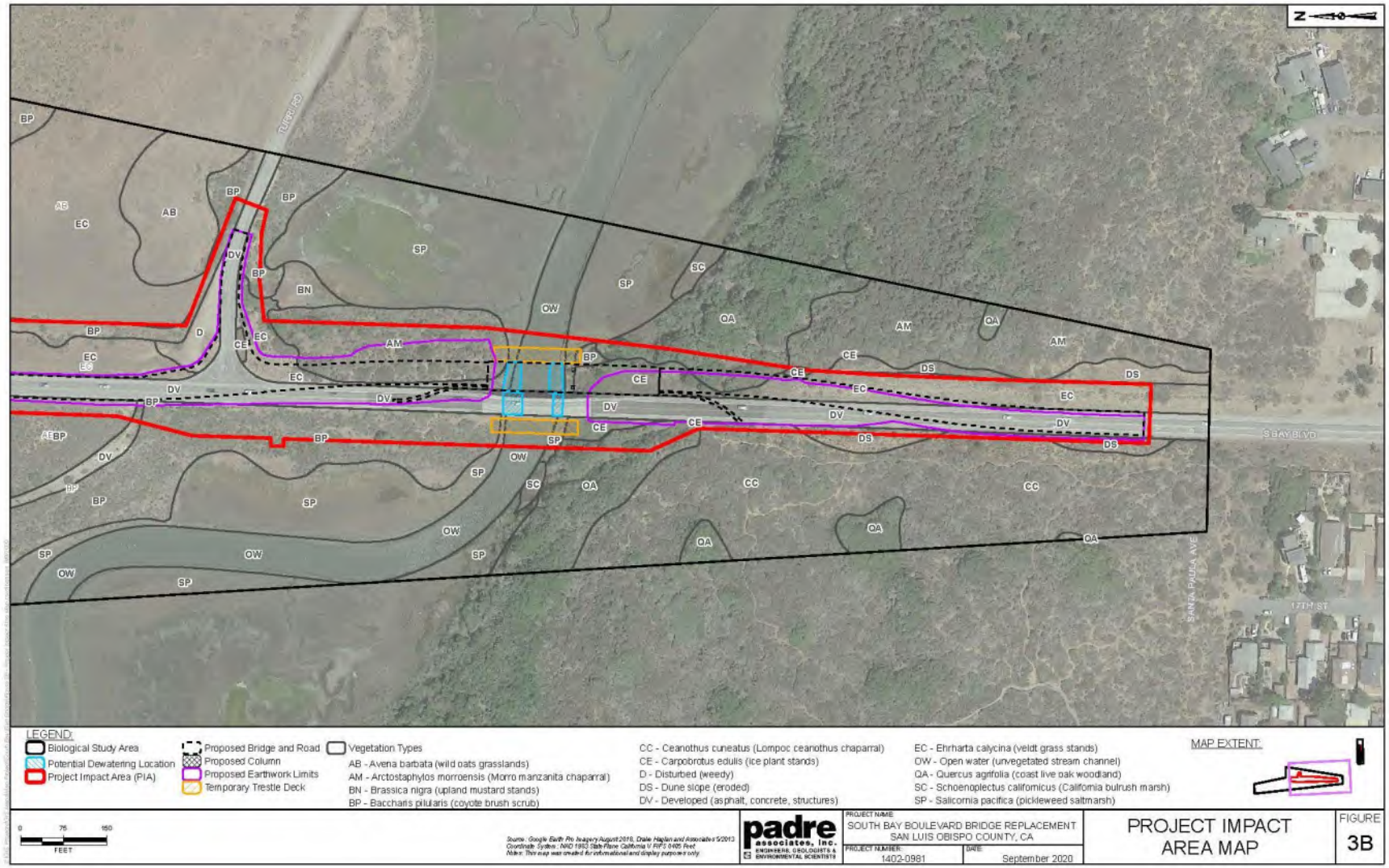
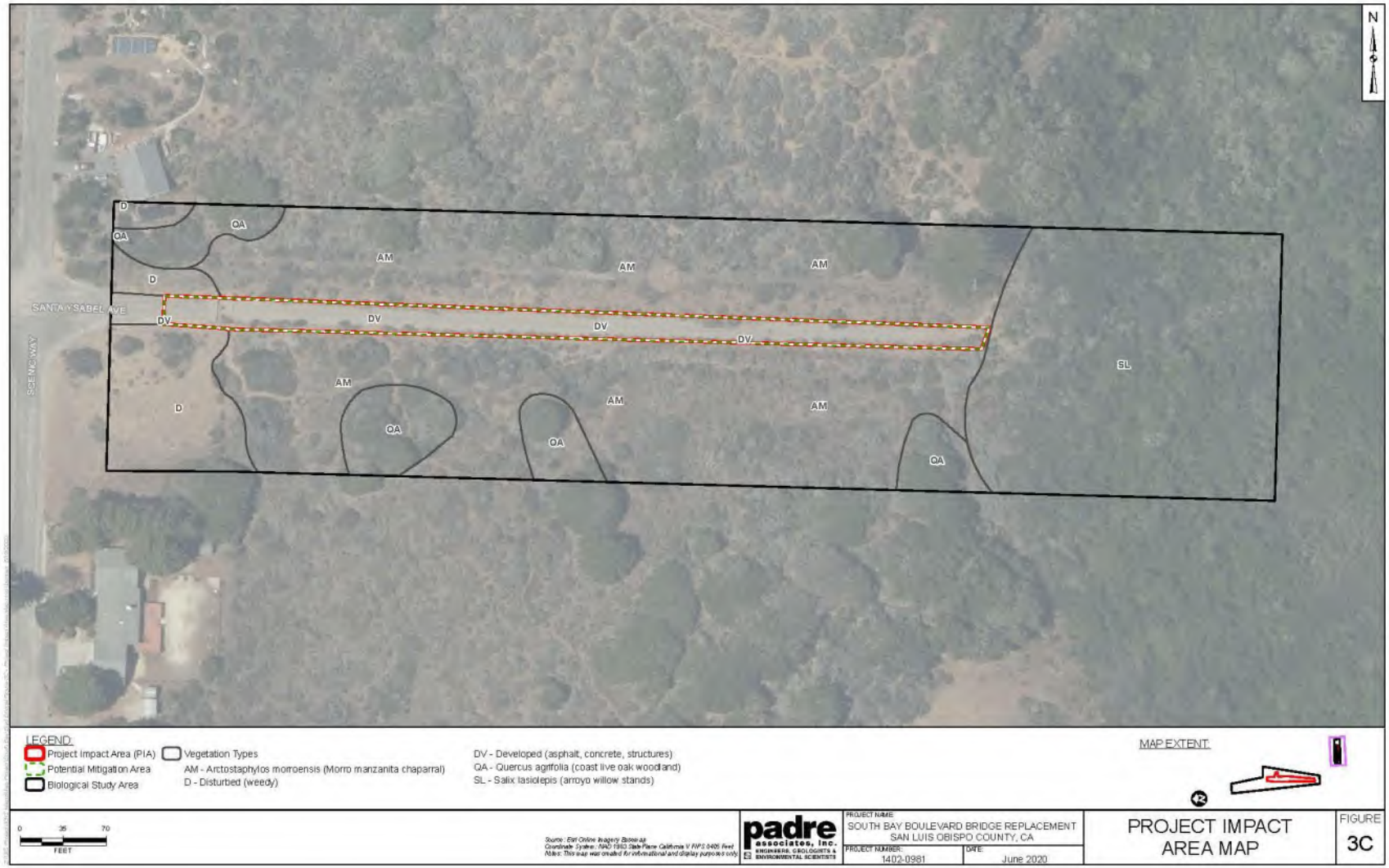


**Figure 2c: Project Impact Areas (Santa Ysabel Avenue) [Fig 3c from NES]**



## 2.4 Existing Conditions

The Biological Study Area (BSA) was identified based on preliminary bridge designs provided by the design engineer, and includes the bridge construction impact area, construction staging areas, potential mitigation areas and a minimum 100-foot-wide buffer. The BSA is approximately 49 acres in size and is shown as the black line in Figures 2a, 2b, and 2c above from the NES. The BSA and surrounding areas are primarily public lands including the El Moro Elfin Forest, Morro Bay State Park, and Morro Bay State Marine Reserve.

Current land use of the BSA and surrounding areas includes flood conveyance, livestock grazing (northeast of the bridge site), residential (west of South Bay Boulevard near Santa Ysabel Avenue), institutional (Church of the Nazarene), and conservation areas (El Moro Elfin Forest, Morro Bay State Park, Morro Bay State Marine Reserve, Morro Estuary Natural Preserve).

The County monitors stream flow in Los Osos Creek at the Los Osos Valley Road bridge, located approximately three miles upstream of the BSA. Stream flow data recorded at this station includes 3,769 acre-feet/year (AFY) average flow, 2,220 AFY median flow and 19,270 AFY maximum flow (in 1995). Upper portions of Los Osos Creek may become dry in the summer; however, tidal influence provides year-round surface water within the BSA. The BSA includes approximately 1,300 linear feet of the Los Osos Creek channel, and the creek is tidal at the existing and proposed bridge locations.

Within the BSA, the smaller PIA was defined based on the 65% design plans and anticipated limits of temporary and permanent impacts. The PIA is the red line in Figures 2a, 2b, and 2c from the NES. The PIA forms the basis of the project impacts and mitigation requirements in this HMMP. The PIA is approximately 7.7 acres, of which approximately 3.3 acres is pavement and 4.4 acres is non-pavement.

# 3 Habitat Types and Jurisdictional Areas

Thirteen vegetation communities/land cover types were identified within the BSA during the field surveys conducted for the NES including: wild oats grassland, Morro manzanita chaparral, upland mustard stands, coyote brush scrub, Lompoc ceanothus chaparral, ice plant stands, eroded dune slope, veldt grass stands, coast live oak woodland, pickleweed salt marsh, California bulrush marsh, arroyo willow stands, and disturbed areas.

Of these communities, the following meet the definition of Environmentally Sensitive Habitat Areas (ESHA) based on proximity to the Morro Bay estuary and/or presence of special-status species: Morro manzanita chaparral, Lompoc ceanothus chaparral, eroding dune slope, coyote brush scrub, coast live oak woodland, pickleweed salt marsh, California bulrush marsh, and arroyo willow stands. The California bulrush marsh and arroyo willow stands are outside the PIA and would not be impacted by the project. The characteristics of the ESHA communities in the PIA as described in the NES are summarized below.

## 3.1 Vegetation Communities

**Morro Manzanita Chaparral**. This community is dominated by Morro manzanita (*Arctostaphylos morroensis*), chamise (*Adenostoma fasciculatum*), and black sage (*Salvia mellifera*). Other species found in this community within the BSA include California sagebrush (*Artemisia californica*), Lompoc ceanothus (*Ceanothus cuneatus* var*. fascicularis*), and mock heather (*Ericameria ericoides*). This vegetation community has been assigned a rarity ranking of S1, meaning it is critically imperiled at the State level.

**Coyote Brush Scrub**. This community is co-dominated by coyote brush (*Baccharis pilularis*) and California sagebrush. Approximately eight Morro manzanita shrubs as well as Coast live oak (*Quercus agrifolia*) saplings and patches of arroyo willow (*Salix lasiolepis*) occur within

the community northwest of the bridge. This vegetation community has been assigned a rarity ranking of S5, meaning it is secure at the State level. However, in the project area it meets the definition of ESHA pursuant to Section 30107.5 of the Coastal Act because it includes Morro manzanita and may provide suitable habitat for Morro shoulderband snail (BA Section 4.2.11).

**Lompoc Ceanothus Chaparral**. This community is dominated by Lompoc ceanothus, mock heather and chamise. Other species occurring in this community are black sage, bush monkeyflower (*Diplacus aurantiacus*) and Morro manzanita. *Ceanothus cuneatus* var. *fascicularis* chaparral communities have been assigned a rarity ranking of S4, meaning it is apparently secure at the State level. However, this species is listed by the California Native Plant Society as having limited distribution. Therefore, they individual plants removed for construction will be replaced at a 1:1 ratio in accordance with the California Coastal Commission recommendations (CCC 2021).

**Eroded Dune Slope**. This term is used to describe the vegetation of the eroded dune slope along South Bay Boulevard south of the bridge. These areas appear to be partially eroded due to the loss of chaparral shrubs. Common species found in this community include telegraph weed (*Heterotheca grandiflora*), rat-tail fescue (*Festuca myuros*), California croton (*Croton californicus*), narrow-leaf spineflower (*Chorizanthe angustifolia*), deerweed (*Acmispon glaber* var. *glaber*) and mock heather seedlings.

**Coast Live Oak Woodland**. This community is dominated by coast live oak trees (*Quercus agrifolia*), but also includes patches of shrubs found in Morro manzanita chaparral. This vegetation community has been assigned a rarity ranking of S4, meaning it is apparently secure at the State level.

**Pickleweed Salt Marsh**. This community is dominated by pickleweed (*Salicornia pacifica*), alkali heath (*Frankenia salina*), jaumea (*Jaumea carnosa*), saltgrass (*Distichlis spicata*) and seaside arrowgrass (*Triglochin concinna*). Watson's saltbush (*Atriplex watsoni*) occurs with saltgrass on the upper margins of the salt marsh. Within the BSA, pickleweed salt marsh is limited to tidally influenced areas at/below the HTL in Los Osos Creek. This vegetation community has been assigned a rarity ranking of S3, meaning it is vulnerable, at moderate risk of elimination at the State level.

**Limited Distribution Species.** In addition to Lompoc ceanothus, discussed above, special-status plants present in the PIA that are listed by the California Native Plant Society as having limited distributions include Suffrutescent wallflower (*Erysimum suffrutescens*) and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*). Individual plants that are removed for construction will be replaced at a 1:1 ratio in accordance with the CCC recommendations (CCC 2021).

**Other.** As described in the NES (Table 9 of NES), other vegetation communities include arroyo willow stands, veldt grass stands, iceplant stands, and disturbed land (e.g., the Turri Road pullout). While there are willow stands in the BSA, no willow stands occur in the PIA. Iceplant stands occur along the road embankments and are dominated by dense stands of freeway iceplant (*Carpobrutus edulis*).

The veldt grass stands occur primarily along the eastern shoulder of South Bay Boulevard and are dominated by ruderal, non-native species that typically displace more desirable native vegetation in such settings. The veldt grass stands are dominated by veldt grass (*Ehrharta calycina*), but contain other non-native species such as slender wild oats, red brome, ripgut grass, and red-stem filaree.

## 3.2 Los Osos Creek Channel

The project site is located at the lower reach of Los Osos Creek where it empties into Morro Bay; the creek is tidal at the project site. The open water channel is approximately 70 to 100 feet wide and is bordered by narrow (2 to 20 feet wide) shoreline saltmarsh on both banks within the PIA.

## 3.3 Jurisdictional Areas

The Los Osos Creek channel and adjacent wetlands are subject to the jurisdiction of the USACE (Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act), RWQCB (Section 401 of the Clean Water Act), the California Department of Fish and Game (CDFW), and the California Coastal Commission (CCC). The jurisdictional boundary consists of the HTL (7.0 feet NAVD88), which is also the landward limit of salt marsh and top of bank (Figure 4).

The Morro manzanita chaparral is an upland vegetation community but contains the federally threatened Morro manzanita. Impacts to this species would be subject to Section 7 of the Federal Endangered Species Act.

The project is within the coastal zone, including areas subject to approval by the California Coastal Commission and areas outside Original Coastal Jurisdiction subject to the Local Coastal Program approval. A Coastal Development Permit would be obtained, and would include consideration of the ESHA described in Section 3.1. As of May 4, 2021, the Local Coastal Program agreed to a consolidated permit process and submitted a request to the CCC to process and act upon a consolidated permit.

## 3.4 Anticipated Impacts to Jurisdictional Habitats

Implementation of the project will result in temporary impacts to portions of Los Osos Creek below the HTL (Figure 4). The project is not anticipated to result in any adverse permanent impacts below the HTL. Permanent beneficial impacts below the HTL will include removal of the existing bridge piers from the channel (two rows of nine concrete 1.5-ft diameter piers). Temporary construction impacts below the HTL will include support piles for two temporary construction trestles and shoreline dewatering areas to accomplish installation of the new bridge support (construction year 1) and removal of the existing bridge support (construction year 2).

Temporary impacts below the HTL have the potential to impact pickleweed salt marsh. Impacts to salt marsh will be avoided and minimized to the extent possible in the final design configuration of trestle piles and dewatering areas.

The project will also result in temporary impacts to 0.6 acre (4 individual shrubs, plus two just outside the mapped PIA), and permanent impacts to 0.24 acre (13 shrubs), of Morro manzanita chaparral, which is located in upland areas above the HTL (Figure 2b). Approximately five additional Morro manzanita shrubs are located in the coyote brush scrub on the northwest side of the bridge and have the potential to be temporarily impacted for construction. Approximately 17 additional Morro manzanita shrubs are located in the native oak woodland on the southeast side of the bridge and have the potential to be permanently impacted for road realignment. Three shrubs are just outside the mapped PIA and have the potential to be impacted during construction. Approximately 11 shrubs are located southwest of the bridge, plus an additional two shrubs just outside the mapped PIA, and have the potential to be impacted for construction. The proposed temporary and permanent impact areas contain approximately 23 and 30 individual shrubs, respectively, that may be removed by the project. The County expects that most, if not all, of the temporary shrub impacts can be avoided entirely by reconfiguring the construction impact areas but this will need to be confirmed prior to construction.

The project would result in temporary impacts to 0.34 acre, and permanent impacts to 0.08 acre, of coast live oak woodland (Figure 2b). Based on the May 4, 2020, tree survey, approximately

thirty mature coast live oak trees are located within the PIA, including in the area mapped as coast live oak woodland and in other habitat types. It is estimated that approximately 15 to 20 trees, possibly a maximum of 25 trees, may need to be removed for construction. These tallies count multiple limbs greater than 4-inch diameter at breast height (DBH) as separate trees.

Impacts to the remaining ESHA types, Lompoc ceanothus chaparral, coyote brush scrub, and dune slope would be limited to temporary construction disturbance.

The anticipated impacts to jurisdictional areas, upland ESHA, and protected plants are summarized below in Tables 1a, 1b, and 1c, respectively. Potential for indirect impacts would be avoided with implementation of the mitigation measures provided in the NES. The County proposes 1:1 restoration of temporary impact areas, 3:1 mitigation for permanent impacts to Morro manzanita chaparral and coast live oak woodland, 3:1 replacement of individual Morro manzanita shrubs and 4:1 replacement of oak trees.

The CCC has indicated that they consider temporary impacts that can't be restored to pre-existing conditions within one year to be permanent impacts (CCC 2022). The CCC has also indicated that they require 4:1 mitigation for impacts to salt marsh and 3:1 mitigation for impacts to Morro manzanita chaparral.

The impacts shown in the tables below represent a likely worst-case scenario. Direct impacts would be avoided and minimized to the extent possible as determined during the final project design and based on pre-construction coordination with the contractor. This would include an on-site discussion of specific construction access and staging requirements and feasible alternatives to construction configuration to reduce temporary impacts. The goal would be to avoid and minimize temporary impacts to salt marsh, oak woodland, and Morro manzanita chaparral (and individual shrubs) to the greatest extent possible. The project impacts and associated mitigation requirements would be adjusted in accordance with the results of the coordination. The appropriate regulatory agency notifications would be made to adjust permitted impacts and required mitigation if necessary.

Pre-construction surveys and coordination with the contractor that could result in reductions in project impact areas are included in the proposed pre-construction surveys listed in Table 2.

Finally, the quantification of project impacts and mitigation areas in this draft HMMP are based on the 65% design plans. Project impacts and mitigation areas will be revisited and revised if needed based on the design plans as they progress until 100% design is complete.

A summary of potential future revisions to the impacts and mitigation areas provided in the HMMP includes:

- Review based on subsequent design plans;
- Changes based on requirements of agency permits; and
- Proposed pre-construction review with the contractor to avoid and minimize impacts.

Changes from each of these steps would be incorporated into a final HMMP.

## Table 1a. Summary of Impacts to Jurisdictional Habitats and Proposed Restoration and Mitigation (in acres)

| | | Temporary | | | | Permanent | | | Overall Total |
|---|---|---|---|---|---|---|---|---|---|
| **Feature Type** | Regulatory Jurisdiction | Temporary Impacts | USACE/RWQCB/ CDFW 1:1 Restoration (in place) | Additional 3:1 CCC Mitigation | **Total Mitigation**[1] | Permanent Impacts | Proposed 3:1 Mitigation for Permanent Impacts | **Total Mitigation** | **Temporary plus Permanent Impacts Mitigation Total** |
| **Waters, Wetlands, and Bank** | | | | | | | | | |
| Tidal Wetlands (pickleweed salt marsh) | USACE, RWQCB, CDFW, CCC | 0.11 | 0.11 | 0.33 | 0.44 | 0 | 0 | 0 | 0.44 |
| Channel (non-wetland waters below HTL/top of bank) | USACE, RWQCB, CDFW, CCC | 0.38[2] | 0.38 | 0.00 | 0.38 | 0 | 0 | 0 | 0.38 |
| **Total** | | **0.49** | **0.49** | **0.33** | **0.82** | **0** | **0** | **0** | **0.82** |

1 – Total Mitigation for temporary impacts in this column includes restoration of the temporary impact area plus additional mitigation.
2 - Trestle piles footprints and dewatering areas total 0.11 acre of unvegetated channel; the entire channel area from west to east trestle is 0.38 acre, providing the maximum potential area of substrate effects to provide the most conservative estimate.

## Table 1b. Summary of Impacts to Upland ESHA and Proposed Restoration and Mitigation (in acres)

| | | Temporary | | | | Permanent | | | Overall Total |
|---|---|---|---|---|---|---|---|---|---|
| **Feature Type** | Regulatory Jurisdiction | Temporary Impacts | USACE/RWQCB/ CDFW 1:1 Restoration (in place) | Additional 2:1 CCC Mitigation[1] | **Total Mitigation[2]** | Permanent Impacts | Proposed 3:1 Mitigation for Permanent Impacts | **Total Mitigation** | **Temporary plus Permanent Impacts Mitigation Total** |
| **Upland ESHA Habitats** | | | | | | | | | |
| Morro manzanita chaparral | USFWS, CCC | 0.60 | 0.60 | 1.2 | 1.8 | 0.24 | 0.72 | 0.72 | 2.52 |
| Lompoc ceanothus chaparral | CCC | 0.08 | 0.08 | 0 | 0.08 | 0 | 0 | 0 | 0.08 |
| Coyote brush scrub | CCC | 1.37 | 1.37 | 0 | 1.37 | 0 | 0 | 0 | 1.37 |
| Coast live oak woodland | CCC | 0.34 | 0.34 | 0 | 0.34 | 0.08 | 0.24 | 0.24 | 0.58[3] |
| Dune slope (eroding) | CCC | 0.1 | 0.1 | 0 | 0.1 | 0 | 0 | 0 | 0.1 |
| **Total** | | **2.49** | **2.49** | **1.88** | **4.37** | **0.32** | **0.96** | **0.96** | **5.33** |

1 – CCC requires 3:1 mitigation for temporary impacts to Morro manzanita chaparral and native oak woodland. Restoration of temporary construction impact areas counts for one third; an additional 2/3 or 2:1 acreage is required.
2 - Total Mitigation for temporary impacts in this column includes restoration of the temporary impact area plus additional mitigation.
3 – Proposed oak plantings will be in areas totaling a minimum of approximately 1 acre.

**Table 1c. Summary of Impacts to Vegetation and Proposed Restoration and Mitigation (in plant counts)**

| Feature Type | Regulatory Jurisdiction | Temporary Impacts | Mitigation | Permanent Impacts | Mitigation | Total Mitigation |
|---|---|---|---|---|---|---|
| **Regulated Plants**[1] | | | | | | |
| Morro manzanita plants[2] | USFWS, CCC | 23 plants | 23 plants | 30 | 90 | 113 plants |
| Coast live oak trees | CCC | 16 trees | 64 trees | 9 | 36 | 100 trees |
| Lompoc ceanothus | CCC | 50 plants | 50 plants | 0 | 0 | 50 plants |

1 – Not listed: several suffrutescent wallflower and three southwestern spiny rush that, if impacted by the project, will be replaced as part of restoration plantings in accordance with CCC recommendations (wallflower in chaparral communities and spiny rush in channel edge environments adjacent to salt marsh).
2 - Morro manzanita shrub counts are “worst case;” the County expects these numbers to be lower based on review of construction impact areas.

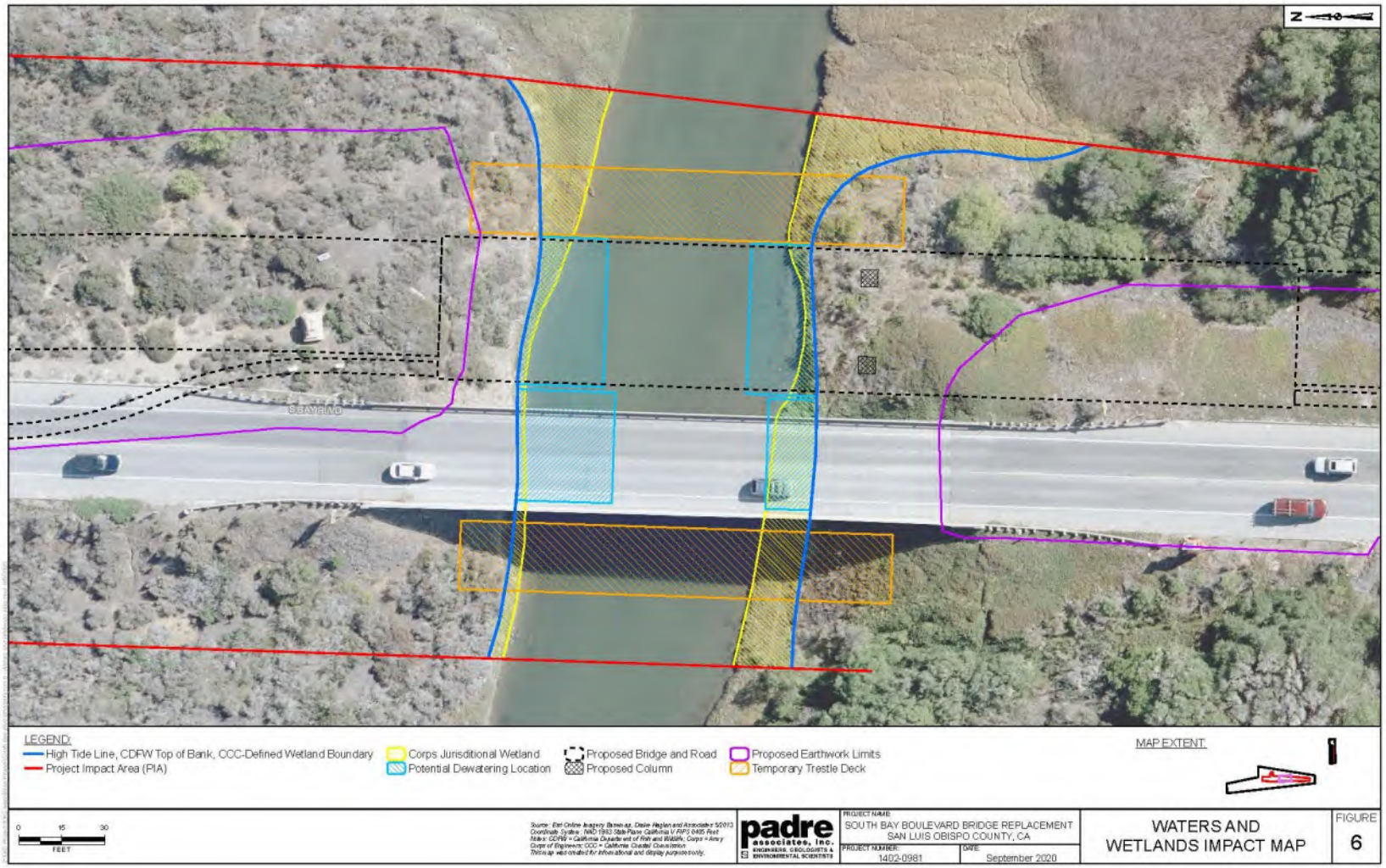
## Table 2. Summary of Past Field Surveys and Proposed Pre-Construction Recommendations

| Survey Type | Most Recent Survey Date | Recommendation |
|---|---|---|
| **Botanical** | | |
| Special-status plants | May 2020 (NES) | a) 1 year prior to construction generate current CNDDB list and conduct seasonal surveys [*NES plant surveys were conducted in **March** and **May** to encompass the flowering period for most of the reported special-status species*]. |
| Native Oak | October 2015 (30% Design Plans)<br>May 2016 (NES)<br>October 2021 (65% Design Plans) | a) Prior to construction confirm native oak map in the field.<br>b) Pre-construction meeting with contractor to avoid/minimize impacts.<br>c) Document reduced impacts and reduced mitigation requirements in **HMMP** and with permit agencies. |
| Morro manzanita | May 2016 (NES)<br>March 2022 (northwest of bridge) | a) Prior to construction confirm Morro manzanita map in the field.<br>b) Pre-construction meeting with contractor to avoid/minimize impact.<br>c) Document reduced impacts and reduced mitigation requirements in **HMMP** and with permit agencies. |
| Lompoc ceanothus (*Ceanothus cuneatus* var. *fascicularis*) | May 2020 (NES) | a) Prior to construction confirm count in project impact areas [*NES states 50 shrubs in PIA*]<br>b) CCC will require 1:1 replacement (in chaparral habitat restoration areas) |
| Suffrutescent wallflower (*Erysimum suffrutescens*) | May 2020 (NES) | a) Prior to construction confirm count in project impact areas [*NES states "several" occur in PIA*]<br>b) CCC will require 1:1 replacement (in chaparral habitat restoration areas) |
| Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) | May 2020 (NES) | a) Prior to construction confirm count in project impact areas [*NES states 3 occur in PIA*]<br>b) CCC will require 1:1 replacement |
| **Jurisdictional determination (NES App. D)** | May 12, 2016 (NES Appendix)<br>May 2020 (NES Update)<br>June 2021 (confirmation) | a) Prior to construction confirm delineation and/or resurvey salt marsh and confirm no eelgrass in PIA.<br>b) Pre-construction meeting with contractor to avoid/minimize impacts.<br>c) Document reduced impacts and reduced mitigation requirements in **HMMP** and with permit agencies. |
| **Special-status wildlife** | | a) Pre-construction surveys for CRLF, MSS, CA brackish water snail, coast horned lizard, northern CA legless lizard, burrowing owl, American badger |
| California red-legged frog | May 12, 2016 (NES, nighttime eye-shine survey) | a) Assumed present.<br>b) CRLF PBO Mitigation measures are adequate to protect and require pre-construction and construction monitoring, including: **Measure 3:** A USFWS-approved biologist will survey the Project site no more than 48 hours before the onset of work activities; and **Measure 5**: A USFWS-approved biologist will be present at the work site until all California red-legged frogs have been relocated out of harm's way, workers have been instructed, and disturbance of habitat has been completed. After this time, the State or local sponsoring agency will designate a person to monitor on-site compliance with all minimization measures. |

| Survey Type | Most Recent Survey Date | Recommendation |
|---|---|---|
| | | c) Dip net or nighttime eye-shine surveys not required. |
| Morro shoulderband snail | September 2018 | Pre-construction and during construction, implement USFWS survey recommendations from NES: A USFWS-approved biologist will survey the PIA (and any other areas where take may occur) for Morro shoulderband snail that may be present. Any identified individuals, in all life stages, will be captured and moved out of harm's way. Field surveys described above will be conducted within one week prior to commencement of initial ground disturbance activities within or adjacent to vegetation, including vegetation removal, materials staging, and any earthwork. |
| Tidewater goby | September-November 2015 (NES Appendix C, focused presence/absence protocol survey) | a) Assumed present.<br>b) During construction, implement NES mitigation measures, including: A qualified, USFWS-authorized biologist shall monitor installation of the approved dewatering containment system and all dewatering activities that could impact tidewater goby and their habitat; and Dewatering operations shall be halted periodically to allow the qualified USFWS-approved biologists to seine the exclusion area for additional trapped fishes and aquatic organisms. All captured organisms shall be immediately released into areas of the creek that will not be affected by dewatering.<br>c) New protocol surveys are not required. |
| California black rail | March and April, 2016 (NES Appendix F, broadcast calls) | a) Conduct pre-construction literature review for occurrences in Morro Bay.<br>b) Most recent documentation for Morro Bay is confirmed calls in 2005 and unconfirmed in 2009-2010 survey. If no more recent confirmed sightings are documented at time of construction, a new survey is not required.<br>c) If there have been more recent sightings in the vicinity, determine if a repeat of the breeding period (Mar. 15 – May 31) survey is warranted prior to construction start. Decision may include consideration of proximity of suitable habitat (bulrush west of bridge) to construction disturbance and/or if standard nesting bird surveys are sufficient. |
| Marine mammal survey | June 6, 2016 (NES Appendix J; overwater survey at high tide during peak pupping season and within a month of construction start) | a) Prior to construction review current NMFS documented haul-outs and rookeries in Morro Bay and compare to list in NES App. J. If no new sites are listed closer to the PIA, no survey required.<br>b) If new sites closer to the PIA are included, coordinate with NMFS on need for a pre-construction survey. |
| Nesting birds | NA | Pre-construction nesting bird surveys for vegetation removal Feb. 1 – Sep. 1. |
| Swallows | 2016 (NES)<br>2021, 2022 nesting observed | Prior to construction install exclusion measures on bridge (consider exclusion measures on the east side only of the existing bridge for construction season; and the west side only of the new bridge for demolition, to provide nesting area for swallows during each season[1]). |

1 – The suggestion to allow swallow nesting on one side of the bridge during each construction season was made by the Morro Coast Audubon Society in comments on the CEQA MND (email dated 8-4-2021). During discussion of permit issues in November 2022, CCC suggested that nearby construction disturbances may be detrimental to nesting birds. A plan to allow bird nesting on the non-construction side of the bridges during construction would be in conflict with the CCC recommended setbacks from nesting birds, and will not be implemented.

**Figure 3: Jurisdictional Features at Los Osos Creek [Fig. 6 from NES]**



## 3.5 Functions and Values Assessment

Los Osos Creek, shoreline salt marsh, and adjacent upland vegetation communities provide important habitat, including shelter, shade, cover, breeding, and foraging habitat, for a variety of aquatic, estuarine, and terrestrial wildlife species. Streams and estuarine tributaries serve as migration and movement corridors for aquatic and terrestrial species.

***Creek.*** The creek and shoreline areas provide fish habitat and support species such as tidewater goby, steelhead, and marine and aquatic birds. The Biological Assessment for the project concluded that Los Osos Creek in the project area does not provide breeding habitat for tidewater goby or steelhead, but provides a migration corridor. These areas also provide habitat for riparian species.

Los Osos Creek and its floodplain provide important hydrologic functions, including estuarine tidal exchange and flood storage. Shoreline and floodplain vegetation communities provide water quality renovation functions.

Unvegetated channel areas provide soft-bottom benthic community habitat. The muddy intertidal shoreline in the project area includes scattered rocks that were placed for shoreline stabilization when the bridge was built. These provide cover for crabs and other motile species.

***Salt marsh.*** The PIA is in close proximity to broad expanses of salt marsh bordering Los Osos Creek upstream and downstream of the existing bridge. Channel tidal flats and nearby marshes provide expansive habitat areas removed from human disturbance with mosaics of marsh and open water that provide substantially higher-value habitat than the salt marsh in the PIA.

The salt marsh in the project area is limited to narrow marshes bordering the channel that range from roughly 1 to 20 feet wide on the south bank and 1 to 10 feet wide on the north bank. The north bank salt marsh is situated on a rocky slope established when the bridge was built, at slopes of roughly 1:1 to 2:1. Vegetation between the rocks on the north bank is dense (75 to 90% cover). The south bank marsh is flatter beneath the bridge and on a steep rock bank to the east, with 25 to 90% cover. Areas lacking vegetative cover consist of animal trails, rocks, and muddy substrate. The rock that was placed when the existing bridge was built stabilizes the marsh edge on both banks.

The salt marshes in the project areas provide shoreline foraging areas for motile aquatic species during higher stages of the tide, resulting in contiguous foraging areas along both creek banks. However, the narrow width of the marshes, lack of complexity (such as channel networks), proximity to human disturbance, steep terrain, and lack of high-value buffers substantially limit their value as nesting and nursery, cover, and foraging habitat.

***Upland communities.*** Upland vegetation communities provide habitat for terrestrial species, migratory birds, and raptors. Special-status species may also occur in this area, such as California red-legged frog, coast horned lizard, and northern California legless lizard. The vegetation communities in the project area support several special-status plants, including Morro manzanita, Lompoc ceanothus, and suffrutescent wallflower.

Some of the upland vegetation communities in the project area have suitable habitat elements to support Morro shoulderband snail, although no live snails have been documented in the project area.

The relative values of upland community functions are increased by proximity to Morro Bay estuary and the ocean coastline, and because surrounding lands consist primarily of undeveloped park lands. The native oak woodland, Morro manzanita chaparral, and coyote brush scrub habitats serve as a buffer between the creek and bay and the developed lands and human

disturbance associated with the road. Buffer functions include stormwater attenuation, water quality renovation, debris trapping, and nesting, foraging and cover for wildlife.

# 4 Goals of the Habitat Mitigation and Monitoring Plan

Implementation of this HMMP will restore temporary impacts and mitigate for permanent impacts to jurisdictional areas and ESHA. This HMMP addresses the project-related impacts to USACE, CDFW, RWQCB, and coastal jurisdictional areas using on-site and in-kind habitat restoration and enhancement within the creek channel and upland habitats in the PIA.

The County anticipates being able to provide all necessary mitigation within the PIA (Table 3 and Figures 4a and 4b) with the possible exception of an additional 3:1 mitigation area for salt marsh required by the CCC. In the event additional mitigation areas are required, consideration will be given to additional areas within the BSA (described in the NES), or elsewhere in the same watershed if necessary.

## 4.1 Mitigation Strategy

***Overview.*** The proposed mitigation strategy has been developed based on the impacts shown in the draft 65% level design plans, and with the goal of providing adequate and appropriate restoration and in-kind/on-site mitigation. The following apply to the strategy:

- Standard mitigation ratios for jurisdictional impacts are proposed (i.e., 1:1 restoration of temporary impacts, 3:1 mitigation for permanent impacts).
- The CCC requires additional mitigation for temporary impacts to salt marsh and Morro manzanita chaparral (see Section 3.4) (CCC 2022).
- The USFWS BO for the project requires that the final mitigation and monitoring strategy be developed in collaboration with the USFWS (Reasonable and Prudent Measure 3, USFWS BO, dated April 26, 2022). Collaboration was commenced in August 2022, and is on-going.
- The CCC requested that proposed mitigation areas be adjusted to minimize the establishment of mitigation areas adjacent to areas with a predominance of non-native, invasive vegetation. To accomplish this, the County added additional mitigation areas in County right-of-way along South Bay Boulevard, and eliminated the proposed mitigation area along Santa Ysabel Avenue.
- The County is proposing to review details of temporary project impacts with the contractor prior to construction with the goal of reducing impacts to the extent feasible, particularly in salt marsh, Morro manzanita chaparral, and oak woodland. Any reductions in the impact areas that result from such coordination will be documented in an amendment to this HMMP and the restoration goals will be adjusted accordingly.
- Compensatory mitigation is proposed to be in-kind (i.e., similar habitat conditions to the impacted areas) and located within the PIA to the extent feasible. As of September 2022, the County has determined there is sufficient, suitable space available in the PIA to accomplish this, with the potential exception of mitigation for salt marsh required by CCC.
- Restoration plantings on the northwest and northeast side of the new bridge will accommodate the CCC requirement that the County establish a 5-foot-wide graded bench that would be suitable for future development of a trail. The CCC requires the following modification: “The HMMP proposes to install container plants at precise intervals. This is not how native communities establish. Instead, please take samples and then seek to mimic the relative cover and spacing of the species in the community.” Morro manzanita plantings will be planted in a mosaic pattern with average spacing of approximately 1.5 times the mature crown size of each species to best simulate the natural ecology (approximately 10-15 ft). Reference populations in less

disturbed areas are consistent with this space (State Parks land uphill of Broderson Road).

Proposed mitigation includes:

- 1:1 ratio for restoration of temporary construction impacts;
- 3:1 ratio for permanent impacts to Morro manzanita chaparral;
- 4:1 ratio for replacement of native oak trees greater than 4-inch DBH removed for the project, corresponding to up 100 replacement trees (1.0 acre of land required); and
- Additional 3:1 ratio for restoration of temporary construction impacts to salt marsh and additional 2:1 ratio for mitigation for permanent impacts to Morro Manzanita chaparral to meet the CCC-required mitigation ratios for these resources (4:1 for salt marsh and 3:1 for Morro manzanita chaparral).

This proposed mitigation is detailed in Tables 1a-1c.

***Tidal Areas Strategy.***

- No permanent adverse impacts below the HTL are proposed.
- Beneficial impacts will result from removal of the existing bridge piers from the channel (removal affecting approximately 32 square feet of direct impact area plus surrounding indirect scour effects).
- Field review: Temporary construction impact areas will be revisited prior to construction to ensure correct baseline conditions are documented for restoration purposes (for example, wetland acreage, percent cover and species composition).
- Contractor review: Temporary construction impacts to salt marsh will be minimized to the greatest extent possible based on coordination with the contractor regarding the location of the dewatering features and trestle piles.
- Temporary impacts below the HTL (shown in detail in Figure 3) will be restored to pre-existing contours and vegetative cover. No import or export of fill material is proposed.
- Cofferdam and trestle piles installation and removal is expected to result in minor, localized sediment displacement, which will be carefully smoothed to restore natural contours.
- Salt marsh restoration areas will be revegetated using pickleweed mulch and container plants to restore pre-existing conditions (percent cover, dominant species) as documented during pre-construction baseline surveys. The County conducted a salt marsh restoration pilot project from April to September, 2021, to evaluate the feasibility of restoring pickleweed marsh using cuttings (“mulch”). The pilot project confirmed the ability to establish pickleweed using mulch covered with protective mesh. The County anticipates that use of this approach, supplemented with container plantings of additional marsh species, will result in relatively quick restoration of salt marsh impact areas.
- Spiny rush plants removed during construction will be replaced at a 1:1 ratio in suitable channel-edge locations.
- Salt marsh mitigation areas, up to 0.33 acre, *to be determined*.

***Morro Manzanita Strategy.***

- Impacts to Morro manzanita chaparral and removal of individual plants will be minimized to the greatest extent possible.

- Temporary impacts to 0.6 acre of Morro manzanita chaparral (mitigation area 2 in Figure 4a and Table 3) will be restored to pre-existing contours, soil conditions, and vegetation using with a combination of hydroseeding and container plants. Between this area and other habitat types with individual shrubs, up to 38 individual Morro manzanita plants may be removed for construction access and staging and would be replaced for restoration. The County expects that temporary construction impacts can be configured to avoid most, if not all, impacts to individual Morro manzanita plants, but this will need to be finalized prior to construction.
- Permanent impacts to 0.24 acre of Morro manzanita chaparral and up to 27 individual plants will be mitigated at a 3:1 mitigation ratio, requiring 0.72 acre and approximately 81 individual plants. As required by the CCC, an additional 3:1 mitigation area will be provided as mitigation for temporary impacts (1.8 acres), resulting in a total mitigation acreage of 2.52 acres.
- In addition to the temporary construction impact restoration area (0.6 acre, 2nd bullet above, mitigation area 2 in Table 3), mitigation areas for Morro manzanita chaparral could be established in the following areas (listed in Table 3):
    - Iceplant stand temporary construction impact area northeast of the bridge to be restored (area 3; 0.14 acre);
    - Veldt grass stand temporary construction impact area southeast of the bridge to be restored (area 8; 0.68 acre);
    - Southern half of the construction impact area to be restored on the northwest side of South Bay Boulevard (area 4; 0.36 acre);
    - North and south South Bay Boulevard abandoned lane removal areas (areas 5 and 11; 1.2 acres); and
    - Individual plantings in the dune slope and Lompoc ceanothus restoration areas (areas 9 and 10; 0.30 acre).

These areas total 3.27 acres for restoration and mitigation. This indicates that there is sufficient space available in the PIA and adjacent right-of-way to implement the required Morro manzanita chaparral restoration/mitigation of 2.52 acres. The additional area available will help offset small reductions expected to result from drainage swales to be located in several areas (areas 1, 5, 7, 11).

***Oak Woodland.*** Removal of oak trees will be minimized to the greatest extent possible. Removal of trees with diameter at breast height (DBH) of 4 inches or more is anticipated to include 9 trees in the permanent impact footprint for the realigned approach roads and additional trees in the temporary construction disturbance area, for a total of 15 to 25 trees. Replacement plantings at a 4:1 replacement ratio would correspond to up to 100 replacement plantings.

Replacement plantings could be planted in the following areas (listed in Table 3):

- Oak woodland temporary construction impact area to be restored, 0.2 acre, (area 7; approximately 10 trees);
- Veldt grass dominated construction staging area to be restored, bordering the east side of South Bay Boulevard north of Turri Road 0.61 acre (area 1; approximately 100 trees; this area could be expanded further north in County right-of-way if necessary, although this area is outside the Project Impact Area evaluated for CEQA and NEPA);
- Northern half of the construction impact area to be restored on the west side of South Bay Boulevard north of the bridge, approximately 0.36 acre (area 4); and

- Iceplant stands southwest of the bridge, 0.1 acre (area 12; approximately 20 trees).

These areas provide sufficient space to plant a total of 180 oak trees. This indicates that there is more than enough space available in the PIA to install the required oak replacement plantings (100 trees).

***Remaining ESHA.*** Temporary construction impacts to Lompoc ceanothus chaparral and dune slope (areas 9 and 10, Table 3) will be restored to pre-existing contours and vegetated with container plants and a native seed mix. In accordance with the pre-application CCC recommendations (CCC 2022) individual Lompoc ceanothus and suffrutescent wallflower will be replaced at a 1:1 ratio in suitable vegetation communities as part of the restoration plantings.

## Table 3. Proposed Restoration and Mitigation Areas

| Area[1] | Existing Conditions | Acreage | Restoration / Mitigation | Details | Success Criteria |
|---|---|---|---|---|---|
| **1** | Veldt grass | 0.61 | Construction disturbance to be restored and enhanced with oak replacement plantings | Approximately 100 oak plantings; 10-ft setback from pavement for oaks; native seed mix | Groundcover to prevent erosion; oak survival; <25% non-native species excluding non-native annual grasses |
| **2** | Morro manzanita chaparral | 0.61 | Construction disturbance to be restored to Morro manzanita chaparral | Establish approximately 20 MM plants (transplants or seedlings); plus additional plantings to mimic pre-existing community; plus native seed mix | Groundcover to prevent erosion; MM survival; <5% non-native species excluding non-native annual grasses |
| **3** | Iceplant stands | 0.14 | Construction disturbance to be restored and enhanced with Morro manzanita chaparral | Establish approximately 3 MM plants (transplants or seedlings); plus additional plantings to mimic adjacent, pre-existing MM community; plus native seed mix | Groundcover to prevent erosion; MM survival; <5% non-native species excluding non-native annual grasses |
| **4** | Coyote brush scrub with approximately 8 Morro manzanita shrubs | 0.72 | Construction disturbance to be restored and enhanced with 0.36 acre MM chaparral and 0.36 acre oak plantings | MM southern half (10); oaks northern half; plus additional plantings to mimic pre-existing MM and oak woodland habitats in PIA; coyote brush container stock; native seed mix; drainage swale | Groundcover to prevent erosion; MM and oak survival; <5% non-native species excluding non-native annual grasses |
| **5** | Pavement | 0.49 | Pavement removal area to be restored to Morro manzanita chaparral, and north end available for oak plantings if needed | MM southern portion (10); oaks northern portion; plus additional plantings to mimic pre-existing MM and oak woodland habitats in PIA; coyote brush container stock; native seed mix | Groundcover to prevent erosion; MM and oak survival; <5% non-native species excluding non-native annual grasses |
| **6** | Salt marsh | 0.11 | Construction disturbance to be restored to salt marsh | Pickleweed cuttings; container plants to mimic pre-existing salt marsh community | Native survival/cover to meet or exceed baseline; <5% non-native species |

| | | | | | |
|---|---|---|---|---|---|
| **7** | Oak woodland | 0.20 | Construction disturbance to be restored to oak woodland | Approximately 10 oak plantings, plus additional plantings to mimic pre-existing community, native seed mix, 10-ft setback from pavement for oaks; new road berm may limit plantable area for oaks; drainage swale | Groundcover to prevent erosion; oak survival; <5% non-native species excluding non-native annual grasses |
| **8** | Veldt grass | 0.68 | Construction disturbance to be restored and enhanced to Morro manzanita chaparral | Approximately 15 MM plants; plus additional plantings to mimic pre-existing community, native seed mix | Groundcover to prevent erosion; MM survival; <5% non-native species excluding non-native annual grasses |
| **9** | Dune Slope (2 areas) | 0.1 | Construction disturbance to be restored and available for oak or MM plantings if needed | Native seed mix; container plants to mimic pre-existing community; available if needed for MM, oaks, or Lompoc ceanothus | Groundcover to prevent erosion; MM survival; <5% non-native species excluding non-native annual grasses |
| **10** | Lompoc ceanothus chaparral (2 areas) | 0.08 | Construction disturbance to be restored and available for oak or MM plantings if needed | Lompoc ceanothus container plants, plus additional plants to mimic pre-existing community; native seed mix | Groundcover to prevent erosion; MM survival; <5% non-native species excluding non-native annual grasses |
| **11** | Pavement | 0.71 | Pavement removal area to be restored to Morro manzanita chaparral | Approximately 15 MM; plus additional plants to mimic pre-existing community; native seed mix | Groundcover to prevent erosion; MM and oak survival; <5% non-native species excluding non-native annual grasses |
| **12** | Iceplant stands | 0.10 | Construction disturbance to be restored and enhanced for oak tree replacement | Approximately 20 oak plantings; plus additional plants to mimic pre-existing community; native seed mix. | Groundcover to prevent erosion; oak survival; <5% non-native species excluding non-native annual grasses |

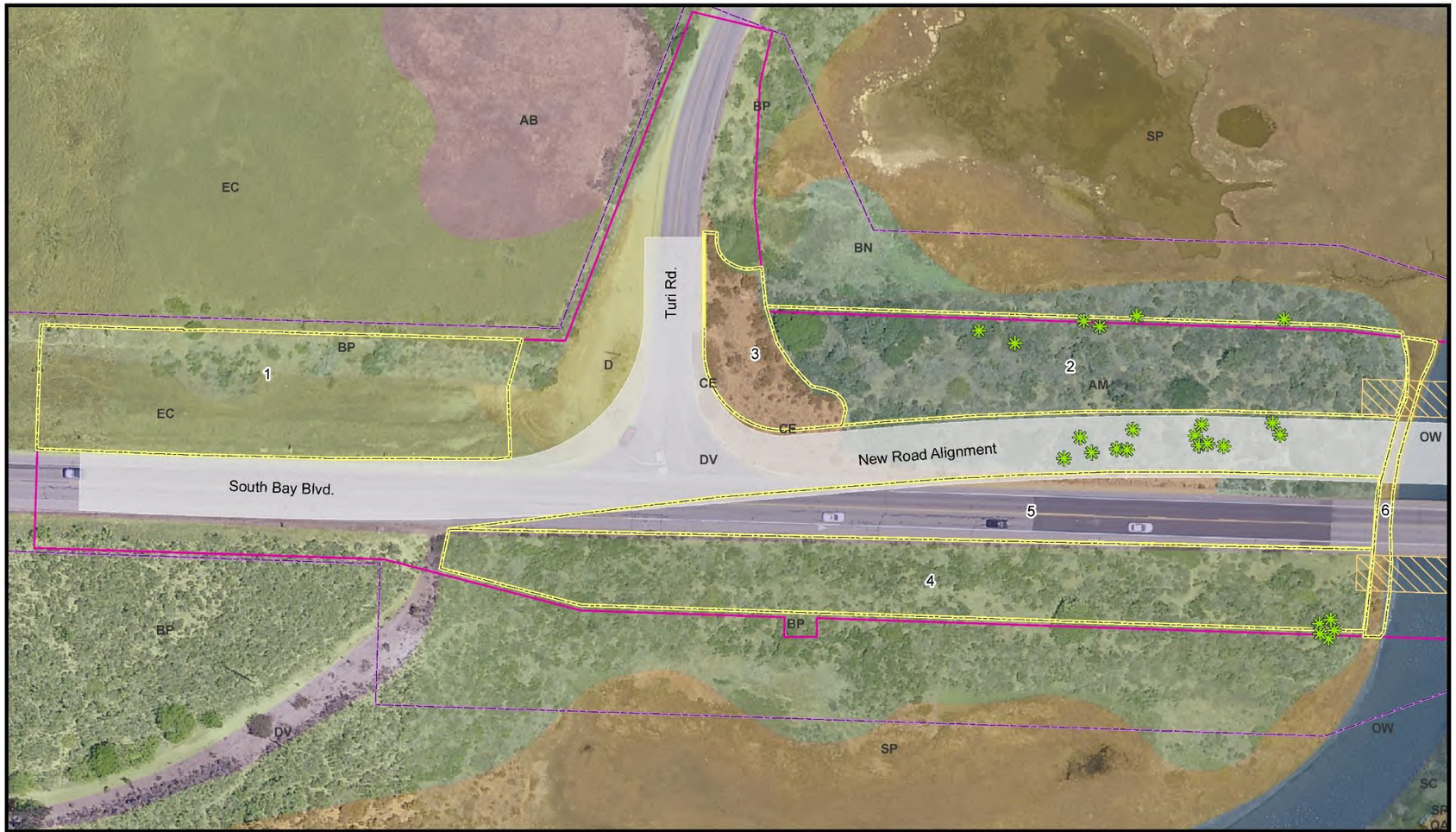
1 – Refer to Figures 4a and 4b for locations; area 6 is shown in Figure 3.

## 4.2 Target Functions and Values

The goal of the HMMP is to restore and enhance the diverse and valuable biological and aquatic resources within the project area after the project is completed. An increase in functions and values on site is expected as a result of the project because:

- Permanent impacts have been reduced to relatively small areas given the overall scope of the project;
- No adverse permanent impacts to estuarine habitats are proposed and incremental improvement will be accomplished with removal of the existing bridge piers from the channel;
- Temporary impacts to estuarine habitats will be of short duration (five months) and divided between two construction seasons;
- Temporary construction impacts to valuable habitat areas will be restored;
- Removal of abandoned road sections provides the opportunity to mitigate for permanently impacted habitats; and
- Some lower-value habitats will be enhanced as part of the proposed mitigation for permanent impacts.

**Figure 4a. Proposed Restoration and Mitigation Areas**

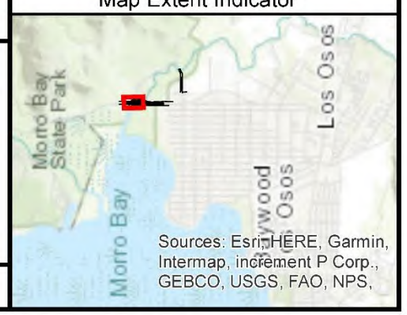



**South Bay Blvd. Bridge Project**

North Mitigation and Restoration Areas (Map 1/2)

Date: February 2023
Created By: K. Whelan

Map Extent Indicator




**Legend**

- Morro Manzanita
- Temporary Tresle Deck
- Mitigation and Restoration Areas
- County Right-of-Way
- Project Impact Area (PIA)
- New Road and Bridge Alignment

**Existing Vegetation Cover**

- AB-Avena barbata (wild oats grasslands)
- AM-Arctostaphylos morroensis (Morro manzanita cha*
- BN-Brassica nigra (upland mustard stands)
- BP-Baccharis pilularis (coyote brush scrub)
- CC-Ceanothus cuneatus (Lompoc ceanothus chaparral)
- CE-Carpobrotus edulis (ice plant stands)
- D-Disturbed (weedy)
- DS-Dune slope (eroded)
- DV-Developed (asphalt, concrete, structures)
- EC-Ehrharta calycina (veldt grass stands)
- OW-Open water (unvegetated stream channel)
- QA-Quercus agrifolia (coast live oak woodland)
- SC-Schoenoplectus californicus (California bulrus*
- SL-Salix lasiolepis (arroyo willow stands)
- SP-Salicornia pacifica (pickleweed saltmarsh)

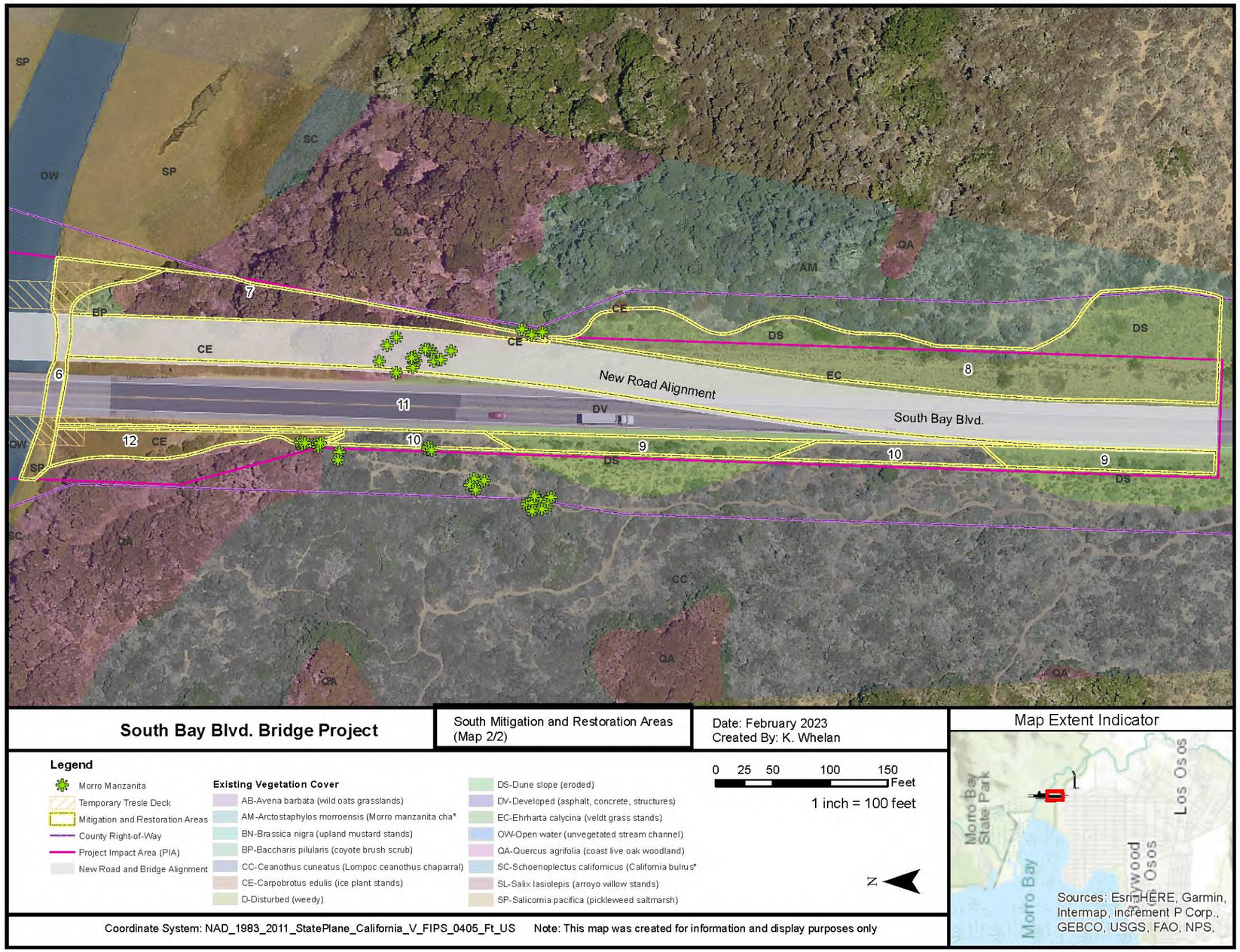
0 25 50 100 150 Feet

1 inch = 90 feet

N

Coordinate System: NAD_1983_2011_StatePlane_California_V_FIPS_0405_Ft_US Note: This map was created for information and display purposes only

**Figure 4b. Proposed Restoration and Mitigation Areas**



## 4.3 Time Lapse between Impacts and Expected Compensatory Mitigation Success

Construction is expected to take two seasons, one for construction of the new bridge and one for demolition of the existing bridge. Some of the temporary impact areas may be required for construction staging for both construction periods. The South Bay Boulevard road removal areas will likely not be available until the end of the second construction season.

Temporary construction impacts in jurisdictional areas are expected to be in place in individual shoreline locations for a single construction season for a duration of five months:

- Construction Season 1: east work trestle and dewatering areas for bridge construction
- Construction Season 2: west work trestle and dewatering areas for bridge demolition

Season 1 structures are expected to be removed and the impacted areas restored at the end of Season 1, although it may be necessary to leave the work trestle in place. This will be avoided to the extent feasible. All structures are expected to be removed and the impacted areas restored following completion of the second construction season.

Upland temporary construction impacts are anticipated to be in place for two construction seasons. It may be possible to restore some of the temporary impact areas following completion of Season 1. This will be determined in coordination with the contractor based on access and staging needs for Season 2. Restoration of temporary impacts to Morro manzanita chaparral will be the first priority for post-Season 1 restoration, if feasible. Otherwise, it is anticipated that restoration and mitigation for upland impact areas would occur following completion of the project.

Hydroseeding, transplants, and container stock associated with restoration and mitigation efforts will be installed in the late fall/early winter after completion of construction activities, when the plant materials installed will have the greatest chance of becoming established because they will receive natural rainfall during the cooler portion of the year.

The County expects restoration of temporarily disturbed salt marsh habitat to be restored more quickly; a preliminary estimate is within one or two years following restoration activities. Table 5 provides a typical implementation, maintenance, and monitoring schedule for County projects. The schedule will be complicated for this project because there will be two construction seasons, and some of the restoration may be accomplished at the end of Season 1, with the remainder following Season 2. Two construction seasons results in a total monitoring duration of seven years from construction start.

The proposal to remove, store, and transplant Morro manzanita plants, if feasible, and the use of container stock being generated for the project in the County's greenhouse, will jump-start the functions and values of the oak and Morro manzanita mitigation areas considerably compared to the alternative of using seeds/acorns on site. The County expects to have sufficient container stock generated in the greenhouse to avoid the need to use seed/acorns for restoration. The County will target attaining container stock of sufficient size to minimize predation losses. Feasibility of transplanting Morro manzanita plants will likely be limited to smaller shrubs, and the methods/approach will need to be developed in a pilot project prior to construction. These approaches are expected to result in shortened timeframes between restoration work and compensatory mitigation success.

## Table 4. Typical Mitigation and Monitoring Schedule

| **Year 1 Bridge Construction and Year 2 Demolition** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Construction Monitoring | | | | | | X | X | X | X | X | | |
| Prepare Planting Areas | | | | | | | | | | X | | |
| Install and Water Plantings | | | | | | | | | | | X | |
| Site/Revegetation Monitoring | | | | | | | | | | X | X | X |
| **Year 3 - Monitoring Year 1** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** |
| Weeding/Maintenance | X | | X | | | X | | X | | | X | |
| General Site Monitoring | | | X | | | X | | | | X | | X |
| Biological Data Collection | | | X | | | | | | | X | | |
| Annual Report | | | | | | | | | | | | X |
| **Year 4 - Monitoring Year 2** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** |
| Weeding/Maintenance | | X | | X | | X | | X | | | X | |
| General Site Monitoring | | | | X | | X | | | | X | | X |
| Biological Data Collection | | | | X | | | | | | X | | |
| Annual Report | | | | | | | | | | | | X |
| **Year 5 - Monitoring Year 3** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** |
| Weeding/Maintenance | | X | | X | | X | | X | | X | | |
| General Site Monitoring | | | | X | | | | | | X | | |
| Biological Data Collection | | | | X | | | | | | X | | |
| Annual Report | | | | | | | | | | | | X |
| **Year 6 - Monitoring Year 4** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** |
| General Site Monitoring | | | | X | | | | | | X | | X |
| Biological Data Collection | | | | X | | | | | | X | | |
| Annual Report | | | | | | | | | | | | X |
| **Year 7 - Monitoring Year 5** | **JAN** | **FEB** | **MAR** | **APR** | **MAY** | **JUN** | **JUL** | **AUG** | **SEP** | **OCT** | **NOV** | **DEC** |
| General Site Monitoring | | | | X | | | | | | X | | X |
| Biological Data Collection | | | | X | | | | | | X | | |
| Completion Report | | | | | | | | | | | | X |

# 5 Mitigation Implementation Plan

This section describes how the required mitigation for the project will be conducted and includes the specific methodologies and plant species that will be used.

Implementation of the restoration and mitigation activities will be conducted or overseen by a County-approved restoration specialist that has the necessary experience and skills to complete the required mitigation for the project. The restoration specialist will ensure conformity of all the mitigation activities with this HMMP.

Only native, non-invasive species will be used for restoration and mitigation efforts. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Exotic Pest Council, or by the State of California will be used in restoration and mitigation sites. No plant species listed as a noxious weed by the State of California or the U.S. Federal Government will be used.

Suitable erosion and sedimentation control measures will be maintained on site until plant cover is sufficiently dense to protect the soil from erosion. Measures could include, for example, use of weed-free straw wattles, silt fence, jute netting, and sand or gravel bags. All measures used will be biodegradable; measures incorporating plastic mesh will not be allowed.

All proposed restoration and mitigation areas are in County right-of-way. No temporary construction easements (TCE) are anticipated to be required. In the event TCE's are required, it would most likely be with State Parks, which owns most of the adjoining land.

## 5.1 Site Preparation

The restoration and mitigation activities will be initiated when construction is finished and prior to the onset of the winter rainy season. Restoring pre-existing substrate conditions and grades, installing necessary sedimentation and erosion controls, and hydroseeding disturbed areas will generally be part of the construction contract to be implemented by the contractor. Hydroseeding in specific habitat restoration areas may be accomplished separately by the County.

### 5.1.1 Temporary Impact Restoration Areas

***Tidal Areas.*** Site preparation in tidal restoration areas will include removing all construction materials (cofferdams, trestle piles) and smoothing any displaced sediment in unvegetated areas to restore pre-existing conditions. No import or export of fill material is proposed. Any displaced sediment in the channel that results from installation and removal of the cofferdams and trestle piles is expected to be of minimal quantity and localized to the immediate vicinity of the structures.

***Non-Tidal Areas.*** Temporary construction impacts to ESHA will be restored to pre-existing conditions. Temporary impacts to non-ESHA will be enhanced to higher-value habitats in most locations (e.g., Morro manzanita chaparral and oak plantings). Site preparation in non-tidal areas will include removing all construction-related materials and debris and restoring pre-existing contours and hydroseeding. Soils will be stabilized with suitable measures (e.g., weed-free straw wattles, jute netting) on or adjacent to slopes.

In accordance with CCC requirements, restoration plant communities will mimic pre-existing communities (dominant species, relative cover, and spacing) for Morro manzanita chaparral, oak woodland, Lompoc ceanothus chaparral, and coyote brush scrub. Container stock will be planted in a mosaic pattern with average spacing of approximately 1.5 times the mature crown size of each species to best simulate the natural ecology (approximately 10-15 ft for Morro Manzanitas and Lompoc Ceanothus). Duplicate plantings or closer spacing may be used in anticipation of relatively high mortality rates of manzanita transplants and number of available nursery stock. Reference populations in less disturbed areas are consistent with this space (State Parks land uphill of Broderson Road).

Seed mixes to establish the ESHA community habitat conditions provided in Section 4.1 for the restoration areas listed in Table 3 would be derived from the following:

Morro Manzanita Chaparral: yarrow (*Achillea millefolium*), coyote brush, black sage, California sagebrush, coastal golden yarrow (*Eriophylum staechadifolium*), deerweed, dune bush lupine (*Lupinus chamissonis*), and mock heather (*Ericameria ericoides*).

Coyote Brush Scrub: yarrow, coyote brush, black sage, California sagebrush, coastal golden yarrow, deerweed, dune bush lupine, and mock heather.

Lompoc Ceanothus Chaparral: yarrow, coyote brush, black sage, California sagebrush, coastal golden yarrow, deerweed, dune bush lupine, and mock heather.

Eroded Dune Slope: coyote brush, Coastal golden yarrow, coast goldenbush (*Isocoma menziesii*), mugwort (*Artemisia douglasiana*), California croton, deerweed, and mock heather.

Coast Live Oak Woodland: yarrow, coyote brush, black sage, California sagebrush, coastal golden yarrow, deerweed, dune bush lupine, and mock heather (*Ericameria ericoides*).

Stormwater drainage swales: seeding/planting will be consistent with an approved plant list provided in the Central California Coast Low Impact Development Bioretention Guidance Technical Assistance Memo (Central Coast LIDI 2011). This document lists species to be selected from for the bottom of swales (e.g., California gray rush (*Juncus patens*), clustered field sedge (*Carex praegracilis*), deer grass (*Muhlenbergia rigens*), common yarrow, and yerba mansa (*Anemopsis californica*)) and sideslopes (e.g., coast live oak, coyote brush, Pacific blackberry (*Rubus ursinus*), toyon (*Heteromeles arbutifolia*), coffeeberry (*Rhamnus californica*), wax myrtle (*Morella californica*), California poppy (*Eschscholzia californica*), and sky lupine (*Lupinus nanus*)). Any of the plants selected from the approved plant list will be compatible with the mitigation efforts.

Additional site preparation details for Morro manzanita chaparral will include ensuring appropriate soil conditions. Potential strategies to facilitate restoration after construction may include protecting the native soil in situ or removing and storing it to be used in site restoration. For the 0.6-acre construction impact area, topsoil could potentially range from 1,000 to 2,000 cubic yards (based on 1- to 2-foot depth). As a general approximation, roughly 0.5 acre may be needed for storage. The most feasible and cost-effective approach will need to be determined.

Imported soil is not expected to be needed for restoration. However, if it is, soil specifications will be developed to ensure that the restoration area has suitable substrate to maximize Morro manzanita restoration success (e.g., beach sand or sandy loam).

To accommodate a future coastal trail as required by CCC, shrub and oak trees will not be planted in the 5-foot-wide graded bench proposed to connect the northwest side of the new bridge, with an undercrossing under the bridge, and a portion of the restoration area on the northeast side of the new bridge. A preliminary estimate is that this area would include up to approximately 3,500 s.f. (0.08 acre) of the restoration areas. Shrubs and trees planted in the trail alignment would have to be removed for development of the trail in the future, so these areas will be seeded with a native seed mix. The proposed trail alignment areas will not mimic the random plant arrangement required by CCC, but a 5-foot gap between plantings is smaller than the anticipated spacing between shrubs so is not expected to have adverse effects on habitat value.

### 5.1.2 Permanent Impact Mitigation Areas

***Tidal Areas.*** No permanent impacts to tidal areas are required.

***Non-Tidal Areas.*** Site preparation in non-tidal mitigation areas includes Morro manzanita chaparral and oak woodland.

***Morro manzanita chaparral:*** In addition to use of lower-value construction impact areas described in Section 5.1.1, the proposed mitigation areas for Morro manzanita chaparral include

road removal areas. Site preparation will include removal of existing pavement and road base materials. Compacted soils would be disked. If necessary to establish desirable grades, weed-free soil suitable for the targeted habitat type would be placed.

The feasibility of removing and storing the native topsoil from the permanent impact area (as described for the temporary construction impact area above) may be considered. An estimated 400 to 800 cubic yards of topsoil may be available from the 0.24-acre permanent impact area. In the event soil for the mitigation area must be imported from offsite, specifications for suitable soil will be developed (e.g., beach sand or sandy loam).

The Morro manzanita mitigation areas will be vegetated with suitable container stock and seeded with the same mix described for the Morro manzanita restoration area in Section 5.1.1.

***Oak Woodland:*** In addition to the use of lower-value construction impact areas described in Section 5.1.1, the proposed oak woodland mitigation and additional oak tree replacement planting areas may include road removal areas. Site preparation will include removal of existing pavement and road base materials. Compacted soils would be disked. If necessary to establish desirable grades, weed-free soil suitable for the targeted habitat type would be placed. The oak woodland mitigation area will be vegetated with suitable container stock and seeded with the same seed mix described for the oak woodland restoration area in Section 5.1.1.

## 5.2 Plantings

### 5.2.1 Tidal Areas

Areas where pickleweed has been removed by construction activities will be restored by mulching with pickleweed cuttings to restore vegetative cover that is comparable to the pre-existing salt marsh vegetation. Pickleweed mulching has been documented as a reliable way to re-establish cover and may be applied from fall through spring as a way to establish pickleweed cover and reduce invasive species colonization (Miles et. al. 2015).

It is anticipated that there are sufficient pickleweed stands in the project vicinity to obtain cuttings. The proposed approach consists of obtaining cut pieces about 20 cm long that will be placed by hand in restoration areas and covered with anchored jute mesh for protection. Details may be refined through agency coordination as part of the permit application process.

The need for container plantings to re-establish additional species will be based on the results of the pre-construction baseline surveys of the marsh areas to be impacted and the success of pickleweed mulching. Additional plantings may be included in the restoration design. This could include, for example, jaumea and saltgrass plantings from nursery stock.

### 5.2.2 Non-Tidal Areas

For all non-tidal restoration and mitigation areas, the target species included in the proposed hydroseed mixes could be supplemented with container stock if deemed necessary (e.g., coyote brush). Because of the aerial extent of areas to be treated, hydroseeding will be relied upon as the initial/primary method.

Morro manzanita plantings are proposed to include the plants generated in the County greenhouse, and may also include plants in the construction disturbance zone that would be removed and set aside for the duration of construction, if feasible. Additional plants would be obtained from nursery stock if necessary. Some of the plants on site will likely be too large to remove and store for transplanting. Smaller plants in the project impact areas may be removed and set aside for replanting in restoration and mitigation areas. The County is coordinating with State Parks and the U.S. Fish and Wildlife Service for their expertise regarding the removal methods, storage, maintenance, and transplanting of the plants. Details will be refined through continued coordination and the permit application process. Plants could be stored in County right-of-way at the site, State Parks greenhouse facilities or lands, and/or the County greenhouse

facility at Kansas Avenue in San Luis Obispo. Storage would likely be in containers, although the feasibility of installing temporary containment ditches may be considered. Plants would be watered and protected from damage for the duration of construction.

Morro manzanita seedlings will be used to attain the necessary quantity of replacement plants. Seedlings may be obtained from commercial nurseries and/or propagated for the project. The County currently has approximately 35 seedlings obtained from a local nursery that are intended to be used for the project and additional container stock is being generated by the County using seed propagation and cuttings collected at the project site or other locations in Los Osos. Propagation efforts are being coordinated with the USFWS.

Coast live oak seedlings will be propagated by the County using acorns collected in the project vicinity and/or purchased from nursery stock.

Lompoc ceanothus plantings will be from County greenhouse or nursery stock.

## 5.3 Planting Methodology

### 5.3.1 Installation of Container Stock

Container stock plantings will be installed by hand in accordance with the following general guidelines:

- Container stock will generally be planted in clusters and with spacing to match the impact areas;
- Morro manzanita will be planted in a mosaic pattern with average spacing of 1.5 times the mature crown size (approximately 10 to 15 ft);
- Duplicate plantings or closer spacing may be used in anticipation of relatively high mortality rates of manzanita transplants and number of available nursery stock;
- Prior to planting container stock, an area approximately two feet in diameter at each proposed planting location will be manually cleared of any non-native, invasive plant species.
- Once the area is cleared of non-natives, a planting hole will be excavated.
- All planting holes will be excavated to equal the depth and approximately 1.5 times the width of the root-ball or rhizome.
- Each plant will be installed in the center of the hole and subsequently backfilled with the native soil material removed to create the hole. Attention will be given not to disturb rhizomes when planting.

Details pertaining to transplanting Morro manzanita plants and installing seedlings may be refined based on coordination with the regulatory agencies.

### 5.3.2 Soil Stabilization and Seeding

Bare soil resulting from installation of container plants will be reseeded and stabilized with erosion control devices if necessary. Suitable erosion and sedimentation control measures will be maintained on site until plant cover is sufficiently dense to protect the soil from erosion.

# 6 Maintenance Plan

Maintenance during plant establishment is necessary to ensure success of the mitigation efforts. The five-year maintenance period will begin immediately after completion of the mitigation plantings. At the end of the maintenance period, the appropriate regulatory resource agencies will review the monitoring reports submitted, evaluate whether the performance standards have been achieved, and determine whether the maintenance period will be ended or extended. The maintenance program will ensure that watering of installed plants, weed abatement, trash removal, vandalism, replanting, plant protection, and general site safeguarding are performed adequately and at appropriate frequencies.

## 6.1 Watering

Supplemental water will be applied to the restoration plantings via a water truck. Installation of irrigation systems that use on-site water storage tanks may be proposed.

## 6.2 Weed Abatement

The USFWS BO (under Proposed Mitigation, page 4) requires weed abatement using hand removal methods in the restoration areas for five years.

The USFWS BO also requires implementation of the mitigation measures on pages 7 through 12 of the USFWS/Caltrans Programmatic BO (PBO) for CRLF. Condition 18 of the PBO addresses use of herbicides, including the following:

a. Caltrans will not use herbicides during the breeding season for the California red- legged frog [*NOTE: the CRLF breeding season is November through May*];

b. Caltrans will conduct surveys for the California red-legged frog immediately prior to the start of any herbicide use. If found, California red-legged frogs will be relocated to suitable habitat far enough from the project area that no direct contact with herbicides would occur;

c. Giant reed and other invasive plants will be cut and hauled out by hand and painted with glyphosate or glyphosate-based products, such as Aquamaster® or Rodeo®;

d. Licensed and experienced Caltrans staff or a licensed and experienced contractor will use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site;

e. All precautions will be taken to ensure that no herbicide is applied to native vegetation.

f. Herbicides will not be applied on or near open water surfaces (no closer than 60 feet from open water) [*NOTE: Figure 5 shows 60-foot setback from HTL*].

g. Foliar applications of herbicide will not occur when wind speeds are in excess of 3 miles per hour.

h. No herbicides will be applied within 24 hours of forecasted rain.

i. Application of all herbicides will be done by a qualified Caltrans staff or contractors to ensure that overspray is minimized, that all application is made in accordance with label recommendations, and with implementation of all required and reasonable safety measures. A safe dye will be added to the mixture to visually denote treated sites. Application of herbicides will be consistent with the U.S. Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins.

j. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Caltrans will ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

The County will continue coordinating with USFWS regarding the following:

a) Whether aquatic-approved herbicides that are included in the RWQCB Aquatic Use General Permit may be used within the 60-foot setback from open water;

b) Whether the CRLF PBO restriction on use of herbicides during the CRLF breeding season applies to the entire project area, including aquatic and non-aquatic areas, given that suitable conditions for CRLF breeding have not been documented in the project area and documented breeding locations are generally on the order of 1 to 2 miles from the PIA; and

c) Because PBO Condition 18.c specifically mentions use of glyphosate or glyphosate-based products, whether Arrow 2EC and/or other non-aquatic approved herbicides, can be used outside the 60-foot aquatic setback area.

Resolution regarding these constraints is still pending. Any changes in the allowable use of herbicides based on coordination with the regulatory agencies will be documented in this HMMP. A final HMMP will be provided to all regulatory agencies prior to construction.

## 6.3 Trash Removal

Any trash that is present within the mitigation areas will be removed as necessary during the regularly scheduled monitoring/maintenance visits. Trash is not expected to be a significant issue for these mitigation efforts because of the rural location of the project site.

## 6.4 Vandalism

Vandalism of the mitigation sites is not expected because of the rural nature of the project site. Should any of the restoration plantings be vandalized in a manner that has potential to compromise the success of the mitigation efforts, those factors will be rectified as soon as possible, and replacement plantings will be installed as needed.

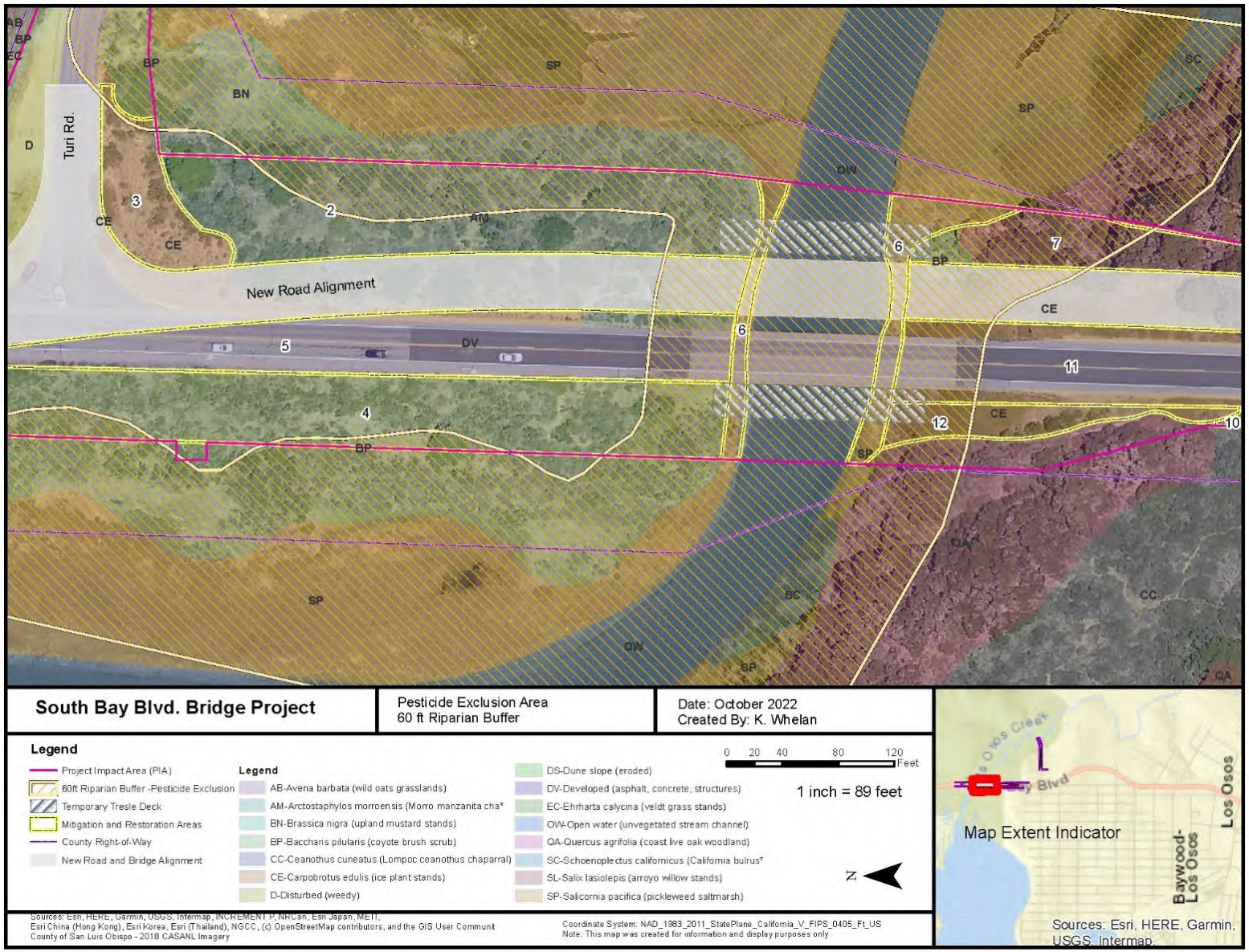
## 6.5 Remedial Plantings

A limited amount of mortality is expected and inherent to any mitigation activity. Remedial plantings to replace installed plantings will be performed as necessary to remain in compliance with the mitigation plan and on a trajectory to accomplish the targeted success goals/criteria. Any such plantings will be performed per the methodologies described in Section 5.3 and will be consistent with the other parameters outlined in this HMMP.

## 6.6 Fertilizing

For initial plantings, compost and slow-release fertilizer may be used for certain container plants to bolster establishment.

**Figure 5. Sixty-foot setback from the high tide line for restricting use of herbicides in open water.**



# 7 Monitoring Plan

The goals of the monitoring plan are to:

- Ensure project restoration and mitigation goals and objectives are being met;
- Document compliance using qualitative data regarding percent cover/substrate conditions, percent native / non-native species, and habitat conditions;
- Document compliance using quantitative data regarding Morro manzanita and oak tree survival rates;
- Identify the need for remedial mitigation, augmentative measures, or adaptive management strategies.

The project restoration specialist and/or a County Environmental Resource Specialist will perform the monitoring activities and will collect and evaluate monitoring data. Through this process, the relationship between the actual site conditions and the success criteria will be identified. After the field monitoring and vegetative sampling is complete, the results will be summarized in brief annual monitoring reports that will include photo-documentation and a comprehensive evaluation of the overall success of the mitigation efforts based on whether or not the performance goals for that year were met. Remedial measures to augment or rectify any problematic issues identified on site will also be included, if determined to be needed.

## 7.1 Monitoring Schedule

The monitoring program will consist of general monitoring and maintenance site visits and annual data collection visits. The focus of general monitoring is to assess the plantings overall health, vigor, and status and to determine the need for supplemental water, weeding, mulching, and other maintenance-related issues. The focus of the vegetative monitoring visits is to collect the qualitative and quantitative data that will inform a more comprehensive assessment of compliance with the proposed success criteria.

The County will conduct the monitoring surveys at the project site (at least once per year) for a minimum of five consecutive years as a part of standard mitigation reporting requirements. Surveys will include representative photo documentation. The restoration specialist will typically monitor the site quarterly during the first three years after planting and semiannually for the fourth and fifth years of the monitoring program. The site may also be monitored after large storm events to identify any damage and erosion. The restoration specialist will ensure that the project is maintained as necessary during the entire monitoring period.

The CCC suggested that live oak trees and Morro manzanita shrubs are slow-growing species and may warrant a longer monitoring period to ensure restoration success. The County will evaluate the condition of restoration areas during the 5$^{th}$ monitoring period, including size and condition of plants, and will coordinate with the CCC staff on whether additional monitoring years are needed,

## 7.2 Performance Goals

Tables 6a through 6d provide the annual performance standards and final success criteria for the restoration and mitigation efforts. The criteria assume that herbicides will be used to control non-native, invasive species, which are prevalent in the project area. The target goals also exclude non-native grasses such as veldt grass, which already occur in broad portions of the project site and adjoining parcels.

In the event herbicide use is prohibited due to proximity to estuarine waters, control of invasive species will be even more challenging and the performance standards may need to be adjusted.

As described in the NES, the pickleweed salt marsh consists primarily of native species. Performance standards for percent cover and percent native species will be developed based on pre-construction baseline conditions and based on coordination with the regulatory agencies.

The mitigation areas will be monitored annually for five years, or longer if necessary, until the final success criteria are accomplished. Annual monitoring results will be used to gage progress toward achievement of the final success criteria, and to implement appropriate corrective and contingency measures so that success will be achieved. By the third year post-implementation, the mitigation sites are anticipated to be well established and predominantly self-sustaining, so that supplemental watering is no longer required.

The mitigation sites will not be considered successful until the involved regulatory agencies provide written verification that the final success criteria have been met.

**Table 5a. Final Success Criteria for Salt Marsh**

| Attribute | Criteria |
|---|---|
| Total percent cover | to be determined based on baseline conditions; likely ≥75% based on current conditions |
| Total percent native cover | ≥95% |
| Species richness | >50% planted species |

**Table 5b. Final Success Criteria for Morro Manzanita Chaparral**

| Attribute | Criteria |
|---|---|
| Total percent cover | ≥75% |
| Morro manzanita transplant and seedling survival | ≥75% |
| Invasive species cover exclusive of non-native grasses | ≤5% |
| Species richness | >50% planted species |

**Table 5c. Final Success Criteria for Oak Woodland**

| Attribute | Criteria |
|---|---|
| Total percent cover | ≥75% |
| Oak planting survival | ≥75% |
| Invasive species cover exclusive of non-native grasses[1] | ≤5% |
| Species richness | NA |

1 – Excluding oak planting area bordering South Bay Boulevard north of Turri Road (restoration area 1), where success criteria will be 25%.

**Table 5d. Final Success Criteria for Coyote Brush Scrub, Lompoc Ceanothus, and Dune Slope**

| Attribute | Criteria |
|---|---|
| Total percent cover | ≥75% |
| Lompoc ceanothus plant survival | ≥75% |
| Invasive species cover exclusive of non-native grasses | ≤5% |
| Species richness | >50% planted species |

## 7.3 Other Attributes to be Monitored

The presence of other native volunteer plant species within the mitigation sites indicates that the site conditions are suitable for development of a healthy and self-sustaining natural habitat. Newly

established non-native, weedy plant species observed during monitoring will be removed immediately, so that they do not disperse seed and proliferate. The presence of newly occurring non-native plant species will be observed during the monitoring activities and noted; so that an appropriate course of action can be put into effect.

Wildlife species observed in and around the mitigation areas will be documented along with evidence of the functional use of habitat (i.e., feeding, nesting, roosting, etc.).

Photo points will be established throughout the mitigation site to assist in tracking the success of the mitigation program and to provide further documentation of the existing site conditions. The photo points will be established during the preparation of the as-built planting plan and ground view photos will be taken during each monitoring year from the same vantage point.

## 7.4 Reporting Requirements

Reporting will be done in accordance with the regulatory permits issued for the project. The reporting requirements for each agency are discussed below.

### 7.4.1 United States Army Corps of Engineers

Annual reports will follow the USACE Mitigation Monitoring Guidelines requirements (refer to Appendix A). These annual reports will satisfy the terms and conditions outlined in the Section 404 Nationwide Permit obtained for the project, which are anticipated to be required for salt marsh restoration and for restoration and mitigation for the federally protected Morro manzanita in accordance with the Section 7 approval for the project from the U.S. Fish and Wildlife Service.

### 7.4.2 Central Coast Regional Water Quality Control Board

Section 401 – Water Quality Certifications issued from the RWQCB typically require submittal of a project completion report and at least two annual monitoring reports for certified projects. A project completion report and annual reports will be prepared to satisfy the requirements of the RWQCB Water Quality Certification acquired for the project.

### 7.4.3 California Department of Fish and Wildlife

Section 1600 Streambed Alteration Agreements (SAA) issued by CDFW typically require submittal of annual monitoring reports for five consecutive years that include photo documentation to document the progress and status of the revegetation efforts. Annual reports will be prepared to satisfy the requirements of the SAA obtained for the project.

### 7.4.4 California Coastal Commission

Coastal Development Permits issued by the CCC requires annual reporting.

# 8 Completion of Compensatory Mitigation

This section explains the process required to close out the mitigation project with the various regulatory agencies, once all the success criteria have been achieved. The necessary documentation to verify that all of the County's mitigation obligations for the project have been satisfied is also explained.

## 8.1 Notifications of Completion

The County will notify the USACE, RWQCB, and CDFW in writing when the monitoring period is completed and all the designated success criteria for the project have been met. The different permitting regulatory agencies have slightly different requirements and each agencies' obligations will be fulfilled. Following receipt of the final monitoring report and submission of any other required documentation, the County understands that the regulatory agencies may request a site visit to confirm project completion of the compensatory mitigation efforts. If site visits of this nature are requested, the County will comply and facilitate these arrangements accordingly.

# 9 Contingency Measures

Contingency measures are specific actions that will be taken by the County if it becomes apparent that the success criteria for the mitigation program are not being achieved or if the efforts are likely to fail. These measures will be implemented at any time when necessary and they are intended to reverse the issue and reset the mitigation trajectory so that the performance goals can be attained.

## 9.1 Adaptive Management

The mitigation sites should be considered self-sustaining when no maintenance or artificial irrigation is required for a period of at least two years. If replanting is determined to be necessary, replanted areas will be monitored and maintained for a duration that is agreeable to the relevant regulatory agencies. If a total site failure is evident, the County will coordinate with the involved regulatory agencies to determine what alternative compensatory mitigation will be required. Similarly, if it becomes apparent that the designated success criteria are not feasible, an alternative set of objectives will be developed. Identification of alternative mitigation sites, planting palettes and/or species may be considered if necessary.

## 9.2 Long-Term Management

If it becomes apparent that the mitigation efforts will not attain the final success criteria within the expected time frame, the County will begin an assessment of the particular reasons for failure and will work with the involved regulatory agencies to determine an acceptable solution. If the site trends indicate that the success criteria will eventually be met, but in a longer timeframe than anticipated, maintenance and monitoring will continue until the criteria have been satisfied. In this scenario, a time extension will be proposed to the pertinent regulatory agencies by the County and the monitoring period (and possibly the maintenance program) will be extended accordingly. For example, as described in Section 7.1, longer than 5 years may be required to monitor success of slow-growing native oak trees and Morro manzanita.

# 10 References

California Coastal Commission. 2022. Letter dated March 1, 2022, from Esme Wahl, Coastal Planner, Central Coast District, to Monica Stillman, County of San Luis Obispo, Department of Public Works.

Central Coast LIDI. 2011. Central California Coast Low Impact Development Bioretention Guidance Technical Assistance Memo. Available at centralcoastlidi.org/resources.php. Accessed July 29, 2022.

Miles, A.K., D.H. Van Vuren, D.C. Tsao, and J.L. Yee. 2015. Experimental enhancement of pickleweed, Suisan Bay, California, California Fish and Game 101(2): 87-100.

San Luis Obispo County Department of Public Works (County). 2021a. South Bay Boulevard Bridge (49C-0351) Replacement Project, Natural Environment Study, Federal Project BRLS-5949(137). San Luis Obispo, California.

———. 2021b. South Bay Boulevard Bridge Replacement Project, Biological Assessment, Federal Project Number BRLS-5949(137). San Luis Obispo, California.

U.S. Army Corps of Engineers (USACE). 2008a. Checklist for Compensatory Mitigation Proposals, Compensatory Mitigation Checklist – Page 1 of 5. Charleston District, Regulatory Branch. Charleston, South Carolina.

———. 2008b. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. Federal Register Vol. 73, No. 70: 19594-19705. April 10, 2008.

# Appendix A. USACE Monitoring Report Guidelines

# U.S. Army Corps of Engineers
# Mitigation and Monitoring Report Requirements

The required compensatory mitigation monitoring reports shall be a minimum of six pages and a maximum of eight pages. The following information shall be included within the report of the specific pages described below:

Pages 1-2:

A. Project Information:

1. Project Name.
2. Applicant name, address, and phone number.
3. Consultant name, address, and phone number (for permit application, if necessary).
4. Corps permit file number.
5. Acres of impact and type(s) of habitat impacted (or proposed for impact)
6. Date project construction commenced (or proposed to begin).
7. Location of the project and directions to site (including latitude/longitude or UTM coordinates).
8. Date of the report and the corresponding permit conditions pertaining to the compensatory mitigation.
9. Amount and information on any required performance bond or surety.

B. Compensatory Mitigation Site Information:

1. Location and directions to the site (including latitude/longitude or UTM coordinates).
2. Size and type(s) of habitat existing at the site and proposed for restoration, enhancement, and/or creation.
3. Stated purpose/goals for the compensatory mitigation site.
4. Date site construction and planting completed.
5. Dates of previous maintenance and monitoring visits.
6. Name, address, and contact number of responsible agent for the site.
7. Name, address, and contact number for designer.

C. Brief Summary of Remedial Actions(s) and Maintenance of the Compensatory Mitigation Site:

Page 2 or 3:

D. Map of the compensatory mitigation site:

1. 8 ½ x 11-inch diagram of the site including:

a) Habitat types (as constructed).
b) Locations of photographic record stations.
c) Landmarks
d) Inset defining location of the site.

Page 3 or 4:

A. List of Corps-approved success criteria.

B. Table of results from the monitoring visits versus performance standards for specified target dates.

Page 4, 5, and/or 6:

A. Photographic record of the site during most recent monitoring visit at record stations (at least four photos on at least one page, no more than two pages).

Page 5, 6, or 7:

A. Summary of field data taken to determine compliance with performance criteria. At least one page, no more than two pages.

Page 6, 7, 8 (if needed):

A. Summary of any significant events that occurred on the site that may affect ultimate compensatory mitigation success.

The completed monitoring reports shall be submitted unbound to the Corps for inclusion into the official case file. Electronic copies of these reports can be submitted in lieu of written reports and may be required in the future.