ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

SM County SR1 Bridge Seismic and Rail Upgrade (04-0Q010)

Resolution SHOPP-P-2526-02B
(to be completed by CTC)

1. FUNDING PROGRAM

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☑ State Highway Operation and Protection Program
- ☐ Trade Corridor Enhancement Program

2. PARTIES AND DATE

2.1 This Project Baseline Agreement (Agreement) effective on October 16, 2025 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, Caltrans, and the Implementing Agency, Caltrans, sometimes collectively referred to as the "Parties".

3. RECITAL

3.1 Whereas at its 3/22/2024 meeting the Commission approved the State Highway Operation and Protection Program and included in this program of projects the SM County SR1 Bridge Seismic and Rail Upgrade (04-0Q010), the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as ***Exhibit A***, the Project Report attached hereto as ***Exhibit B***, the Performance Metrics Form, if applicable, attached hereto as ***Exhibit C***, as the baseline for project monitoring by the Commission.

3.2 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.

4.2 To adhere, as applicable, to the provisions of the Commission:

- ☐ Resolution _____, "Adoption of Program of Projects for the Active Transportation Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the Local Partnership Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated _____
- ■ Resolution G-21-34, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated 3/22/2024
- ☐ Resolution _____, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated _____

4.3 All signatories agree to adhere to the Commission's Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.

4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.

4.5 Caltrans agrees to secure funds for any additional costs of the project.

4.6 Caltrans agrees to report to Caltrans on a quarterly basis; on the progress made toward the implementation of the project, including scope, cost, schedule, and anticipated benefits/performance metric outcomes.

4.7 Caltrans agrees to prepare program progress reports on a on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.

4.8 Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.9 Caltrans agrees to submit a timely Project Performance Analysis as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.10 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits and performance metric outcomes during the course of the project, and retain those records for six years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4.11 The Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for six years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

5.1 Project Schedule and Cost
See Project Programming Request Form, attached as Exhibit A.

5.2 Project Scope
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

5.3 Performance Metrics
See Performance Metrics Form, if applicable, attached as Exhibit C.

5.4 Additional Provisions and Conditions *(Please attach an additional page if additional space is needed.)*

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report
Exhibit C: Performance Metrics Form *(if applicable)*

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Project Name: SM County SR1 Bridge Seismic and Rail Upgrade

Resolution: SHOPP-P-2526-02B

(to be completed by CTC)

Rommel Pardo — Digitally signed by Rommel Pardo Date: 2025.08.21 14:49:52 -07'00' — 8/21/2025

Date

Rommel Pardo

Regional Project Manager

Project Applicant

Date

Implementing Agency

David Ambuehl — 08/26/2025

David Ambuehl (Aug 26, 2025 07:38:54 PDT)

Date

David Ambuehl (acting)

District Director

California Department of Transportation

Dina El-Tawansy — 09/22/2025

Dina El-Tawansy (Sep 22, 2025 13:01:52 PDT)

Date

Dina El-Tawansy

Director

California Department of Transportation

Paul Golaszewski for — 10/31/25

Date

Tanisha Taylor

Executive Director

California Transportation Commission

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

BASELINE AGREEMENT

Date:	08/19/25 02:42:19 PM

District	EA	Project ID	PPNO	Project Manager
04	0Q010	0418000035	2021J	PARDO, ROMMEL T

County	Route	Begin Postmile	End Postmile	Implementing Agency	
SM	1	17.9	18.0	PA&ED	Caltrans
				PS&E	Caltrans
				Right of Way	Caltrans
				Construction	Caltrans

Project Nickname

SM County SR1 Bridge Seismic and Rail Upgrade (04-0Q010)

Location/Description

Near San Gregorio, at San Gregorio Creek Bridge No. 35-0030. Bridge seismic retrofit and upgrade bridge rails.

Legislative Districts

Assembly:	24	Senate:	13	Congressional:	14

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Bridge Seismic Restoration	13515.0				13515	Square feet
Programmed Condition	Bridge Seismic Restoration	13515.0				13515	Square feet

Project Milestone	Actual	Planned
Project Approval and Environmental Document Milestone	05/14/25	05/14/25
Right of Way Certification Milestone		12/15/26
Ready to List for Advertisement Milestone		01/02/27
Begin Construction Milestone (Approve Contract)		08/01/27

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP					Total
PA&ED	22/23	2,866					2,866
PS&E	23/24	3,489					3,489
RW Support	23/24	217					217
Const Support	26/27	8,126					8,126
RW Capital	26/27	1,782					1,782
Const Capital	26/27	43,854					43,854
Total		60,334					60,334

Memorandum

To: RICH STONE
SHOPP
HQ Financial Programming

Date: September 2, 2025

File: 04-0Q010 0418000035
04-SM-01 17.4/18.2

From:

Rommel Pardo, PE
Project Manager
District 4

Subject: **PROJECT STATUS UPDATE**

This memorandum is written to accompany the Baseline Agreement for the referenced project.

The Project was programmed into the 2022 SHOPP Program originally for FY 25/26 RTL delivery. Since the Project Report was prepared, the estimate has been revised by the District Design Team (see attached). A PCR to increase construction support by $4,966,000, capital by $31,574,000 and RW Capital by $1,344,000 has been submitted for the June 2025 CTC meeting. The District has identified available variance in 26/27 FY.

A future Documentation PCR will be issued during the PS&E phase to update Post Mile limits from 17.9/18.0 to 17.4/18.2 to accommodate proposed staging area, and performance measures.

Currently Proposed Major Milestones:

Milestone	Current Schedule
PA&ED M200	05/14/25 (A)
R/W Cert M410	12/15/26 (T)
RTL M460	01/02/27 (T)
Approve Contract M500	08/01/27 (T)

Current and Proposed Funds:

Component	Programmed	Allocated	PR Estimate	PCR #1 Proposed Addition	Current Estimate
PAED Support	$2,866	$2,866	$2,866		$2,866
PS&E Support	$2,932	$3,489	$2,932		$3,489
RW Support	$183	$217	$183		$217
Const. Support	$3,160		$8,126	$4,966	$8,126
RW Capital	$438		$1,782	$1,344	$1,782
Const. Capital	$12,280		$43,854	$31,574	$43,854

Note: Details of the funding changes and reasons can be found in PCR1.

Attachment: PCR #1

C: Mohammad Suleiman
Aaron Su
Ramsey Messieh

Attach to E-Mail for Executive Signature

Document Item: Project Report

EA Number: 04-0Q010

Item Due Date: 5/9/25

Number of Documents to be Signed: 1

Kelsey Kress KK 5/8/25 5/1/25
Branch Chief *Date*
Telephone: (510) 807-1248

Fariba Zohoury FZ 4/28/2025 5/2/2025
District Division Chief- Design South *Date*

Rommel Pardo
Rommel Pardo 05/01/25
Project Manager *Date*
Telephone: (510) 714-5474

Date

Peter Aguilera PA 5/1/25
Office Chief *Date*
Telephone: (415) 823-5920

Julie McDaniel 5/9/25
Deputy District Director Right of Way and Land Surveys *Date*

Wajahat Nyaz WN 05/13//2025
Deputy District Director - Design *Date*

Dianne Galvez (510) 362-5932 dianne.galvez@dot.ca.gov
Return to Originator *Telephone* *Email Address*

Caltrans

04 - SM - 1 – PM 17.4/18.2
EA 04-0Q0100 – Project Number 0418000035 – PPNO 2021J
Program Code 20.XX.201.113 – Bridge Seismic Restoration
May 2025

Project Report

For Project Approval

IN SAN MATEO COUNTY NEAR SAN GREGORIO FROM 0.5 MILE SOUTH OF SAN GREGORIO CREEK BRIDGE TO ROUTE 84

I have reviewed the right of way information contained in this report and the Right of Way Data Sheet attached hereto and find the data to be complete, current, and accurate:

Julie McDaniel, Deputy District Director,
Right of Way and Land Surveys

APPROVAL RECOMMENDED:

Rommel Pardo

Rommel Pardo, Project Manager

Peter Aguilera

Peter Aguilera, Office Chief
Design Peninsula

PROJECT APPROVED:

Wajahat.

Wajahat Nyaz,
Deputy District Director, Design

05/13/2025

Date

Vicinity Map

In San Mateo County near San Gregorio from 0.5 mile south of San Gregorio Creek Bridge to Route 84

This project report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Kelsey R. Kress

KELSEY R. KRESS,
REGISTERED CIVIL ENGINEER

05/01/2025

DATE

Table of Contents

List of Tables

List of Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
AB	Aggregate Base
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC	Asphalt Concrete
ACS	American Community Survey
ADT	Average Daily Traffic
APS	Advance Planning Study
AWP	AASHTOWare Preconstruction
BIRIS	Bridge Inspection Retrieval Information System
BLCCA	Bridge Life-Cycle Cost Analysis
BMP	Best Management Practice
C/CAG	City/County Association of Governments of San Mateo County
CAL-CET 2021	Caltrans Construction Emissions Tool
CalME	California Mechanistic-Empirical
Caltrans	California Department of Transportation
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFRP	carbon fiber-reinforced polymer
CH4	methane
CIP	cast-in-place
CISS	cast-in-steel-shell
CL	lean clay
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
COZEEP	Construction Zone Enhanced Enforcement Program
CRHR	California Register of Historical Resources
CTC	California Transportation Commission
dBA	decibels–A-weighted
DD	Deputy Directive
DED	Draft Environmental Document
DHV	Design Hourly Volume
DP	Director's Policy
DPR	Draft Project Report
DSDD	Design Standard Decision Document
EPA	US Environmental Protection Agency

EPCs	Equity Priority Communities
EQI	Transportation Equity Index
ESAL	Equivalent Single Axle Load
FED	Final Environmental Document
FHWA	Federal Highway Administration
FRP	fiber-reinforced polymer
ft.	foot/feet
GHG	greenhouse gas
HMA-A	Hot Mix Asphalt–Type A
IS/EA MND	Initial Study/Environmental Assessment Mitigated Negative Declaration
L_{eq}	average hourly noise level(s)
L_{max}	maximum noise level(s)
MAP-21	Moving Ahead for Progress in the 21st Century Act
ME	mechanistic-empirical
ML	mainline
mph	miles per hour
MTC	Metropolitan Transportation Commission
N2O	nitrous oxide
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
PA&ED	Project Approval and Environmental Document
PBA	Plan Bay Area
PCR	Project Change Request
PDT	Project Development Team
PG	Performance Grade
PHV	Peak Hourly Volume
PM	post mile(s)
PR	Project Report
PRC	Public Resources Code (California)
PS&E	Plans, Specifications, and Estimate
PTFE	polytetrafluoroethylene
RSC	rapid strength concrete
R/W	right of way
RCNM	Roadway Construction Noise Model
RHMA-G	Rubberized Hot Mix Asphalt–Gap Graded
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board

SamTrans	San Mateo County Transit District
SB	Senate Bill
SCS	Sustainable Communities Strategy
SEG	Subgrade Enhancement Geosynthetic
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SHS	State Highway System
SLR	sea level rise
SMCTA	San Mateo County Transportation Authority
SR	State Route
STAA	Surface Transportation Assistance Act
State	State of California
STIP	State Transportation Improvement Program
STRAIN	Structure Replacement and Improvement Needs
TASAS	Traffic Accident Surveillance and Analysis System
TCR	Transportation Concept Report
TEP	Transportation Expenditure Plan
TI	Traffic Index
TSAR	TASAS Selective Accident Retrieval
US 101	United States Highway 101
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
VA	Value Analysis
VTA	Santa Clara Valley Transportation Authority

1. INTRODUCTION

Project Description:

State Route (SR) 1 is a major north-south highway that runs along California's Pacific Coast; it provides a scenic route to coastal attractions and access to coastal communities. SR 1 serves as primary access to several coastal communities and provides access to beaches, parks, and other attractions along the coast. The proposed San Gregorio Creek Bridge seismic restoration project is near San Gregorio, an unincorporated community in San Mateo County. The bridge is 1,500 feet from the San Gregorio fault, an active, 130-mile-long fault on the coast between San Francisco and Monterey Bay.

The project proposes seismic restoration of San Gregorio Creek Bridge (Bridge No. 35-0030) on State Route (SR) 1 from post mile (PM) 17.4 to PM 18.2 near San Gregorio in San Mateo County, see Attachment A for the location map.

The proposed improvements will consist of replacing the existing structure with a wider bridge (cast-in-place), 8-foot outside shoulders, a Class II bikeway in both directions and new Manual for Assessing Safety Hardware (MASH) compliant bridge railing. See Section 5 for more details. See Attachment B for the preliminary layouts, Attachment C for typical cross sections, and Attachment D for the structure Advance Planning Study (APS) plans.

Table 1-1 summarizes the key features of the project.

Table 1-1: Key Features of the Project

Project Limits	04-SM-1–PM 17.4/18.2	
Number of Alternatives	Two (one Build Alternative and the No-Build Alternative)	
	Current Cost Estimate:	**Escalated Cost Estimate:**
Capital Outlay Support	$14,107,000	$14,107,000
Capital Outlay Construction	$36,014,600	$43,854,196
Capital Outlay Right of Way	$1,782,000	$1,782,000
Funding Source	SHOPP 20.XX.201.113 – Bridge Seismic Restoration	
Funding Year	FY 26/27 (SHOPP Amendment in process to change delivery year from FY 25/26 to 26/27)	
Type of Facility	Two-lane conventional highway	
Number of Structures	One	

SHOPP Project Output	1 EA bridge, 16,494 SF of bridge replacement/new construction, 610 LF of bridge rail, 0.2 fatal/serious injury collisions reduced, 0.01 annual fatal and serious injury collisions via proactive safety, 2,710 LF of Class II bikeway, 325 LF of sidewalk
Environmental Determination or Document	Initial Study (CEQA) Environmental Assessment (NEPA)
Legal Description	In San Mateo County near San Gregorio from 0.5 mile south of San Gregorio Creek Bridge to Route 84
Project Development Category	4B

Notes:
Alt = Alternative
CEQA = California Environmental Quality Act
EA = each
FY = fiscal year
LF = linear feet
NEPA = National Environmental Policy Act
PM = post mile(s)
SF = square feet
SHOPP = State Highway Operation and Protection Program
SM = San Mateo County

2. RECOMMENDATION

It is recommended that this Project Report (PR) be approved and authorization be given to start the Plans, Specifications, and Estimate (PS&E) phase of the project using the Build Alternative (Preferred Alternative). It is also recommended that the SHOPP Amendment for cost increase is approved. The affected local agencies have been consulted with respect to the recommended plan, their views have been considered and the local agencies are in general accord with the plan as presented.

3. BACKGROUND

Project History

The project is located along SR 1, a coastal highway known for its scenic beauty. Due to its proximity to the coastline, SR 1 is susceptible to natural hazards like landslides, erosion, and seismic events. In 2015, Caltrans conducted a comprehensive seismic screening of the San Gregorio Creek Bridge that revealed significant structural vulnerabilities. These findings found detailed bridge deficiencies, particularly in the in-span hinges with short seats. As a result, the bridge made it onto the Structure Replacement and Improvements Needs (STRAIN) list, necessitating a seismic retrofit to meet standards. In 2016, subsequent inspection reports emphasized additional concerns regarding the safety of the bridge's railings. Overall, the project's history is marked by a wide-ranging assessment of structural vulnerabilities. The original Project Initiation Document (PID) for the San Gregorio Creek Bridge Restoration Project was approved on April 2, 2019. The PID considered a No Build Alternative and 3 Build Alternatives for the bridge. These alternatives were carried forward except for one alternative (retrofit and widen existing bridge option), which was removed from the Draft Project Report

approved on February 4, 2025. On March 28, 2025, the Project Development Team (PDT) met and chose the alternative in which the existing bridge will be removed and replaced with a cast-in-place (CIP) concrete bridge adjacent to the existing bridge to the east. This will consist of standard 8-foot outside shoulders, a Class II bikeway in both directions and new bridge railing on the outside edges of the bridge deck. This alternative was selected over the seismic retrofit alternative based on the feedback received from the public and external agencies during the public meetings held on February 25, 2025 (virtual) and February 26, 2025 (in-person), as well as the 30-day public comment period.

A SHOPP Amendment was processed and approved by the District on March 3, 2025 to increase construction capital, construction support and right-of-way capital, change the project delivery year and update primary asset information. Some of the factors that were not considered during the PID phase include added architectural features, retaining walls, new roadway to conform to the new bridge, greater number of working days required and higher off-site environmental mitigation costs. In addition, the change of project delivery year from Fiscal Year (FY) 2025/2026 to FY 2026/2027 was due to delays with the Draft Environmental Document (DED). The delays were caused by additional studies that were needed, as well as incorporating input from permitting agencies as part of the early outreach. Furthermore, the primary asset information was updated to reflect the additional bridge width to accommodate new MASH compliant barriers.

The programmed PM limits are 17.9 to 18.0. However, to accommodate the staging area on the south side of the project and conform the roadway alignment to the new structure, the PM limits will have to be extended to PM 17.4/18.2. A SHOPP Amendment to update the PM limits will be processed during the PS&E phase.

Community Interaction

Caltrans held various focus meetings with the California Coastal Commission and California State Parks. These meetings are considered regular coordination meetings where the project alternatives were discussed and feedback from the agencies was gathered.

On February 25-26, 2025, a general public meeting was held (one virtual and the other in-person) to discuss alternatives for the bridge and receive input from stakeholders. Stakeholders in attendance included the California Coastal Commission, California Department of Conservation – Geologic Energy Management Division and San Francisco Bay Regional Water Quality Control Board and the public. The in-person public meeting utilized the open forum format, and a presentation was provided during the virtual public meeting. Materials for the meetings included a project overview and location; layout plans, cross-sections, and renderings of the build alternative; an overview of the environmental process including resource analysis in the IS/EA MND (Initial Study/Environmental Assessment Mitigated Negative Declaration); and next steps relative to the project development process. The Draft Initial Study/Environmental Assessment was circulated to the public for 30 days between February 5, 2025 and March 7, 2025 where a total of 43 comments were received. Responses to all comments are included in the Final Environmental Document.

Existing Facility

Within the project limits, SR 1 is a two-lane conventional highway with nonstandard shoulder widths and no pedestrian walkway on or off the bridge. The existing elevation drops approximately 16 feet from south to north over 265 feet. The elevation of the project area varies from 30 feet to about 185 feet (NAVD 88), excluding the creek bed area, which drops to 5 feet above mean sea level per the Preliminary Existing Ground Survey. Frequent landslides and erosion along the coast have caused portions of SR 1 to be either closed for long periods or re-routed entirely. Coastal fog occurs during most of the year, and 10 to 15-foot waves are common during winter storm swells.

The existing bridge was built in 1941 and retrofitted with restrainers in 1984 and 2019. It is a five-span haunched T-girder bridge constructed with continuous reinforced concrete that is 265 feet long and 31 feet 10 inches wide. The bridge consists of four bents, each made up of three concrete columns, and there are no existing approach slabs. There are three bents touching the creek bed. The abutments and bents are founded on composite (concrete and steel) piles or steel piles. The bridge alignment is currently sitting on an 8,000-foot radius curve. The bridge has one vehicle travel lane in each direction; it has no pedestrian or bicycle facilities. The existing outside shoulder widths are nonstandard, ranging from 1 foot on the bridge to 0 to 4 feet on the roadway. The posted speed limit is 55 miles per hour (mph), and the design speed is 60 mph. The existing side slopes are nonstandard, ranging from 2:1 to 1:1, and there is a metal beam guardrail at all four corners of the structure. Within the project limits, SR 1 is a Terminal Access Route, which allows trucks authorized under the federal Surface Transportation Assistance Act of 1982 (STAA) to operate.

The Caltrans right of way (R/W) widths range from 250 to 400 feet, and the surrounding land area outside of the Caltrans R/W is mostly rural and primarily owned by California State Parks. There is a Pescadero State Beach parking lot entrance approximately 700 feet north of the San Gregorio Creek Bridge within the project limits, and another one approximately 2,900 feet to the south outside of the project limits.

The stretch of SR 1 within the project limits has existing signs that provide bridge information and notice that there is no parking at the shoulder/pullout area just north of the structure. The no parking sign is currently on the ground and will be replaced by this project. Other existing nearby signs include State Beach parking signs and advisory signs for tractor semis.

4. PURPOSE AND NEED

Purpose:

The purpose of the project is to address the seismic structural deficiencies of the existing bridge, improve its resistance to seismic events, reduce the bridge's potential for failure,

and reduce the potential for errant vehicles to run off the bridge. Thus, the project will reduce the potential for injuries and property damage.

Need:

The project is needed because the existing bridge does not meet current seismic standards, which makes it vulnerable to seismic events, and the bridge rails do not meet current bridge and safety standards.

4A. Problem, Deficiencies, Justification

The Caltrans District 4 Office of Earthquake Engineering and Bridge Inspection Retrieval Information System (BIRIS) records have identified that the San Gregorio Creek Bridge needs a seismic retrofit and a bridge rail upgrade. The current bridge does not meet Caltrans bridge and safety standards and is vulnerable to a seismic event. As a result, Caltrans must either retrofit or replace the bridge to avoid damage that could occur during a significant seismic event. The proposed repairs will ensure that the bridge meets the current seismic performance standards, reducing the potential for injury and property damage on the bridge and to the surrounding area.

In addition to in-span hinges with short seats, the BIRIS report noted the following bridge condition issues:

- Some spalling was evident on the bridge deck (roadway surface) that was not repaired when the bridge deck was treated with methacrylate (a resin used to seal cracks in concrete bridge decks) in 2010.

- Spalling (pieces of concrete are breaking away) and delamination (concrete is separating) were noted on the concrete at the bottom of the girders, exposing rebar to the ocean environment. Some of these locations have begun to affect the load-carrying capacity of the bridge (i.e., resulting in structural section loss).

- Rust was present on the steel restrainer cables at both abutments and on the anchor plates bolted at the hinges.

- Many of the columns displayed vertical cracks and spalls, exposing rebar to the ocean environment.

- The reinforced concrete bridge rail showed signs of deterioration, with large cracks, spalls, delamination, and exposed rebar.

4B. Regional and System Planning

<u>Corridor Overview</u>

SR 1 is a major north-south corridor that runs 656 miles along California's Pacific Ocean coast. Designated an "All-American" scenic road by the Federal Highway Administration for its cultural, recreational, and scenic qualities, SR 1 is the longest State Route in

California, extending through 12 counties. It begins at Interstate 5 near Dana Point in Orange County and terminates at the junction with United States Highway 101 (US 101) in Mendocino County. Besides providing a scenic route to numerous attractions along the coast in the San Francisco Bay Area, this route serves as a major thoroughfare in the populated cities and towns near San Francisco.

In Caltrans District 4, SR 1 runs from the San Mateo/Santa Cruz County line in the south through San Mateo, San Francisco, Marin, and Sonoma Counties, terminating at the Sonoma/Mendocino County line. Within District 4, SR 1 at the Golden Gate Bridge is recognized as the point dividing SR 1 between SR 1 North and SR 1 South. San Mateo and San Francisco Counties fall within SR 1 South.

The SR 1 corridor through San Mateo and San Francisco Counties is a scenic coastal route linking the communities of Pescadero, Half Moon Bay, El Granada, Moss Beach, Pacifica, Daly City, and San Francisco. It is generally a picturesque, four-lane conventional highway that passes by several State recreational areas (e.g., Año Nuevo State Park, Pigeon Point Lighthouse, Bean Hollow State Beach, Pomponio State Beach, San Gregorio State Beach, Gray Whale Cove State Beach, McNee Ranch State Park). In the northern portion of the SR 1 South corridor, closer to San Francisco, the route passes Stern Grove and goes through Golden Gate Park and several portions of the extensive Golden Gate National Recreation Area, including Mori Point and Sweeney Ridge in San Mateo County and the Presidio in San Francisco. SR 1 is a two-lane, conventional highway through Half Moon Bay and a multi-lane freeway from Pacifica to San Francisco, with a 2-mile portion of the route coterminous with Interstate 280 through Daly City.

Recreational bicycling is popular along the conventional highway portion of SR 1, with the San Mateo County Comprehensive Bicycle and Pedestrian Plan identifying this corridor as the “Pacific Coast Bikeway.” The San Mateo County Transit District (SamTrans) offers limited bus service on SR 1 from Half Moon Bay northward to connect with transit services near San Francisco.

Federal and State Planning

As noted above, SR 1 is divided at the Golden Gate Bridge between SR 1 South and SR 1 North. This section covers the portion of SR 1 South that extends from the San Mateo / Santa Cruz County line in the south to the Golden Gate Bridge in the north. SR 1 South is designated as a Moving Ahead for Progress in the 21st Century Act (MAP-21) Principal Arterial on the National Highway System. SR 1 has low levels of truck travel for goods movement; it primarily serves the local populations along its hilly terrain. SR 1 South is also designated as a Surface Transportation Assistance Act (STAA) Terminal Access Route, which allows truck travel with few limitations except for the Tom Lantos Tunnels, where no explosives, flammables, or combustibles are allowed. SR 1 South is a State Scenic Highway from the Santa Cruz County line to SR 92 and is eligible for State Scenic Highway status northward from SR 92. The Transportation Concept Report (TCR) for SR 1 South was completed in April 2018. Strategies to achieve the identified concepts

for this portion of the corridor include improving coastal community safety and mobility with consistent roadway edges, shoulders, pedestrian crossings, and roundabouts.

Regional Planning

The Metropolitan Transportation Commission (MTC) is the State-designated Regional Transportation Planning Agency and the federal-designated Metropolitan Planning Organization for the San Francisco Bay Area. MTC is responsible for the Regional Transportation Plan (RTP), a long-range planning report for the region that incorporates known financial constraints. Under Senate Bill (SB) 375, along with an updated RTP, each region in California is mandated to develop a Sustainable Communities Strategy (SCS) that promotes compact, mixed-use commercial and residential development that is walkable, bikeable, and close to mass transit, jobs, schools, shopping, parks, recreation, and other amenities to help achieve the greenhouse gas (GHG) emissions reduction target outlined in SB 32.

In partnership with the regional planning agency Association of Bay Area Governments (ABAG), MTC developed Plan Bay Area (PBA) 2050, which was approved in October 2021. PBA 2050 serves as the San Francisco Bay Area's RTP and SCS and is the latest strategic update to PBA 2040 (from 2017). PBA 2050 comprises 35 strategies that focus on improving housing, economic growth, transportation, and the environment for the Bay Area's nine counties. These strategies serve as a blueprint to inform the nine Bay Area counties to plan and create a more resilient and equitable region over the next 30 years and beyond. Each strategy is a public policy or investment to be implemented collaboratively at the city, county, regional, or State level with equity as the priority for execution.

Local Planning

The City/County Association of Governments of San Mateo County (C/CAG) is the designated Congestion Management Agency for San Mateo County. C/CAG adopted the San Mateo Countywide Transportation Plan for 2040 in February 2017. This plan is a long-range comprehensive transportation planning document that establishes a planning framework to use to address transportation issues and provide consistency in objectives and policies among the separate local transportation plans within the county.

In 1988, San Mateo County voters passed Measure A, which is a 20-year half-cent sales tax to fund transportation projects and programs for the county. The approval of Measure A created the San Mateo County Transportation Authority (SMCTA) to administer and manage the new revenues. In 2004, voters reauthorized Measure A and a new Transportation Expenditure Plan (TEP) for an additional 25 years (2009 to 2033).

San Mateo County is one of 20 self-help counties within the state. The county decided to tax itself to help address the county's transportation needs and insufficiencies. In 2018, county voters passed Measure W, which is a half-cent sales tax increase (from 2019 to 2049) to provide congestion relief for the county. Measure W went into effect July 2019. Fifty percent of its funding is administered by SMCTA and 50 percent of the funding is

administered by the SamTrans Board of Directors. Measure W, together with Measure A, funds highway projects, bicycle and pedestrian improvements, and reliable transit connections.

The TEP describes programs and projects that local agencies, cities, and residents of San Mateo County have identified. The TEP requires SMCTA to develop a strategic plan every 5 years. The Final Draft Strategic Plan for 2020–2024 was released in October 2019; it outlines the principles, goals, vision, and implementation procedures for both Measure A and Measure W funds for the next 5 years. The SMCTA Board of Directors sets the overall policy direction and makes decisions for SMCTA.

Future Projects

State Highway Operation and Protection Program

The State Highway Operation and Protection Program (SHOPP) is the State's "fix-it-first" program; it funds the repair and preservation of the State Highway System (SHS), safety improvements, and some highway operational improvements. There are two current or planned SHOPP projects in the vicinity of the EA 04-0Q010 project limits (see Table 4-1).

Table 4-1: Current and Planned SHOPP Projects in the Vicinity of the EA 04-0Q010 Project Limits

Project ID	EA	County/ Route	PM	Legal Description	Work Description	Program/ Year	Current Phase
0422000229	0Y050	SM/1	10.7/ 19.5	In San Mateo County, at Pescadero and San Gregorio, from Bean Hollow Rd. to Stage Rd.	Realign this segment of SR 1 as a long-term solution to address recurring bluff erosion at a rate of 3 to 5 feet per year.	SHOPP/ 2031	K_PHASE
0423000314	3Y780	SM/1	10.6/ 27.5	In San Mateo County on SR 1 from 0.1 mile south of Bean Hollow Rd. to Wave Crest Rd.	Asphalt pavement minor rehabilitation, Complete Streets feature fix existing/build new.	SHOPP/ 2030	K_PHASE

Source: PRSM report, July 23, 2024.
Notes:
EA = Expenditure Authorization
ID = identification number
K_PHASE = Project Initiation phase
PM = post mile(s)
PRSM = Project Resource and Schedule Management
Rd. = Road
SHOPP = State Highway Operation and Protection Program
SR = State Route

California State Transportation Improvement Program

The California State Transportation Improvement Program (STIP) is the biennial 5-year plan that the California Transportation Commission adopts for future allocations of certain State transportation funds for State highway improvements, intercity rail, and regional highway and transit improvements. There are no current or planned STIP projects in the vicinity of the EA 04-0Q010 project limits.

Plan Bay Area 2050

There are no current or planned projects included in PBA 2050 that are in the vicinity of EA 04-0Q010.

4C. Traffic

Current and Forecasted Traffic

The Average Daily Traffic (ADT), AM/PM Peak Hour Volumes (PHV) and Design Hourly Volume (DHV) counts on SR 1 within the project limits are derived from Caltrans Traffic Volumes, the Transportation Network Database, District 4 Office of Highway Operations, and Annual Average Daily Traffic (AADT) from Caltrans Traffic Census Program. City/County Association of Governments (C/CAG) licenses the countywide travel demand model for San Mateo County from the Santa Clara Valley Transportation Authority (VTA) and its derived traffic growth rate is 2.00%.

See Table 4-2 for ADT and PHV levels, Table 4-3 for Equivalent Single Axle Loads (ESALs) and Traffic Indexes (TIs), and Table 4-4 for DHV levels within the project limits along SR 1.

Table 4-2: Current and Forecasted Traffic Levels Within the Project Limits

PM	2025 ML ADT	2025 ML AM	2025 ML PM	2029 ML ADT	2029 ML AM	2029 ML PM	2049 ML ADT	2049 ML AM	2049 ML PM
17.4 to 18.1	3,550	222	322	3,842	240	349	5,709	357	518

2069 ML ADT	2069 ML AM	2069 ML PM	2104 ML ADT	2104 ML AM	2104 ML PM
8,484	530	770	16,967	1,060	1,540

Notes:
ADT = Average Daily Traffic
ML = mainline
PM = post mile(s)

Table 4-3: Forecasted ESALs and Traffic Indexes Within the Project Limits

PM	20-Year ESAL	40-Year ESAL	20-Year TI	40-YR TI	Truck%
17.4 to 18.1	5,688,000	13,675,000	11	12.5	7.70%

Notes:
ESAL = Equivalent Single Axle Load
PM = post mile(s)
TI = Traffic Index

Table 4-4: Current and Forecasted DHVs Within the Project Limits

PM	2025 ML DHV	2029 ML DHV	2049 ML DHV	2069 ML DHV	2104 ML DHV
17.4 to 18.1	680	736	1,094	1,626	3,251

Notes:
DHV = Design Hourly Volume
PM = post mile(s)
ML = mainline

Collision Analysis

The Traffic Accident Surveillance and Analysis System (TASAS) report summarized in Table 4-4 was generated on August 15, 2024. It depicts the collision rates per million vehicle-miles within the project limits for the most recent 60-month period (January 1, 2019, to December 31, 2023) and compares the rates with those with the average rates of similar facilities statewide. Data was only collected for PM 17.4 to PM 18.1 to exclude the collisions at the intersection of SR 1 and SR 84, given that the project is primarily a bridge seismic restoration project.

Table 4-5: TASAS Table B Collision Rates Within Project Limits Compared With Average Collision Rates for Similar Facilities Statewide (January 1, 2019, to December 31, 2023)

Segment	No. of Collisions					Actual Collision Rates Within Project Limits (per million vehicle-miles) [1]			Average Collision Rates for Similar Facilities Statewide (per million vehicle miles) [1]		
	Total	Fatal	Serious Injury	Other Injury	PDO	Fatal	Fatal + Injury	Total [2]	Fatal	Fatal + Injury	Total [2]
SM-1– PM 17.4/ 18.1	10	0	0	6	4	0.000	**0.81**	**1.34**	0.030	0.60	1.31

Notes:
1. **Bold** indicates actual collision rate that is higher than the corresponding average collision rate for similar facilities statewide.
2. Total includes all reported crashes (including PDO collisions).

PDO = property damage only
PM = post mile(s)
SM = San Mateo County

Table 4-4 summarizes and compares the actual collision rates for the segment of SR 1 within the project limits (PM 17.4/18.1) with the average rates for similar facilities statewide. The total collision rates include all reported collisions: fatal, injury, and property damage only. The purpose of the project is bridge restoration; therefore, the project will not be expected to make any direct improvements that focus on reducing collisions. However, the new bridge rails that meet current standards are expected to enhance safety by providing better performance in keeping errant vehicles from leaving the roadway.

Detailed analysis per the TASAS Selective Accident Retrieval (TSAR) was generated on August 15, 2024, the findings show that the primary crash factors in the segment were:

- 6 (60.0%) Improper Turn
- 2 (20.0%) Speeding
- 2 (20.0%) Other Violations

The types of crashes in the segment were:

- 2 (20.0%) Sideswipe type
- 7 (70.0%) Hit-object type
- 1 (10.0%) Overturn type

Improper turn collision factors typically refer to various types of unsafe turning movements and usually indicate error on the part of the drivers. As this is a bridge seismic restoration project, there are no specific roadway safety recommendations that can be included as part of the scope of this project.

5. ALTERNATIVES

5A. Viable Alternatives

The preferred alternative consists of the following:

- Build Alternative: Replace Existing Bridge: This Build Alternative proposes a CIP concrete bridge which includes a standard 8-foot outside shoulders, a Class II bikeway in both directions as part of the shoulders, and new MASH compliant bridge railing on the outside edges of the bridge deck.

Proposed Engineering Features

The Build Alternative proposes to remove and replace the existing bridge with a new CIP bridge to provide two standard 12-foot lanes (one in each direction); standard 8-foot-wide outside shoulders; a Class II bikeway in both directions as part of the 8-foot shoulders; a 6-foot-wide sidewalk (southbound side only); see-through concrete barrier (such as Type 85, Type 85 MOD, Type 85H or Type 86H, as approved by the San Mateo County SR 1 Repair Guidelines, June 2023, or equivalent); and a see-through pedestrian railing. The new bridge will consist of three spans with a total length of 325 feet and a width of 50 feet–9 inches, which is 60 feet longer and 18 feet–11 inches wider than the existing bridge. The extra width will provide room for the Class II bikeways and the 6-foot-wide sidewalk, neither of which is currently present on nor off the structure. There will be 130 feet between the piers, and only one pier will sit on the creek bed. The following aesthetic features will be incorporated into the build alternative: haunched CIP/PS (prestressed) box girder with chamfer, tapered column (octagonal N shape) with chamfer, arched drop cap at Bent 2 and 3 with chamfer, decorative pedestrian railing, and see-through concrete barrier. The new structure will be shifted east, requiring approximately 0 to 25 feet of new roadway widening on the south end and approximately 0 to 25 feet of new roadway widening on the north end of the structure. The new bridge alignment will be placed on a tangent between two curves as opposed to on a single curve. The two curves will tie into the bridge alignment and conform to the existing roadway on both ends. The radius of the

south end curve will be 6,250 feet, and the radius of the north end curve will be 5,500 feet.

The existing side slopes are steeper than 2:1 and the site is in an environmentally sensitive area, making regrading to standard 4:1 slopes a non-viable option due to potential environmental and cultural impacts. Thus, soldier pile walls will be constructed under the Build Alternative with timber lagging that are approximately 310 feet long along the east side of the south embankment and approximately 105 feet long along the east side of the north embankment of the new bridge to address this issue. A soldier pile wall was chosen to minimize the amount of soil removed for installation, as a typical standard concrete wall has either a toe or heel that can range from 3 to 8 feet or more, requiring additional excavation and cost. For more information, see Attachment D for the Structures APS. Existing RSP will be removed, and the need for new RSP will be vetted during the PS&E phase. Rapid strength concrete (RSC) will be considered and will be further looked into during the PS&E phase for CIP elements such as deck, columns, abutments and approach slabs.

Nonstandard Design Features

The proposed Build Alternative meets the Caltrans boldface and underlined design standards in the Caltrans Highway Design Manual (HDM) for conventional highways, with the exceptions of standard shoulder widths and side slope standards. The existing roadway before and after San Gregorio Creek Bridge has nonstandard right (outside) shoulder widths ranging from 0 to 4 feet, while the standard shoulder with is 8 feet minimum. The proposed outside shoulder width in both directions of the bridge are 8 feet and tapering to the existing shoulders at both ends of the project limits. In addition, the proposed side slopes are 1:1 to 2:1 instead of the standard 4:1 side slope, as the intent is to conform to existing slopes at both ends of the project area to avoid environmentally sensitive areas. These nonstandard features were approved in the Design Standard Decision Document (DSDD) for the project on May 13, 2025.

Structure Rehabilitation and Upgrading

A 2015 seismic screening program for State of California (State)-owned bridges by the California Department of Transportation (Caltrans) Office of Earthquake Engineering identified the San Gregorio Creek Bridge as potentially vulnerable to seismic events because the bridge's in-span hinges have short seats (less than 12 inches). The Office of Earthquake Engineering also added the bridge to the STRAIN list. Caltrans requires that bridges identified as having short seats to be retrofitted. Consequently, a Bridge Inspection Retrieval Information System (BIRIS) report dated October 27, 2016, identified the San Gregorio Creek Bridge as being in need of evaluation for a seismic retrofit. The report also noted that the existing bridge rails on the San Gregorio Creek Bridge do not meet current bridge and safety standards. Therefore, a bridge rail upgrade was also recommended for this bridge.

5B. Rejected Alternatives

Retrofit Existing Bridge

This alternative proposed to seismically retrofit the existing bridge and replace existing nonstandard bridge railing with new MASH compliant bridge railing in both directions, extend the foundation footings and place a polyester concrete on the deck. Compared to the Build Alternative, this will result in a bridge that will have 25 years of service life versus 75 years if the bridge is replaced. This alternative will not include bicycle and pedestrian facilities unlike the Build Alternative. Retrofitting the existing bridge will also result in some permanent impacts to environmental resources. As a result, the public and the external agencies preferred the Build Alternative where the existing bridge will be removed and replaced with a new CIP bridge with the architectural features.

Precast Concrete Bridge Replacement

This alternative proposed removing and replacing the existing bridge with a new precast concrete bridge. The precast concrete bridge proposed the same features and geometry as the proposed Build Alternative except for the architectural treatment. While this alternative included the same features and geometry as the proposed Build Alternative, it did not incorporate the architectural treatments provided by the CIP alternative. These treatments contribute to the visual character of the bridge, which is important to the public and external agencies, including the California Coastal Commission.

No-Build

The No-Build alternative will retain the existing facility and will not meet the purpose and need of the project.

Retrofit and Widen Existing Bridge

This alternative proposed performing a retrofit upgrade to the existing bridge and upgrading the bridge rails in both directions. It also proposed widening the existing bridge by constructing a 6-foot-wide sidewalk with a see-through railing on the southbound side. The widening to add the sidewalk will require placing an additional column in the creek bed. After discussions with the California Coastal Commission and considering the missions of the California Department of Fish and Wildlife and the National Marine Fisheries Service, Caltrans determined that a bridge with more columns than the existing condition will not benefit sensitive biological resources, will not be consistent with the California Coastal Act, and will not be permittable, even though the alternative will offer additional public access to the community. Without permits, this alternative will not be able to move forward. Therefore, the Project Development Team (PDT) eliminated this alternative from future consideration.

Single Span Bridge Replacement

This alternative proposed to replace the existing bridge with a single span bridge. The single span bridge proposed the same features and geometry as proposed under Alternative 2 Options A and B, but it will not have any columns in the creek. The estimated cost to replace the structure with a single span bridge with no architectural treatments is $58 million. This cost does not include the cost of roadwork, retaining walls, and other related costs. Due to the magnitude of the cost increase for the Single Span Bridge Replacement, the PDT decided to eliminate this alternative for future consideration.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

The Build Alternative proposes complete existing bridge demolition work, thereby requiring a hazardous materials bridge survey under the US Environmental Protection Agency's (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP). In particular, the NESHAP regulations require that the structural concrete planned for demolition be tested for possible asbestos content in its aggregate material. The bridge survey will also include testing any paints and coatings on the bridge for lead content. The findings from the bridge survey will be disclosed to the construction contractor in special provisions prepared by the Office of Environmental Engineering. It is expected that the bridge survey will be performed during the Design phase.

In contrast, the roadway work associated with a new bridge construction is not expected to require new site investigations. Based on past site investigation work in this area of the SR 1 corridor, the excavated soils that will be generated by the construction of a new bridge are expected to have a minimal accumulation of aerially deposited lead due to the low traffic volumes in the rural area of the project during the era of leaded fuel use. As such, the Office of Environmental Engineering does not expect to perform any new site investigation work (e.g., soil or groundwater sampling) at the project location.

6B. Value Analysis

Deputy Directive (DD)-92-R1 requires an approved Federal Highway Administration (FHWA) Value Analysis (VA) study be performed on all projects with an estimated cost of over $50 million ($40 million for bridge projects). On February 5, 2019, a memo from the Caltrans Chief Engineer stated a VA study must be considered for all projects over $25 million. The project capital construction cost estimate for all of the Build Alternatives is greater than $25 million. Therefore, a VA study was required and conducted the week of January 13-17, 2025.

On March 24, 2025, the results of the VA study were provided. The stakeholders accepted two of the six VA alternatives proposed for the improvement of the project. One

is to create gravel pullouts for additional material and equipment storage during construction. This alternative proposes to use gravel instead of pavement on the existing pullout as it avoids introducing additional impervious surface. The gravel pullout will remain in place after construction. The pullout will serve as a convenient place for the contractor to store material and equipment during construction. This alternative is an additional $52,000 in cost, 1-day increase in schedule, and a +2.5% change in performance. The second alternative is using rapid strength concrete (RSC) for CIP elements such as deck, columns, and abutments. RSC can achieve significant compressive strength within hours, much faster than the 28 days required for regular concrete. It is also more durable, since it is less susceptible to saline intrusion and is resistant to sulfate attack. The more durable the structure, the less frequently repairs and maintenance are needed. This alternative is an additional $3,610,000 in cost, a 2-month reduction change in schedule, and a +3.5% change in performance.

Four VA alternatives were rejected for the following reasons. The alternative of adding low-voltage, downward-pointing lighting on bridge for pedestrians to safely cross the bridge was rejected because there is no other lighting on SR-1, and similar projects within the area have not included lighting. In addition, lighting introduces environmental concerns due to light pollution. There were also concerns regarding the associated operation and maintenance of the lighting. The alternative of creating paved pullouts for additional material and equipment storage during construction was rejected because the PDT prefers the other variation of this concept (create graveled pullouts for additional material and equipment storage during construction alternative), as the design should avoid increasing the impervious surface. A gravel pullout will be preferred over a paved pullout. The strengthening of soil around piers utilizing geo (compaction) grouting was also rejected because bridge replacement is recommended, and this concept will only apply to a retrofit approach. Lastly, the alternative of shorter bridge spans to facilitate construction and reduce foundation loads was rejected, as this will increase the number of piers in the creek.

6C. Resource Conservation

The existing asphalt concrete pavement that is to be removed will be recycled if it is economically and logistically feasible to do so. Salvaging and recycling of electrical hardware, other concrete, and reinforcing steel from the existing structure and other nonrenewable resources, if any, will be identified in the next phase of the project.

6D. Right of Way

General

A Right of Way Data Sheet has been prepared based on the scope of work described and maps provided by the District 4 Division of Design (see Attachment E). The Right of Way Data Sheet contains estimated cost information. No Right of Way acquisition or Temporary Construction Easements (TCEs) are anticipated.

Railroad

There is no railroad in the vicinity of the project; therefore, there is no railroad involvement.

Utilities

Utility verification will be required. The need for potholing will be ascertained after the completion of the verification process in the PS&E phase.

6E. Environmental Compliance

The Final Initial Study with Mitigated Negative Declaration for California Environmental Quality Act (CEQA) and the Environmental Assessment with Finding of No Significant Impact for National Environmental Policy Act (NEPA) was prepared in accordance with Caltrans's environmental procedures and State and Federal environmental regulations. The Final Initial Study and Environmental Assessment was signed on May 5, 2025. See Attachment F, which provides both the Final Initial Study and the Environmental Assessment.

6F. Air Quality Conformity

The project is exempt from the requirement to determine conformity per Title 40 Code of Federal Regulations (CFR) § 93.126, Table 2–Widening narrow pavements or reconstructing bridges, no additional travel lanes. Therefore, air quality conformity is not required.

6G. Title VI Considerations

Title VI of the Civil Rights Act of 1964 states:

> "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

The proposed project will not have an adverse impact on low-income, low-mobility, or minority groups.

6H. Noise Abatement Decision Report

Since the project will not increase traffic volumes, substantially change the horizontal or vertical alignment of the roadway, or modify or add any sound walls, the project does not qualify as either a Type I or Type II project under 23 CFR 772. Therefore, noise abatement need not be considered, and a noise study report is not required.

However, there are sensitive receptors (a single residence) in proximity to areas where noisy construction activities may occur, and the project evaluates the potential impact of these activities.

The Roadway Construction Noise Model (RCNM) was used to estimate the noise levels during construction. RCNM is the FHWA's national model for the prediction of construction noise. RCNM includes representative sound levels for the most common types of construction equipment and the estimated usage factor of each equipment. The usage factor represents the percentage of time that the equipment will be operating at full power. Vehicles and equipment likely to be used during each phase of construction were input into RCNM to estimate the maximum (L_{max}) noise levels and the average hourly noise levels (L_{eq}) at various distances.

Based on the RCNM analysis, the noisiest operations will be removing/replacing the existing bridge with a new bridge and pile driving. Using the Google Maps measuring tool, it was determined that the closest residential receptor is 1,000 to 1,800 feet from construction activities. The modeled construction noise levels at that distance are considerably below 86 decibels–A-weighted (dBA) for all of the alternatives. Therefore, the residential receptor will not be impacted.

However, to further minimize the public noise disturbance resulting from the construction activities, the following mitigation measures are recommended:

- Do not perform any project operation that exceeds 86 dBA at nighttime (defined as 9:00 p.m. to 6:00 a.m.).

- Public outreach activities are required throughout the project to update residents, businesses, and others about upcoming project operations and the general time frame of the project.

- Schedule noisy operations within the same time frame. The total noise level during this time frame should not be significantly greater than the level produced if operations are performed separately.

- Avoid unnecessary idling of internal combustion engines within 100 feet of sensitive receptors.

- Locate all stationary noise-generating construction equipment as far as practical from noise-sensitive receptors or provide baffled housing or sound aprons to equipment when sensitive receptors adjoin or are near a project construction area.

- Equip all internal combustion engine–driven equipment with manufacturer-recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Utilize "quiet" air compressors and other quiet equipment where such technology exists.

- Do not pick up or drop off construction equipment before 6:00 a.m.
- Properly maintain all internal combustion engines to minimize noise generation.

6I. Life-Cycle Cost Analysis

The only roadway pavement work considered will be to conform grind and overlay and taper widenings to transition from the new bridge location to the existing roadway. A roadway Life-Cycle Cost Analysis was deemed unnecessary for the roadway pavement portion based on the nature of the project, and the Caltrans Headquarters Pavement Department granted an exception.

A Bridge Life-Cycle Cost Analysis (BLCCA) was performed for the structure (see Attachment G). The BLCCA is a process for evaluating the total investment throughout the life of the bridge. This investment includes the initial construction costs, future costs such as maintenance, rehabilitation, repair, retrofit costs, and user costs when applicable. The BLCCA is a tool used to identify the most cost-effective alternative over the life of a bridge project.

Multiple BLCCAs were conducted comparing the retrofit alternative to the replacement alternatives. In addition, different scenarios were analyzed based on future replacement or retrofit. Replacement alternatives, in all cases, show savings over the next 75 years compared to the retrofit alternative. Savings ranged from $2.8 million to $10.7 million.

6J. Reversible Lanes

The project does not qualify as a capacity-increasing project or a major street or highway realignment project; thus, reversible lanes will not be considered.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

A public meeting was held on February 25-26, 2025, where a total of 43 comments were submitted during the public review and comment period. These consisted of 30 comments from the California Coastal Commission, 2 from the California Department of Conservation – Geologic Energy Management Division, 9 from the Regional Water Quality Control Board and 2 from the public. All responses to comments are included in the Final Environmental Document.

State departments of transportation are bound by law to consider the needs of residents with low incomes, communities of color, people with limited English proficiency, seniors, the disabled, and other communities, and individuals when developing transportation plans. Caltrans acknowledges that communities of color and underserved communities have experienced fewer of the benefits and more of the negative impacts associated with the California Transportation System. Some of these disparities reflect a

history of transportation decision-making, policy, processes, planning, design, and construction that often put up barriers, divided communities, and amplified racial inequities, particularly in disadvantaged neighborhoods. Caltrans recognizes its leadership role and unique responsibility to eliminate barriers and provide more equitable transportation for all Californians. This understanding is the foundation for intentional decision-making that recognizes past, stops current, and prevents future harms from its actions. Furthermore, Caltrans is developing public outreach methodologies to increase participation by disadvantaged community members and local community-based organizations to ensure that they have a voice in projects that affect their communities.

Community equity has been evaluated in the Final IS/EA MND. The project is not anticipated to negatively affect Land Use or Community Character and Cohesion. Project does not propose new homes or businesses, nor will it increase vehicular capacity; therefore, it will not induce substantial unplanned population growth. The project will not physically divide an established community or displace people and housing. On the contrary, the project will benefit surrounding communities by making a key ingress and egress route more robust in an emergency by making the bridge more resistant to damage during an earthquake or tsunami.

Although temporary traffic impacts may occur during construction, Caltrans will implement Avoidance, Minimization and Mitigation Measures (AMMs) to minimize impact to the travelling public, nearby recreation areas, and emergency services. On March 4, 2024, Caltrans launched the Transportation Equity Index (EQI), a data tool that turns equity into action. The EQI was developed to help identify communities that are most burdened by and receive the least benefits from the California Transportation System. The EQI integrates transportation and socioeconomic indicators into the following three screens that reflect the status of low-income communities and Tribal lands:

- Transportation-based priority populations: This screen identifies populations that live in communities that are most burdened by the transportation system and receive the fewest benefits.

- Traffic exposure: This screen identifies the communities that are the most burdened by their high exposure to traffic and crashes.

- Access to destinations: This screen identifies communities that have the greatest gaps in multimodal access to destinations.

Based on the EQI tool, this bridge seismic restoration project does not fall within an area identified in any of these EQI screens. Thus, the project will not negatively impact equity in the surrounding communities or multimodal access to destinations.

Environmental Justice

Information used to identify potential Environmental Justice issues is documented in corridor plans so that transportation projects ensure the fair treatment and meaningful

involvement of all people regardless of race, color, national origin, or income. This approach applies to the scope of a project from the early stages of transportation planning and investment decision-making through construction, operation, and maintenance. Title VI of the Civil Rights Act of 1964 states that “No person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” Executive Order 12898, issued in 1994, gave a renewed emphasis to Title VI and added low-income populations to those protected by the principles of Environmental Justice. There are three fundamental principles at the core of Environmental Justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations

- To ensure the full and fair participation of all potentially affected communities in the transportation decision-making process

- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

The Final IS/EA MND evaluated potential Project impacts on environmental justice but did not identify any adverse impacts. With respect to equity, the project area is not included in the top 25 percent of environmentally impacted communities in California identified by Senate Bill 535, which directed the California Environmental Protection Agency to identify disadvantaged communities. The project area does not include any "Equity Priority Communities" as defined by the Metropolitan Transportation Commission's (MTC) Plan Bay Area 2050. CalEnviroScreen is the tool developed to map those communities; the project area is not a community identified by this tool (California Office of Environmental Health Hazard Assessment 2023).

California Climate Change Investment Priority Populations

According to SB 535, disadvantaged communities are disproportionately affected by environmental pollution, low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, and low levels of educational attainment. In Assembly Bill (AB) 1550, low-income communities are defined as census tracts with median household incomes at or below 80 percent of the statewide median income or with median incomes at or below the threshold designated as low income by the US Department of Housing and Urban Development. Both SB 535 and AB 1550 have a formula to direct that a percentage of State GHG-reduction funds be invested in disadvantaged and low-income communities.

Before certifying environmental approval of the project, it was determined that the project is unlikely to disproportionately impact SB 535 or AB 1550 communities.

Equity Priority Communities

MTC's Equity Priority Communities (EPCs) index is based on eight American Community Survey (ACS) 2014 to 2018 tract-level variables. The development of MTC's EPCs index was a part of the Equity Framework within the RTP. That framework includes equity measures to analyze scenarios and define disadvantaged communities. The eight ACS variables are minority populations, low-income areas, less-English-proficient populations, seniors (age 75 and older), zero-vehicle households, single-parent households, people with disabilities, and rent-burdened households. EPCs within the RTP area are rated at high and highest levels of concern, meaning these communities are burdened by multiple socioeconomic factors.

The project is unlikely to disproportionately impact SB 535 or AB 1550 communities. The project will result in improved resiliency to the effects of seismic activity on SR 1 within the project limits.

Permits

The permits, agreements, and certifications that will be required for project construction are summarized below by approving agency and type of document or permit required:

- US Fish and Wildlife Service (USFWS): Biological Opinion
- National Marine Fisheries Service (NMFS): Biological Opinion
- US Army Corps of Engineers (USACE): Clean Water Act Section 404, Nationwide Permit
- California Department of Fish and Wildlife (CDFW): Section 1602 Lake and Streambed Alteration Agreement and Incidental Take Permit
- California Coastal Commission (CCC): Consolidated Coastal Development Permit
- Regional Water Quality Control Board (RWQCB): Region 2, San Francisco Bay: Clean Water Act Section 401, Water Quality Certification
- State Historic Preservation Officer (SHPO): National Historic Preservation Act (NHPA) Section 106 and California Register of Historical Resources (CRHR) Public Resources Code (PRC) Section 5024 Finding of Effect and Memorandum of Understanding

All project permits will be obtained during the Design phase. The Section 7 consultation with the USFWS and NMFS will also be completed during the Design phase.

Transportation Management Plan

A Transportation Management Plan Data Sheet was prepared for the Build Alternative (see Attachment H). The data sheet outlines the anticipated costs and anticipated elements for traffic and transportation management. These elements include public information, changeable message signs, and a Construction Zone Enhanced Enforcement Program (COZEEP).

Stage Construction

Staging areas will be required to store equipment and materials. Staging areas will be further identified as the project design progresses; they will be in proximity to the work areas or within the work areas, if possible. Any areas used for staging or equipment storage in unpaved roadside areas will be returned to their pre-existing conditions, with decompaction and soil amendment, before the application of permanent erosion control measures. As part of the VA study, one of the accepted alternatives was to permanently place gravel on the existing pullouts used for additional material and equipment storage during construction. Two possible locations near the bridge have been identified for staging on the preliminary layouts shown in Attachment B. These are the only two viable options in the project vicinity within Caltrans right of way.

The Build Alternative will consist of two phases. The first phase will place a temporary 2-foot-wide barrier offset from the center of the existing bridge to form one traffic lane (11 feet–3 inches wide) on the southbound side with automated traffic control. A 20-foot-wide trestle will be built on both sides of the bridge to construct the first new half of the bridge (33 feet–10½ inches wide) on the northbound side. Once construction is completed, phase 2 will shift traffic from the southbound side of the existing bridge to the northbound side of the new partially built bridge, with two 12-foot-lanes (one in each direction). The existing half of the bridge will be demolished to construct the new remaining half of the bridge (13 feet–10½ inches wide). Finally, there will be a 3-foot-wide deck closure pour to connect the gap and placement of permanent striping on the structure and roadway.

Asset Management

Director's Policy (DP)-35 calls for maximizing the effectiveness of transportation investments through performance-driven asset management that conforms with 23 CFR Part 515 and Section 14526 of the California Government Code. Per this policy, Caltrans is required to determine the most effective way to apply its available resources to benefit the condition and performance of the SHS and its assets. This determination is made by use of a robust Asset Management program and is implemented through the Asset Management plans, such as the State Highway System Management Plan and the District Performance Plans.

The project has been initiated, developed, and programmed in alignment with the Caltrans Asset Management plans. In the PA&ED phase, efforts were made to meet or surpass the performance of the project at the programming milestone (Milestone 015).

The programming performance measures for the project are listed in Table 7-1, and the proposed performance measures for the project are listed in Table 7-2 (see also Attachment I for the SHOPP performance measures).

For the Build Alternative, there will be a performance change of an additional 60 feet of bridge length and 18.9 feet of bridge width to compensate for the 6-foot sidewalk and standard 8-foot shoulder widths.

Table 7-1: Performance Measures for the Project at the Programming Milestone

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond.	Assets in Fair Cond.	Assets in Poor Cond.	New Asset Added	Asset in Post Good Cond.
Bridge replacement / new construction	Bridge and tunnel health	Square feet	13,515	—	—	8,439	5,076	8,439
	Bridge scour mitigation			—	8,439	—		8,439
	Bridge seismic restoration			—	—	8,439		8,439
	Bridge goods movement upgrades			8,439	—	—		8,439
Bridge rail	Bridge rail replacement and upgrade	Linear feet	610	—	—	610	—	610
Bikeway Class II	No performance objective in the SHSMP	Linear feet	528	—	—	—	528	—
Sidewalks (less than 8 feet)	No performance objective in the SHSMP	Linear feet	265	—	—	—	265	—
Bicycle & pedestrian infrastructure	Bicycle & pedestrian infrastructure	Linear feet	265	—	—	—	265	—

Notes:
— = not applicable
Cond. = condition
SHSMP = State Highway System Management Plan

Table 7-2: Proposed Performance Measures for the Project

Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond.	Assets in Fair Cond.	Assets in Poor Cond.	New Asset Added	Asset in Post Good Cond.
Bridge replacement / new construction	Bridge and tunnel health	Square feet	16,494	—	—	8,439	8,055	8,439
	Bridge scour mitigation			—	8,439	—		8,439
	Bridge seismic restoration			—	—	8,439		8,439
	Bridge goods movement upgrades			8,439	—	—		8,439
Bridge rail	Bridge rail replacement and upgrade	Linear feet	610	—	—	610		610
Collisions reduced	Collision severity reduction	Fatal/serious injury collisions	0.20	—	—	0.20	—	0.20
Proactive safety vehicles	Proactive safety	Annual fatal & serious injury collisions	0.01	—	—	0.01	—	0.01
Bikeway Class II	No performance objective in the SHSMP	Linear feet	2,710	—	—	—	2,710	—
Sidewalks (less than 8 feet)	No performance objective in the SHSMP	Linear feet	325	—	—	—	325	—
Bicycle & pedestrian infrastructure	Bicycle & pedestrian infrastructure	Linear feet	3,035	—	—	—	3,035	—

Notes:
— = not applicable
Cond. = condition
SHSMP = State Highway System Management Plan

Complete Streets

The intent of Caltrans Director's Policy DP-37 on Complete Streets is to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of "complete streets." Opportunities to include Complete Streets elements were evaluated to improve safety, access, and mobility for all travelers. For this project, the bridge replacement will incorporate the concept of Complete Streets by providing standard 8-foot shoulders, a Class II bikeway in both directions as part of the 8-foot

shoulders, and a 6-foot-wide sidewalk (southbound side only). For a more comprehensive explanation, see the Complete Streets Decision Document (CSDD) signed on April 24, 2025, provided as Attachment J. This CSDD is a revalidation of the one completed during the PID phase as the Class II bikeway and sidewalk quantities increased due to the bridge being 60 feet longer than in the PID.

Pedestrian Facilities

Pedestrians are permitted on the portion of the route along the project limits. The existing bridge does not have any pedestrian facilities, but the Build Alternative will build a dedicated 6-foot-wide sidewalk on the southbound side of the bridge for pedestrians to use. A see-through style barrier such as Type 85, Type 85 Mod, Type 85H or Type 86H will separate the 6-foot-wide sidewalk from the traffic lanes. Most of the pedestrian access and destination points are on the southbound side and centered on the river and beach. Thus, access to the northbound side and the roadway is not a significant demand.

Bicycle Facilities

Bicyclists are permitted and are legal users of this route. A Class II bikeway will be part of the 8-foot shoulder in both directions within the route segment of the project limits for bicyclists to use.

Transit Facilities

For the most part, the project limits are in a rural area with no transit facilities.

Park-and-Ride Facilities

There are no Park and Ride facilities within the project limits.

Climate Change Considerations

Greenhouse Gas Emissions

Construction-generated GHG emissions include emissions resulting from material processing by on-site construction equipment, workers commuting to and from the project site, and traffic delays due to construction. The GHG emissions will be produced at different rates throughout the project depending on the activities involved at various phases of construction. The analysis focused on vehicle emitted GHGs. Carbon dioxide (CO_2) is the single most important GHG pollutant due to its abundance relative to other vehicle-emitted GHGs, including methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, and black carbon.

Using the project information available for environmental studies, Caltrans calculated the construction-related GHG emissions using the Caltrans Construction Emissions Tool (CAL-CET 2021), version 1.0.2, developed by Caltrans. CAL-CET 2021 estimated that for the total duration of construction, the amount of CO_2 produced will be 498 tons for

the Build Alternative. Table 7-3 summarizes the construction related emissions, including the total carbon dioxide equivalent (CO_2e) emissions.

Table 7-3: Summary of Construction-related GHG Emissions

Project Location: SM-1–PM 17.4/18.2	Parameters			Project Total
	CO_2 (tons)	CH_4 (tons)	N_2O (tons)	CO_2e (metric tons)*
Total emissions for Build Alternative	498	0.012	0.025	484

Notes:
* Gases are converted to CO_2e by multiplying by their GWP. Specifically, GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period relative to the emission of 1 ton of CO_2.

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
GWP = global-warming potential
N_2O = nitrous oxide
PM = post mile(s)
SM = San Mateo County

Because construction activities are short term, the GHG emissions resulting from construction activities will not result in long-term adverse effects. Implementation of the Caltrans Standard Specifications, such as complying with the air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, and the use of Construction Best Management Practices (BMPs) will reduce the GHG emissions from construction activities. BMPs will likely include the following:

- Perform regular vehicle and equipment maintenance.
- Limit idling of vehicles and equipment on-site.
- If practicable, recycle nonhazardous waste and excess material; if such recycling is not practicable, properly dispose of the nonhazardous waste and excess material.
- Use solar-powered signal boards, if feasible.

With innovations such as longer pavement lives, improvements in traffic management, and changes in the materials used, construction-related GHG emissions can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Sea Level Rise

Sea level rise (SLR) has the potential to increase the frequency of flooding, damage from flooding, and the size of the floodplain area at risk. Per the draft bridge hydraulic study, the existing bridge soffit is about 36.9 feet, with a 100-year base flood at 12.3 feet. Based on the preliminary structure hydraulic analysis, the soffit elevation provides just over 18 feet of freeboard, assuming the highest SLR scenario. The proposed work will not

place additional fill in any of the identified floodplains. Therefore, the proposed work is not expected to have any significant impacts on these floodplains.

According to the 2024 California SLR guidance, SLR is expected to be between 0.5 and 1.3 feet by 2050 and between 1 and 6.5 feet by 2100. The estimated life of the bridge is 75 years. However, future SHOPP (2031) Project EA 04-0Y050 is currently in the Project Initiation (K Phase) phase and plans to realign SR 1, including this segment as a long-term solution to address recurring bluff erosion. It has also been discussed by the PDT that the future realignment may not align with the existing or proposed bridge alternatives on this project. Therefore, the PDT decided to revisit the project scope during PS&E with consideration to an alternative that will last until the future project is constructed. At that time, that project will reevaluate whether or not a new bridge design is needed. A SHOPP Amendment will be processed if scope changes are warranted.

Wildfires

Climate change has contributed to a surge of wildfires across California that present an imminent threat to the state's transportation assets. Temperature extremes from wildfires can cause extensive damage to roadway pavement, guardrails, culverts, timber retaining walls, signs, and other assets. Wildfires can also have an impact on soils, making them less permeable and reducing their ability to absorb rainfall. As a result, flood flows can increase substantially in the aftermath of a fire, and these flows could further exacerbate risks to bridges and culverts.

The Caltrans Wildfire Vulnerability Highway Assessment (November 5, 2019) does not identify the portion of SR 1 in San Mateo County that contains the project limits as one of the High Priority State Highway Corridors in District 4 vulnerable to wildfires. However, using steel posts and timely vegetation control are ways to help minimize the wildfire risks that affect the SHS.

Highway Planting

Within the project area, SR 1 is an officially designated State Scenic Highway characterized by its dramatic coastline and undeveloped nature. Highway plantings in the project area consist of native and naturalized coastal and riparian vegetation. Irrigation systems are not present. The Build Alternative will replace the bridge and will require retaining walls along the eastern edge of both approaches. Vegetation removal will consist of several trees at the northbound approach and coastal shrub at both approaches due to the widening and construction of a retaining wall. Removal of trees and other vegetation will be avoided to the greatest extent feasible, and vegetation outside of the clearing and grubbing limits and designated staging areas will be protected. Caltrans policy is to replace existing vegetation that is damaged or removed by State highway construction activities. As such, the project will include replacement plantings and temporary irrigation with a plant establishment period to maintain the visual quality of the State Scenic Highway corridor. Detailed planting plans and estimate will be developed during the PS&E phase.

Erosion Control

Permanent erosion control measures will be implemented for the project to stabilize and restore any disturbed soil areas. These control measures may include use of hydroseed, hydromulch, fiber rolls, or erosion control netting. Detailed erosion control plans and estimates will be developed during the PS&E phase. Permanent erosion control measures will ensure that these areas do not pose more risk of sediment discharge than they did before the commencement of construction activity. Attachment K includes more information.

Materials Recommendation

The Asphalt Concrete (AC) pavement approach to the San Gregorio Creek Bridge from the south is in good condition with signs of normal weathering. The AC pavement approach to the bridge from the north has a similar condition, except within 10 feet of the bridge, where potholes and raveling are present.

California Mechanistic-Empirical (CalME), a web application for analyzing pavement structural sections that incorporates a mechanistic-empirical (ME) methodology, was utilized to design the required 40-year pavement for the new pavement structural section for the full bridge replacement alternative. As the existing pavement at this location is flexible, rigid pavement options are not considered. Given the project location, an estimated TI of 10.8 and a subgrade R-value of 16, which is commonly used for lean clay (CL) subgrades, were considered based on estimates from the CalME software.

The following are the materials recommendations for the Build Alternative

- New pavement structural section for full bridge replacement
    - Since the new bridge will be offset easterly from the existing bridge, new roadway approaches on the north and south ends from the bridge conform to the existing roadway conform will be constructed. The following is proposed.
    - Saw-cut 1 ft. inside the edge of shoulder to get a clean edge.
    - Remove 1.80 ft. AC/Aggregate Base (AB); replace with 0.15 ft. RHMA-G (PG 64-16 binder), 0.65 ft. HMA-A (PG 64-10 binder), 1.00 ft. AB-Class 2, and Subgrade Enhancement Geosynthetic (SEG) Class A1.
    - Perform a final cold plane and overlay of 0.15 ft. with RHMA-G (using PG 64-16 binder) on any remaining existing pavement utilized in the final alignment within the project limits.

For additional information about the materials recommendation, see Attachment L.

Building Information Modeling for Infrastructure (BIM4I)

Traditionally, transportation infrastructure projects are designed and constructed by developing two-dimensional (2-D) plan sets to represent the design of the project that is built in the three-dimensional (3-D) real world.

Building Information Modeling for Infrastructure (BIM4I) refers to the use of Building Information Modeling (BIM) technologies to design, construct, and manage infrastructure projects such as roads, bridges, and utilities, essentially creating a detailed digital model that contains information about the entire infrastructure, allowing for better planning, collaboration, and decision-making across all project phases. Through this approach, the BIM4I Program is focused on transitioning to the use of digital 3-D BIM models during the design and construction phases of project delivery to improve the information about our infrastructure projects. The information from these digital models can then be shared with maintenance and operations, asset management, planning, and other stakeholders to utilize the project asset lifecycle information for their needs in the management and performance of the infrastructure.

This project was selected as a BIM4I pilot project and will be delivered using BIM4I workflow.

8. FUNDING, PROGRAMMING, AND ESTIMATE

Funding

It has been determined that the project is eligible for Federal-aid funding.

Programming

The project is funded under SHOPP 20.XX.201.113 – Bridge Seismic Restoration. The programmed construction capital of 12,280,000 was funded for fiscal year 2025/2026. Table 8-1 summarizes the support and capital programmed costs.

The current total escalated capital construction cost ($43.85M) is three times the programmed capital cost ($12.28M). The programmed amount is based on the PID estimate. The significant difference is due to the additional roadway work needed to conform to the existing bridge, retaining walls, and an increase in the number of working days, among other reasons mentioned in Section 5. A SHOPP Amendment was approved by the District on March 3, 2025, subsequently approved by Headquarters, and is scheduled for the June 2025 California Transportation Commission (CTC) meeting. Table 8-2 summarizes the proposed support and capital programmed costs for FY 2026/2027.

Table 8-1: Programmed Amounts

Fund Source	Fiscal Year Estimate								
20.10.201.113	Prior	24/25	25/26	26/27	27/28	28/29	29/30	Future	Total
Component	In thousands of dollars ($1,000)								
PA&ED Support	2,866	—	—	—	—	—	—	—	2,866
PS&E Support	2,932	—	—	—	—	—	—	—	2,932
Right of Way Support	183	—	—	—	—	—	—	—	183
Construction Support	—	—	3,160	—	—	—	—	—	3,160
Right of Way	—	—	438	—	—	—	—	—	438
Construction	—	—	12,280	—	—	—	—	—	12,280
Total	5,981	—	15,878	—	—	—	—	—	21,859

Table 8-2: Proposed Programmed Amounts

Fund Source	Fiscal Year Estimate								
20.10.201.113	Prior	24/25	25/26	26/27	27/28	28/29	29/30	Future	Total
Component	In thousands of dollars ($1,000)								
PA&ED Support	2,866	—	—	—	—	—	—	—	2,866
PS&E Support	2,932	—	—	—	—	—	—	—	2,932
Right of Way Support	183	—	—	—	—	—	—	—	183
Construction Support	—	—		8,126	—	—	—	—	8,126
Right of Way	—	—		1,782	—	—	—	—	1,782
Construction	—	—		43,854	—	—	—	—	43,854
Total	5,981	—		53,492	—	—	—	—	59,743

Estimate

The current estimated construction capital cost is $36,014,600. The total escalated construction capital cost (at an annual escalation rate of 4.89% for FYs 24/25 and 25/26 and 3.8% for FY 26/27 and beyond to the construction completion year 2029) is $43,854,196.

The proposed programmed support cost to proposed construction capital cost is 30.9%. The escalated right of way capital cost is $1,782,000. Refer to the Preliminary Cost Estimate (Attachment M) for the construction cost breakdown.

9. DELIVERY SCHEDULE

Table 9-1 lists the project milestones, the milestone dates, and the milestone designations. This schedule is at risk, and the project manager will process a SHOPP Amendment during the PS&E phase to change the delivery year from FY 26/27 to 27/28.

Table 9-1: Project Milestones, Dates, and Designations

Project Milestones		Milestone Date	Milestone Designation
PROGRAM PROJECT	M015	07/25/2022	Actual
BEGIN ENVIRONMENTAL	M020	09/08/2022	Actual
APPROVE DPR	M100	02/04/2025	Actual
CIRCULATE DED EXTERNALLY	M120	02/06/2025	Actual
APPROVE FED	M160	05/05/2025	Actual
PA&ED (18 months)	M200	05/13/2025	Actual
BEGIN STRUCTURE	M215	08/20/2025	Target
PS&E TO DOE	M377	01/15/2027	Target
DRAFT STRUCTURES PS&E	M378	01/25/2027	Target
PROJECT PS&E (18 months)	M380	04/20/2027	Target
RIGHT OF WAY CERTIFICATION	M410	06/04/2027	Target
READY TO LIST (RTL)	M460	06/30/2027	Target
FUND ALLOCATION	M470	08/19/2027	Target
HEADQUARTERS ADVERTISE	M480	09/06/2027	Target
AWARD	M495	11/24/2027	Target
APPROVE CONTRACT	M500	12/22/2027	Target
CONTRACT ACCEPTANCE	M600	12/22/2029	Target
END PROJECT	M800	12/22/2031	Target
FINAL PROJECT CLOSEOUT	M900	12/22/2032	Target

Notes:
DED = Draft Environmental Document
M = milestone
PA&ED = Project Approval and Environmental Document
PS&E = Plans, Specifications, and Estimate

10. RISKS

A Risk Register has been prepared and is provided as Attachment N. The project has low to moderate risks. The identified moderate risks are listed below:

- The work requires permits from various environmental agencies, and some of these agencies may require longer-than-expected lead times for approval, potentially resulting in schedule delays that increase project cost and time needed to complete the project.

- Due to increases in the cost of building materials, the cost of the construction contract may exceed the programmed amount, requiring additional funding.

- Unforeseen construction site conditions could cause Caltrans to require the contractor to alter its planned means and methods and perform additional work that was not accounted for in the contract, resulting in potential schedule delays and additional costs.

- Limited availability of experienced staff with BIM4I knowledge may delay RTL. Mitigation will require targeted training and adequate time for staff to become proficient in BIM4I tools and workflows.

11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration

This project is a Delegated Project in accordance with the current Stewardship and Oversight Agreement signed between FHWA and Caltrans on May 28, 2015.

Other Agencies

The project requires the following coordination:

- USFWS:
  - Section 7 consultation
  - Biological Assessment and Natural Environment Study
- NMFS:
  - Section 7 consultation
  - Biological Assessment and Natural Environment Study
- USACE:
  - Clean Water Act Section 404
  - Nationwide Permit
- CDFW:
  - California Fish and Game Code Section 1602
  - Lake and Streambed Alteration Agreement

- Incidental Take Permit

- California Coastal Commission and/or Local Coastal Program
  - Consolidated Coastal Development Permit

- RWQCB:
  - Clean Water Act Section 401
  - Water Quality Certification

- SHPO:
  - NHPA Section 106
  - CRHR PRC Section 5024 Finding of Effect and Memorandum of Understanding

12. PROJECT REVIEWS

The following reviews were conducted for the project:

District Program Advisor: Hubert Wong Date 04/24/2025
HQ SHOPP Program Advisor: Long Ly Date 04/24/2025
District Maintenance: Monique Nguyen Date 04/17/2025
Headquarters Project Delivery Coordinator: Robert Effinger Date 11/22/2024
Project Manager: Rommel Pardo Date 04/24/2025
FHWA: Lanh Phan Date 04/17/2025
District Safety Review: Haixiong Xu Date 04/17/2025
Constructability Review: Gary Lai Date 04/24/2025

13. PROJECT PERSONNEL

Table 13-1 lists the project personnel by name, title/office, and telephone number.

Table 13-1: Project Personnel by Name, Title/Office, and Telephone Number.

Name	Title/ Office	Telephone Number
Rommel Pardo	Project Manager	(510) 714-5474
Peter Aguilera	Office Chief, Design Peninsula	(415) 823-5920
Kelsey Kress	Senior Engineer, Design Peninsula	(510) 807-1248
Dianne Galvez	Transportation Engineer, Design Peninsula	(510) 362-5932
Gilberto Vazquez	Transportation Engineer, DES Structure Design	(916) 227-8685
Marc Friedheim	Senior Engineer, DES Structure Design	(916) 227-8480
Rick Yeung	Branch Chief, Traffic Safety	(341) 766-2495
Clinton Suen	Transportation Engineer, Traffic Safety	(510) 406-3977
Irene Liu	Branch Chief, Hydraulics	(510) 846-0237
Lance Hall	Branch Chief, Highway Operations	(510) 772-8603
Stan Kung	Transportation Engineer, Highway Operations	(510) 421-8041
Hubert Wong	Program Advisor, Asset Management	(510) 506-3963
Jacob Duncan	Branch Chief, Engineering Services Materials	(510) 406-5003
Mahdi Saghafi	Materials Design Engineer, Materials	(510) 807-1569
Menghsi Hung	Branch Chief, DES Geotechnical	(510) 926-1416
Hunter Ringrose	Transportation Engineer, DES Geotechnical	(213) 505-4823
Christopher Risden	Branch Chief, DES Geotechnical	(510) 622-8757
Carlos Mora	Branch Chief, Hazardous Waste	(510) 725-2500
Mojgan Osooli	Branch Chief, Water Quality	(510) 926-0380
Demeke Tsige	Transportation Engineer, Water Quality	(510) 418-1365
Shella Orson	Senior R/W Agent, Right of Way	(510) 908-9183
David Mars	Associate R/W Agent, Right of Way	(510) 908-8853
Hong Wong	Branch Chief, Utility Engineering	(510) 406-3809
Roger Duan	Transportation Engineer, Utility Engineering	(510) 846-2941
Earl Sherman	Office Chief, Maintenance Services	(408) 452-7120
Sergio Ruiz	Complete Streets Coordinator	(510) 960-0778
Gregory Currey	Senior Transportation Planner	(510) 821-0517
Issa Ibrahim	Associate Transportation Planner	(510) 414-0091
Kimberley White	Branch Chief, Landscape Architecture	(510) 407-8395
Chris Padick	Landscape Architect	(510) 421-8380
Zachary Gifford	Senior Environmental Scientist	(510) 506-1264
Tanvi Gupta	Environmental Scientist	(510) 421-8378
Gregory Pera	Branch Chief, Biology	(415) 535-1372
Sophia Grubb	Environmental Scientist, Biology	(510) 261-9115
Deepthi Madabushi	D4 Asset Manager	(510) 708-5586

Notes:
DES = Division of Engineering Services R/W = Right of Way

14. ATTACHMENTS

A. Project Location Map (1)
B. Preliminary Layout (3)
C. Typical Cross Sections (1)
D. Structure Advance Planning Study (11)
E. Right of Way Data Sheet (6)
F. Final Initial Study / Environmental Assessment (5)
G. Bridge Life-Cycle Cost Analysis (5)
H. Transportation Management Plan Data Sheet (3)
I. SHOPP Performance Measures (2)
J. Complete Streets Decision Document (12)
K. Stormwater Data Report Cover Sheet (1)
L. Materials Recommendation (6)
M. Preliminary Cost Estimate (10)
N. Risk Register / Risk Management Plan (2)

Attachment A
Project Location Map

CALTRANS BAY AREA AV GRAPHICS / CT3590 SR-1 SAN GREGORIO CREEK BRIDGE SAN MATEO CTY PROJECT MAP 042225

Attachment B
Preliminary Layout

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

NEW STRUCTURAL SECTION

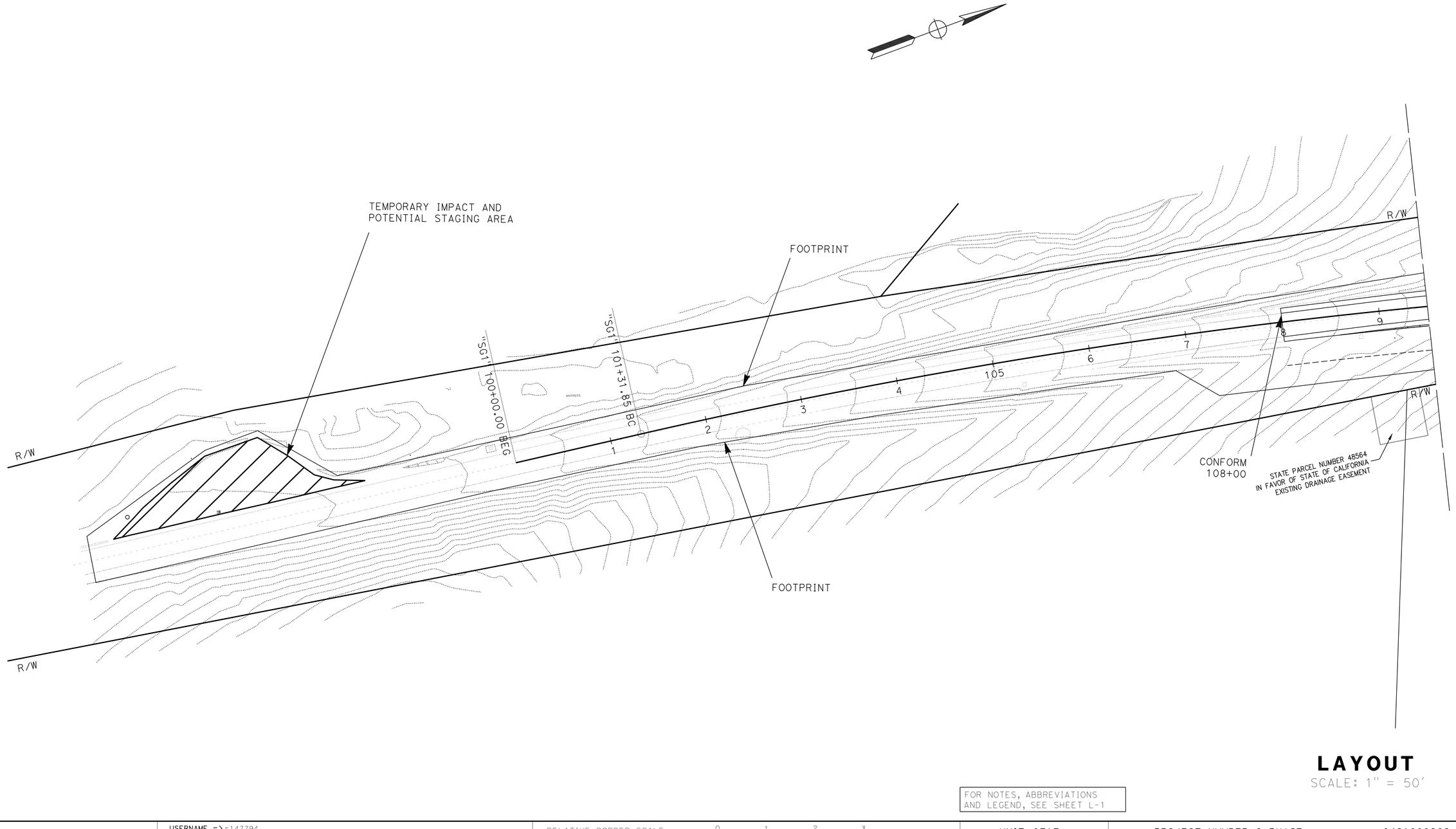
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	17.4/18.2	XX	XX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LAYOUT

SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

L-1

REVISED BY	DATE REVISED
XXXX	XXXX
XXXX	XXXX

CALCULATED-
DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

KELSEY KRESS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

Caltrans

LAST REVISION | DATE PLOTTED => 29-APR-2025
00-00-00 | TIME PLOTTED => 14:34

BORDER LAST REVISED 7/2/2010

USERNAME => s147794
DGN FILE => A1t2_0418000035_ea001_042225.dgn

RELATIVE BORDER SCALE
IS IN INCHES
0 1 2 3

UNIT 0717

PROJECT NUMBER & PHASE 0421000262

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	17.4/18.2	XX	XX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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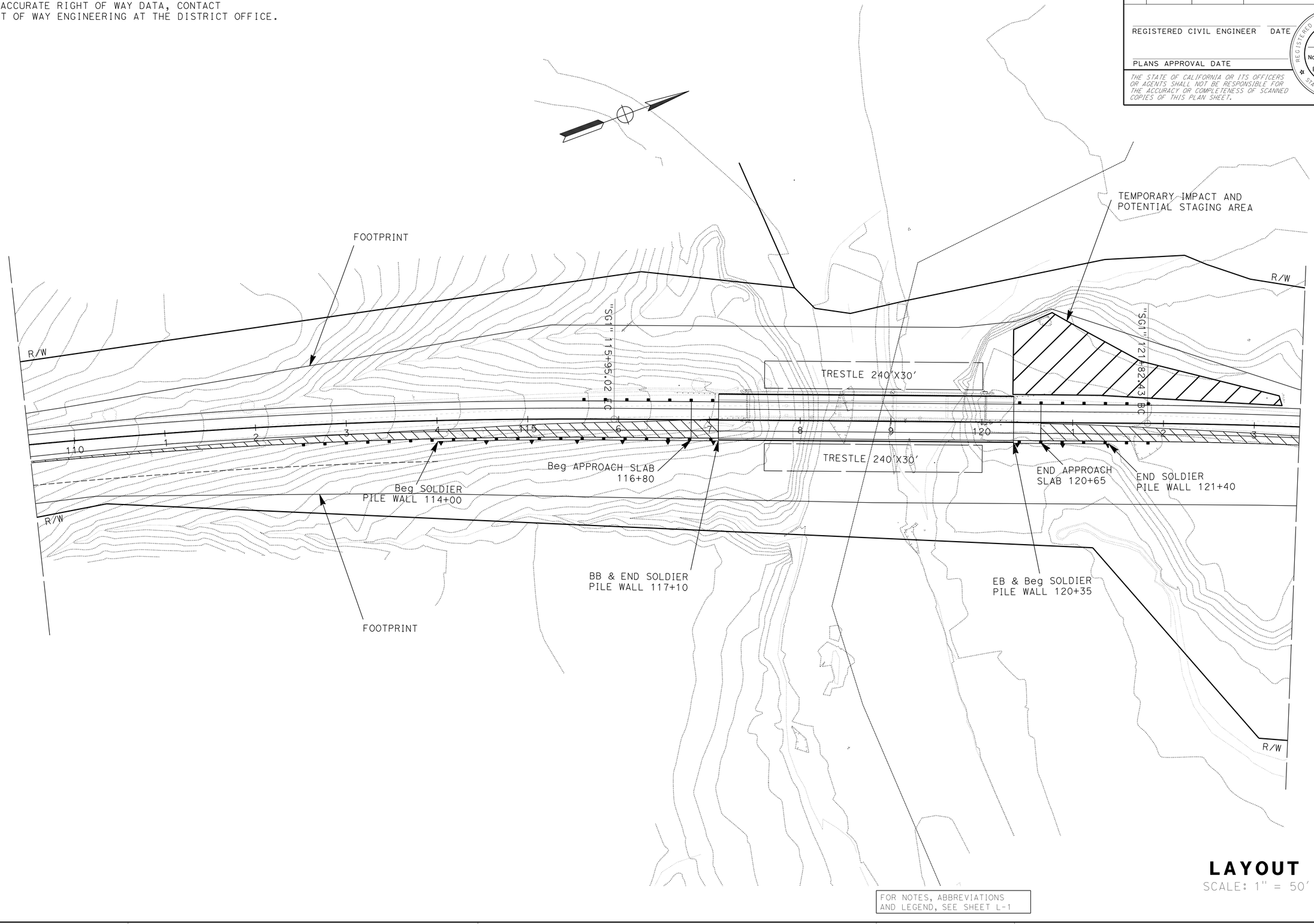


FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT

SCALE: 1" = 50'

L-2

REVISED BY	DATE REVISED	CALCULATED-DESIGNED BY	CHECKED BY
XXXX	XXXX	XXXX	XXXX

FUNCTIONAL SUPERVISOR: KELSEY KRESS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

Caltrans®

LAST REVISION | DATE PLOTTED => 29-APR-2025
00-00-00 | TIME PLOTTED => 14:34

BORDER LAST REVISED 7/2/2010

USERNAME => s147794
DGN FILE => A1+2_0418000035_ea002_042225.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0717

PROJECT NUMBER & PHASE 0421000262

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

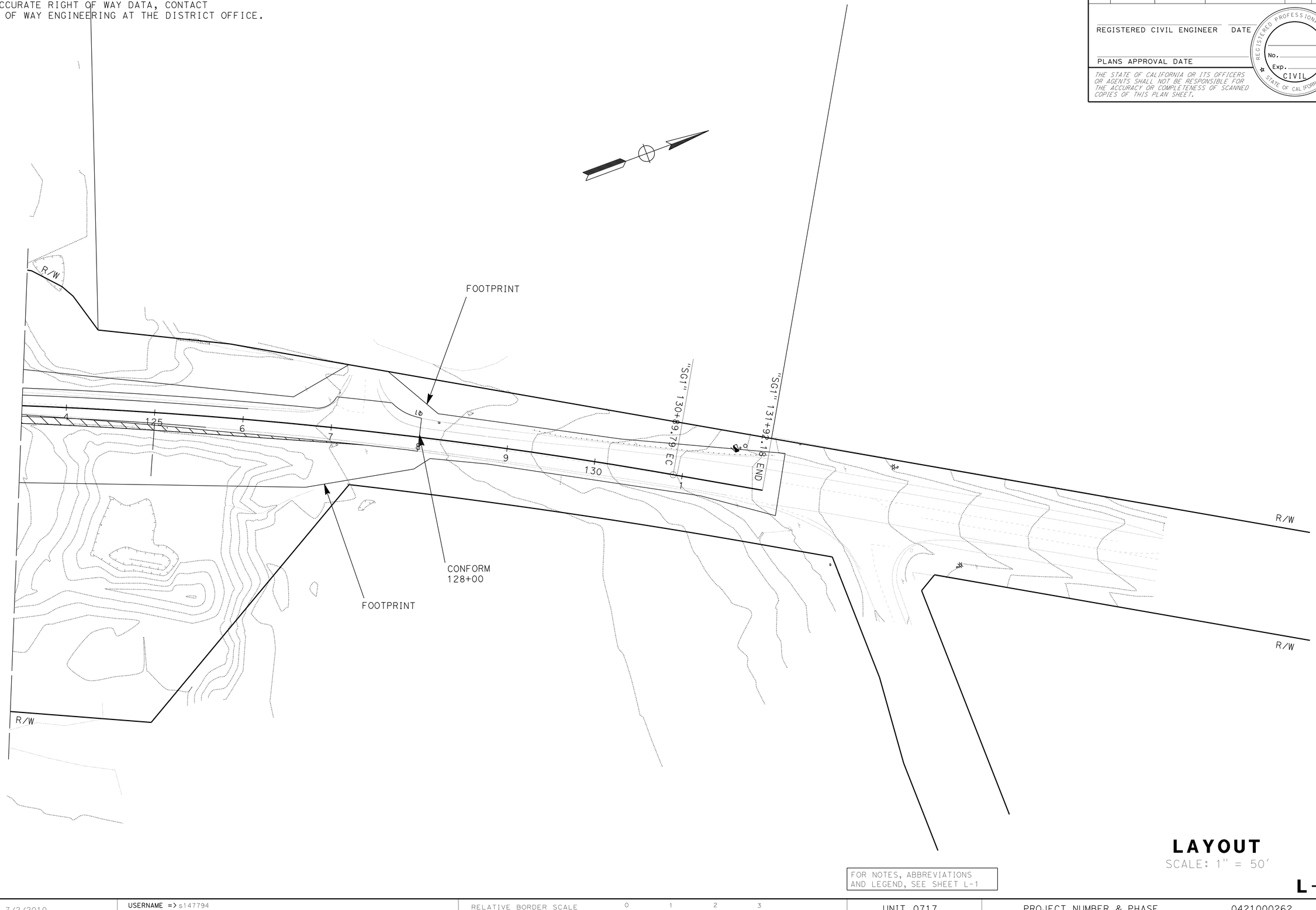
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	17.4/18.2	XX	XX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LAYOUT

SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

L-3

XXXX	XXXX		
REVISED BY	DATE REVISED		
CALCULATED-DESIGNED BY	CHECKED BY		

FUNCTIONAL SUPERVISOR: KELSEY KRESS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans®

DESIGN

LAST REVISION | DATE PLOTTED => 29-APR-2025 | TIME PLOTTED => 14:35 | 00-00-00

BORDER LAST REVISED 7/2/2010

USERNAME => s147794
DGN FILE => A1+2_0418000035_ea003_042225.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0717

PROJECT NUMBER & PHASE 0421000262

Attachment C
Typical Cross Sections

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	17.4/18.2		2

REGISTERED CIVIL ENGINEER DATE

X-X-XX
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

NOTES:
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR RETAINING WALL INFORMATION, SEE STRUCTURE APS PLANS.

ABBREVIATIONS:

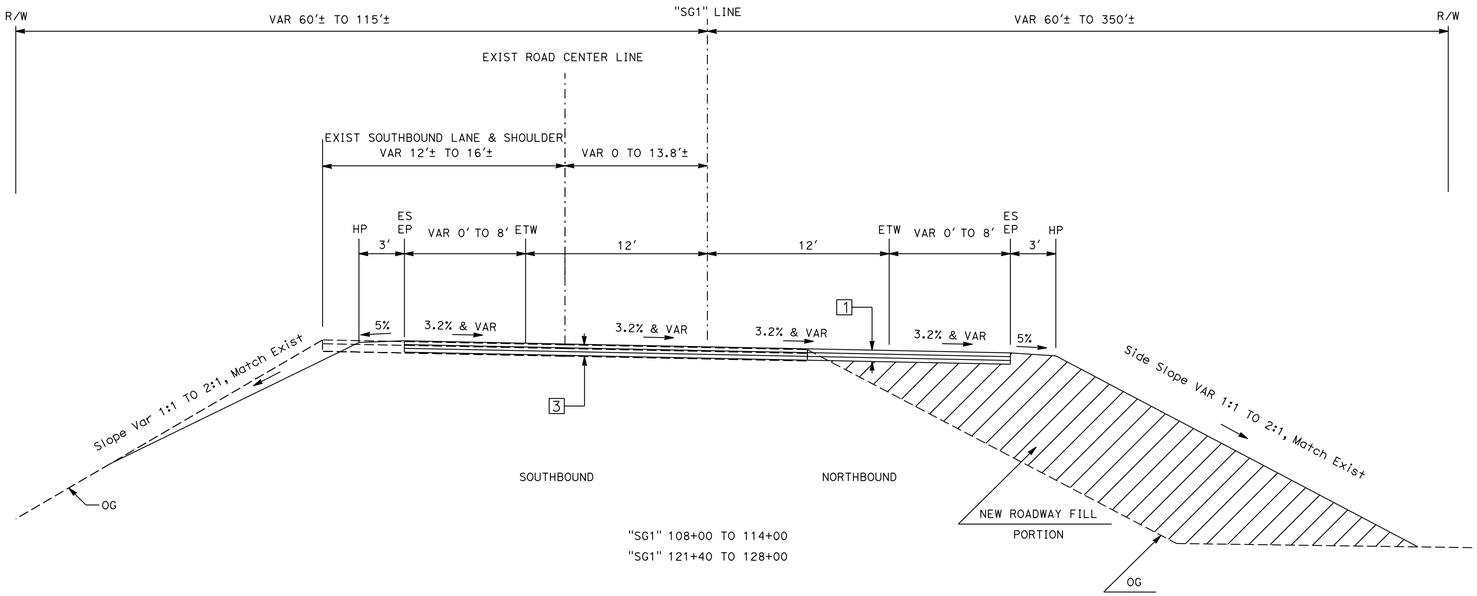
RHMA RUBBERIZED HOT MIX ASPHALT
CPAP COLD PLANE ASPHALT PAVEMENT

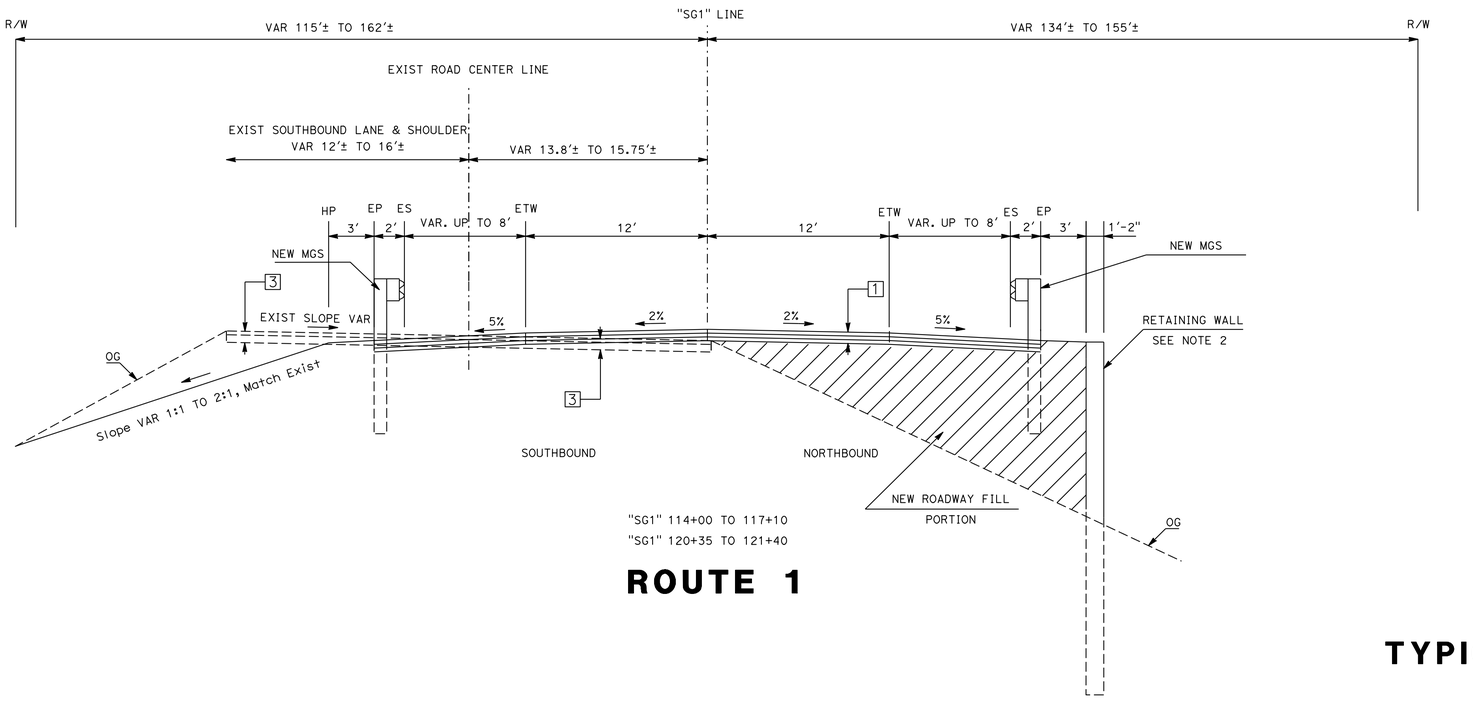
TYPICAL PAVEMENT STRUCTURE SECTIONS

[1] 0.15′ RHMA-G
0.65′ HMA-A
1.00′ CLASS 2 AB
SEG. CLASS A1

[2] 0.15′ CPAP
0.15′ RHMA-G (min)

[3] Exist
0.60′ AC
Var AB DEPTH





ROUTE 1

TYPICAL CROSS SECTIONS
NO SCALE

X-1

CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR: X
REVISED BY: X | DATE REVISED: ABZY
X | X

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
Caltrans

LAST REVISION
DATE PLOTTED => 29-APR-2025
TIME PLOTTED => 14:40

BORDER LAST REVISED 8/5/2020
USERNAME => s147794
DGN FILE => 00010 - Typical X Section 042225.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT
PROJECT NUMBER & PHASE

Attachment D
Structure Advance Planning Study

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
04	SM	1	17.4/18.2

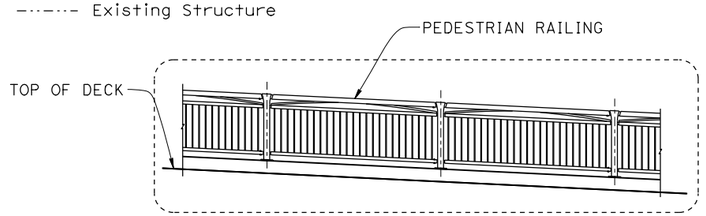
NOTES:

1. Top/Toe of slope is approx.

(1) Paint "SAN GREGORIO CREEK BRIDGE No. 35-0030" Year Constructed
(2) Concrete Barrier (Type 85H)
(3) Structure Approach Type N(30)
(4) Wingwall
(5) MGS, See ROADWAY PLANS
(6) Pedestrian Railing
(7) 100 year storm event water line at elevation 12.3
(8) Tsunami event 2475 year event water line at elevation 40.64
(9) Assumed deck pour pump truck locations
(10) Temporary Construction Trestle, approximate location/size
(11) 72"ø CIDH with Rock Socket
(12) 60"ø CIDH with Rock Socket

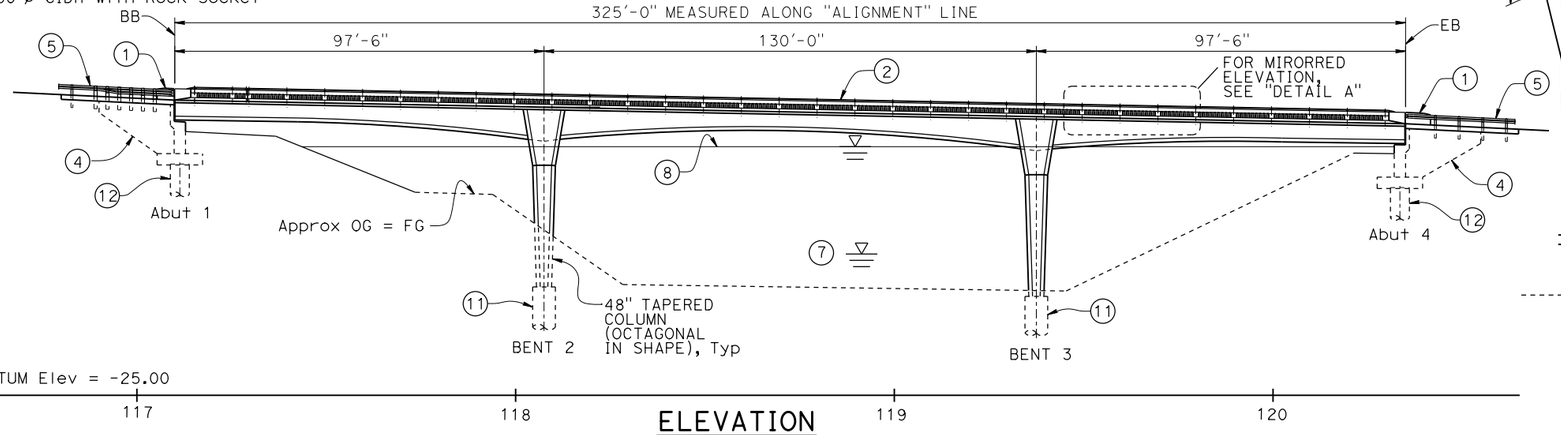
LEGEND:

-·-·-·- Existing Structure

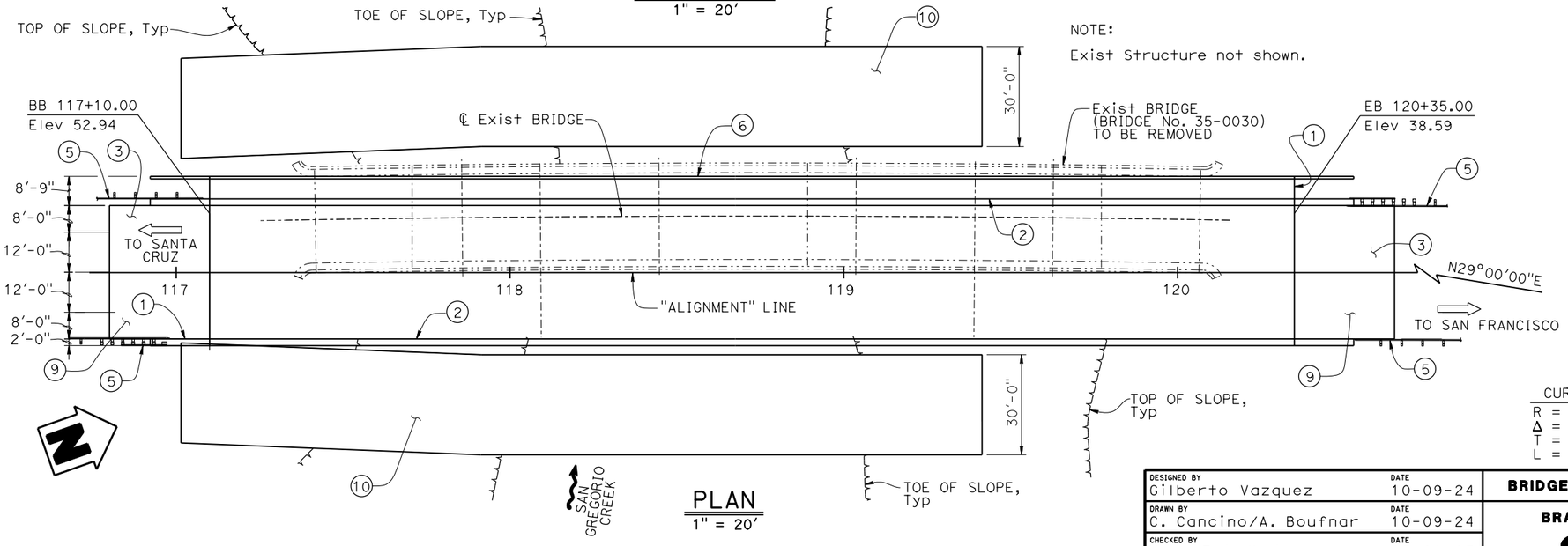


NOTE: Mirrored Elevation shown for info only.

DETAIL A
MIRRORED ELEVATION
(LEFT SIDE OF BRIDGE)
1/4" = 1'-0"

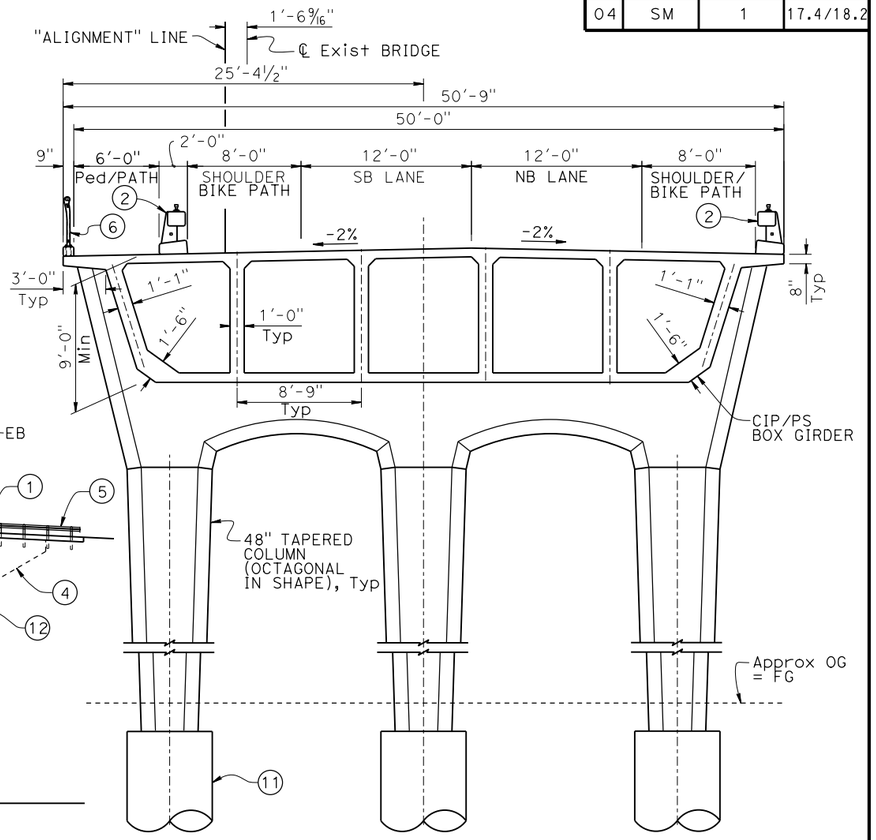


ELEVATION
1" = 20'



PLAN
1" = 20'

NOTE:
Exist Structure not shown.



TYPICAL SECTION
3/16" = 1'-0"

CURVE DATA
R = 8,000.00'
Δ = 22°52'00"
T = 1,617.93'
L = 3,192.79'

DATE OF ESTIMATE	__-__-____
BRIDGE REMOVAL	= -
STRUCTURE DEPTH	= -
LENGTH	= -
WIDTH	= -
AREA	= -
COST/ft²	= -
SUBTOTAL + BRIDGE REMOVAL	= -
TOTAL COST INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	= -
WORKING DAYS	= -

SHEET 1 OF 2

DESIGNED BY: Gilberto Vazquez	DATE: 10-09-24	BRIDGE DESIGN BRANCH 8
DRAWN BY: C. Cancino/A. Boufnar	DATE: 10-09-24	
CHECKED BY: Marc Friedheim	DATE: 05-01-23	
APPROVED: Marc Friedheim	DATE: 05-01-23	

ALTERNATIVE 2A (w/ Arch)
PLANNING STUDY
SAN GREGORIO CREEK BRIDGE (REPLACE)

UNIT: 3593	BRIDGE No.: 35-0030
PROJECT EA: 04-0Q010	PROJECT No. & PHASE: 04180000350

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/10/2021)
DATE PLOTTED => 11-APR-2025 TIME PLOTTED => 16:00
FILE => 35-0030_aps_alt2a.dgn USERNAME => s152657

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
04	SM	1	17.4/18.2

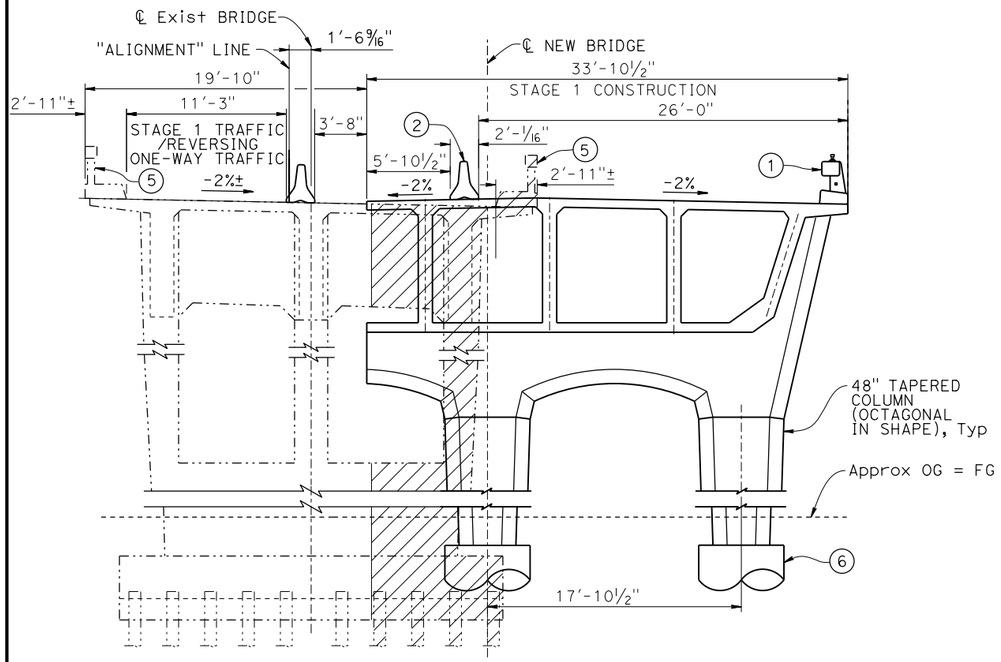
NOTES:

1. Concrete Barrier (Type 85H)
2. Temporary Barrier System, see ROADWAY PLANS
3. Pedestrian Railing
4. Concrete Barrier (Type 60MA)
5. Existing baluster railing
6. 72"ø CIDH with Rock Socket

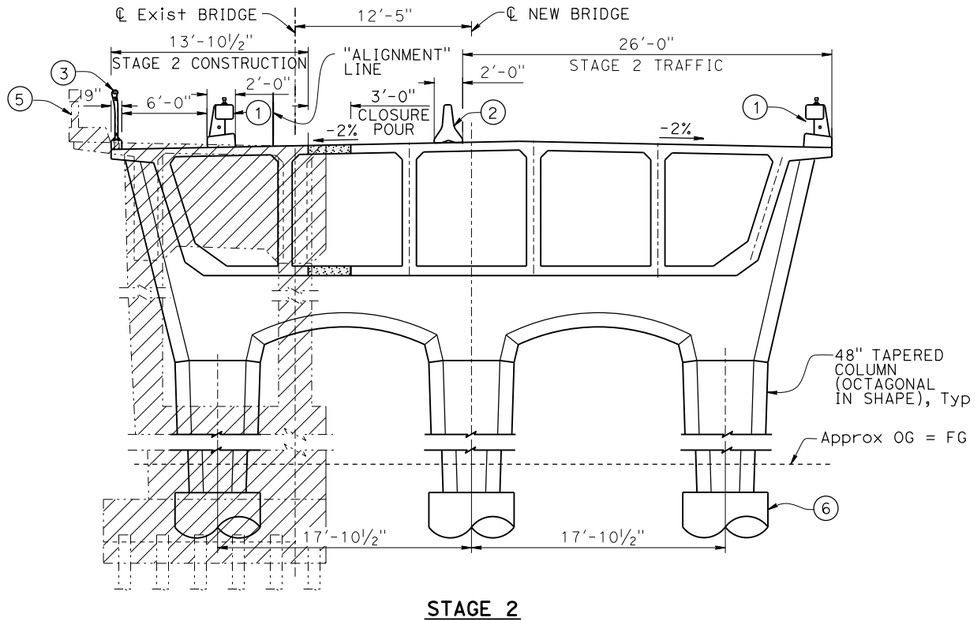
LEGEND:

- Existing Structure
- Limits of Bridge Removal (Portion)
- Limits of Closure Pour

INCOMPLETE PLAN FOR DESIGN STUDY
PRINTED DATE: 11-APR-2025
Office of Structure Design
STATE OF CALIFORNIA



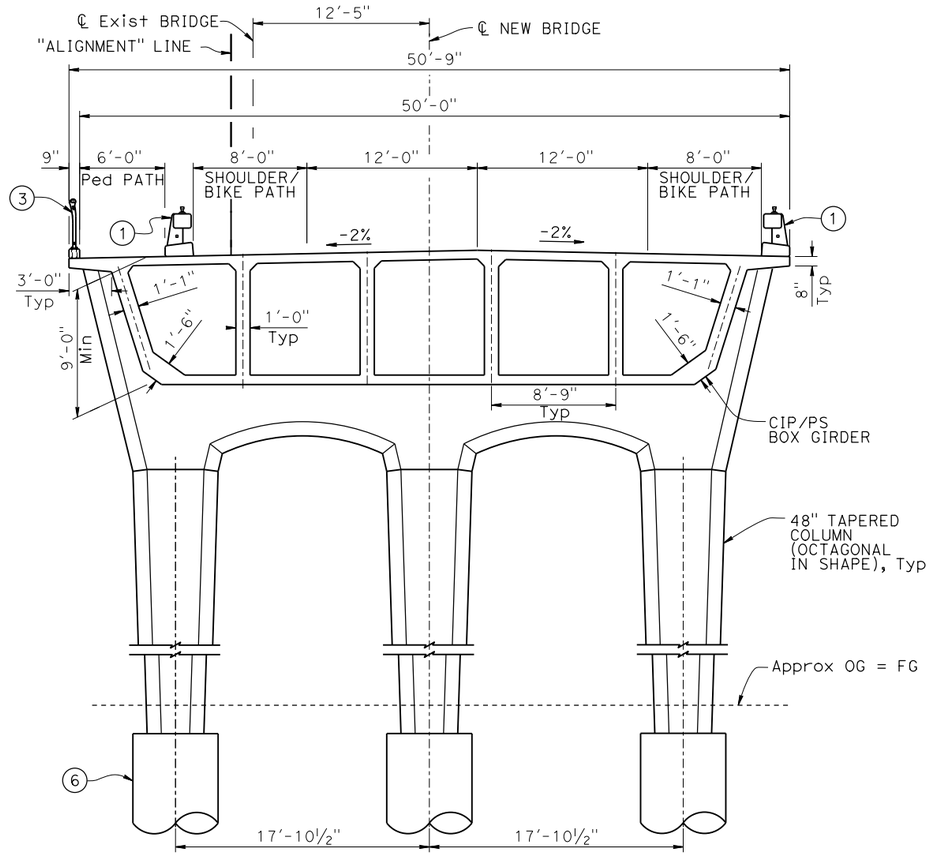
STAGE 1



STAGE 2

CONSTRUCTION AND TRAFFIC STAGING

3⁄16" = 1'-0"



TYPICAL SECTION (FINAL)

3⁄16" = 1'-0"

SHEET 2 OF 2

DESIGNED BY: Gilberto Vazquez	DATE: 07-10-24	BRIDGE DESIGN BRANCH 8	ALTERNATIVE 2A (w/ Arch)
DRAWN BY: C. Cancino/A. Boufnar	DATE: 07-10-24		PLANNING STUDY
CHECKED BY: Marc Friedheim	DATE: 05-01-23		SAN GREGORIO CREEK BRIDGE (REPLACE)
APPROVED: Marc Friedheim	DATE: 05-01-23		UNIT: 3593 / BRIDGE No.: 35-0030
			PROJECT EA: 04-0Q010 / PROJECT No. & PHASE: 04180000350

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/10/2021)

DATE PLOTTED => 11-APR-2025 TIME PLOTTED => 16:00
FILE => 35-0030_aps_alt2a.dgn USERNAME => s152657

PROBABILISTIC STRUCTURE COST ESTIMATE

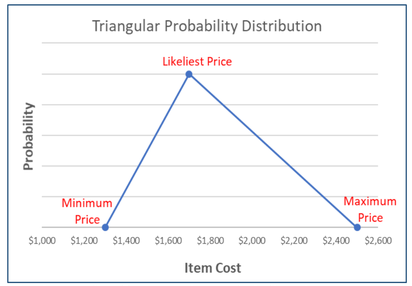
INPUT

[ ] GENERAL PLAN ESTIMATE [x] ADVANCE PLANNING ESTIMATE

BD-0109 (REV 05/03/2023)

BRIDGE NAME:	San Gregorio Creek Bridge (Replace)
BRIDGE NUMBER:	35-0030
TYPE:	CIP/PS Box Girder
EA:	04-0Q010
PROJECT ID:	04 1800 0035
ACCELERATED BRIDGE PROJECT	NO
DESIGN BRANCH:	08
NO. OF STRUCTURES IN PROJECT :	1
PRICES BY :	SY
PRICES CHECKED BY :	PKH
QUANTITIES BY:	Ryan Luu & Hieu Bui

IN EST:	7/31/2024
OUT EST:	9/3/2024
DISTRICT:	04
CO:	SM
RTE:	1
PM:	17.9
DEPTH	9'-0"
LENGTH	325'-0"
WIDTH	50'-9"
AREA	16494
EST. NO.	1
COST INDEX:	1608 (2nd Qtr BCI Pending)



The Assumption Curves, unless noted otherwise, are modeled with a triangular distribution with the "Minimum, Likeliest and Maximum values."

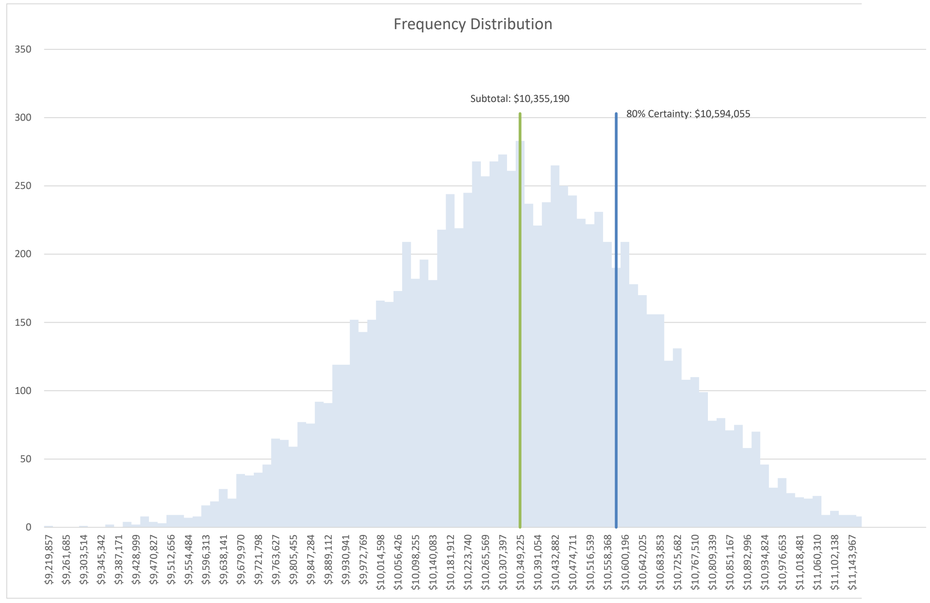
	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	ITEM PRICE RANGE MINIMUM	LIKELIEST	MAXIMUM	AMOUNT
1	STRUCTURE EXCAVATION (BRIDGE)		CY	726	$280.00	$300.00	$320.00	$217,800
2	STRUCTURE BACKFILL (BRIDGE)		CY	427	$220.00	$250.00	$280.00	$106,750
3	FURNISH 24" CAST-IN-STEEL SHELL CONCRETE PILING		LF	2000	$340.00	$420.00	$500.00	$840,000
4	DRIVE 24" CAST-IN-STEEL SHELL CONCRETE PILE		EA	40	$9,000.00	$10,500.00	$11,500.00	$420,000
5	FURNISH CAST-IN-STEEL SHELL CONCRETE PILING (NPS 72)		LF	300	$2,200.00	$2,750.00	$3,000.00	$825,000
6	DRIVE CAST-IN-STEEL SHELL CONCRETE PILE (NPS 72)		EA	6	$108,000.00	$135,000.00	$162,000.00	$810,000
7	PRESTRESSING CAST-IN-PLACE CONCRETE		LB	30797	$4.50	$5.50	$6.50	$169,384
8	STRUCTURAL CONCRETE, BRIDGE FOOTING		CY	145	$1,500.00	$1,800.00	$2,300.00	$261,000
9	STRUCTURAL CONCRETE, BRIDGE		CY	1872	$2,700.00	$3,000.00	$3,300.00	$5,616,000
10	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	30'	CY	143	$1,200.00	$1,500.00	$1,800.00	$214,500
11	JOINT SEAL (MR 2 1/2")		LF	103	$200.00	$250.00	$300.00	$25,750
12	BAR REINFORCING STEEL (BRIDGE)		LB	380503	$1.80	$2.00	$2.20	$761,006
13	PEDESTRIAN RAILING		LF	325	$400.00	$500.00	$600.00	$162,500
14	CONCRETE BARRIER (TYPE 85)		LF	650	$400.00	$550.00	$700.00	$357,500
15	TEMPORARY CONSTRUCTION TRESTLE		SQFT	14400	$70.00	$100.00	$130.00	$1,440,000
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
							SUBTOTAL	$12,227,190

	TYPE	UNIT	QUANTITY	MINIMUM	LIKELIEST	MAXIMUM	
BRIDGE REMOVAL	T-beam	SQFT	8436	$55.00	$65.00	$75.00	$548,340

Comments

OUTPUT

This probabilistic estimate forecasts a range of likely final costs and their associated probabilities of occurring, or confidence levels. Item cost uncertainty is captured by estimating a range of prices: minimum, likely and maximum. The estimate model assumes a triangular distribution for each item, independent from the other items. A Monte Carlo simulation with 10,000 trials is used to develop a reasonable range of possible cost combinations.



Time Related Overhead, Mobilization and Contingency NOT INCLUDED

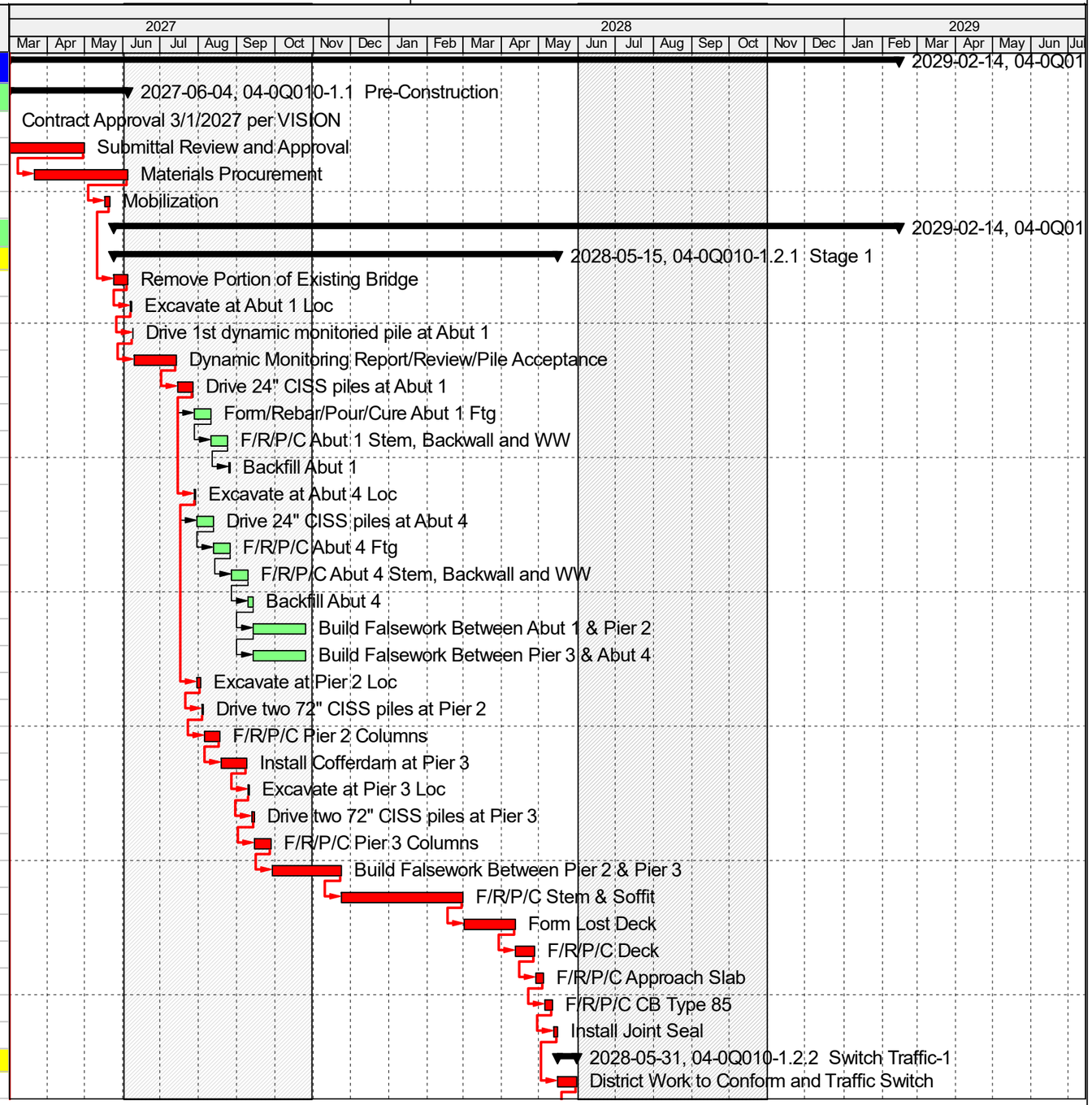
Percentiles:	Forecast values	
0%	$11,566,364	BASED ON THE ASSUMPTIONS USED
10%	$12,286,714	TO CREATE THE MODEL, DES
20%	$12,440,131	STRUCTURE OFFICE ENGINEER
30%	$12,552,623	RECOMMENDS THAT THE
40%	$12,652,138	PROGRAMMING LEVEL BUDGET FOR
50%	$12,747,620	THIS PROJECT BE DESIGNATED AT
60%	$12,842,183	THE 80% FORECAST VALUE.
70%	$12,940,297	
80%	**$13,052,300**	
90%	$13,209,529	
100%	$13,900,904	

BRIDGE COST PER SQUARE FOOT	$756
BRIDGE REMOVAL	$578,900
ESTIMATED COST Subtotal + Bridge	$13,052,000
TOTAL	$19,941,000

DOES NOT INCLUDE time related overhead (TRO), mobilization and contingency. The "Bridge Cost Per Square Foot, Bridge Removal, and Estimated Cost" are provided for use in the "11-Page Estimate"

INCLUDES mobilization: 10%, structure TRO: 10% and contingency: 25%

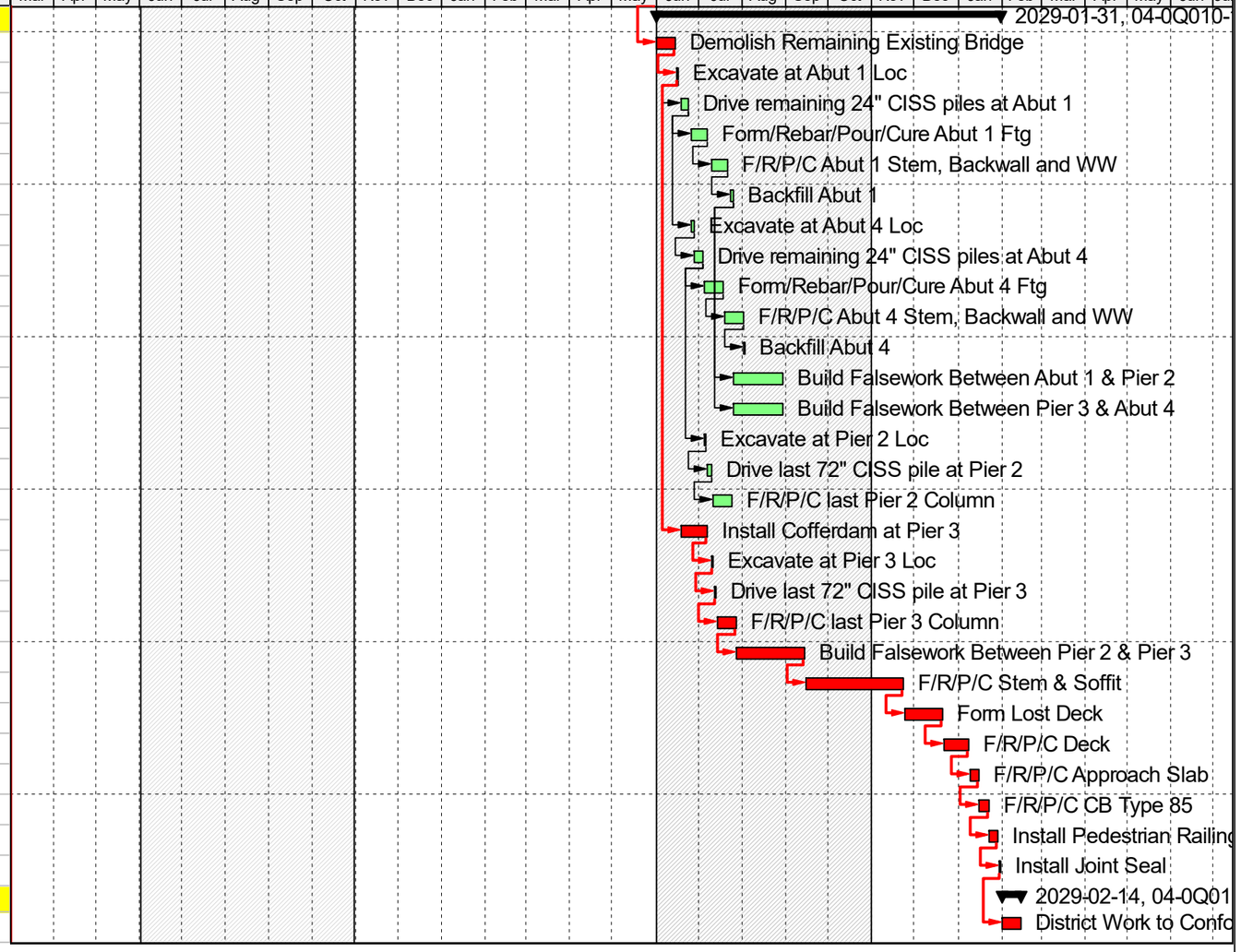
Activity ID	Activity Name	Planned Duration	Start	Finish
04-0Q010-1	04 1800 0035 APS Alt 2A - CIP PS Box w/ aesthetic u	513	2027-03-01	2029-02-14
04-0Q010-1.1	Pre-Construction	70	2027-03-01	2027-06-04
A1000	Contract Approval 3/1/2027 per VISION	0	2027-03-01	2027-03-01
A1010	Submittal Review and Approval	45	2027-03-01	2027-04-30
A1020	Materials Procurement	55	2027-03-22	2027-06-04
A1030	Mobilization	5	2027-05-17	2027-05-21
04-0Q010-1.2	Construction	453	2027-05-24	2029-02-14
04-0Q010-1.2.1	Stage 1	256	2027-05-24	2028-05-15
B1000	Remove Portion of Existing Bridge	10	2027-05-24	2027-06-04
B1010	Excavate at Abut 1 Loc	2	2027-06-07	2027-06-08
B1020	Drive 1st dynamic monitoried pile at Abut 1	1	2027-06-09	2027-06-09
B1030	Dynamic Monitoring Report/Review/Pile Acceptance	25	2027-06-10	2027-07-14
B1040	Drive 24" CISS piles at Abut 1	9	2027-07-15	2027-07-27
B1050	Form/Rebar/Pour/Cure Abut 1 Ftg	10	2027-07-28	2027-08-10
B1060	F/R/P/C Abut 1 Stem, Backwall and WW	10	2027-08-11	2027-08-24
B1070	Backfill Abut 1	2	2027-08-25	2027-08-26
B1080	Excavate at Abut 4 Loc	2	2027-07-28	2027-07-29
B1100	Drive 24" CISS piles at Abut 4	10	2027-07-30	2027-08-12
B1110	F/R/P/C Abut 4 Ftg	10	2027-08-13	2027-08-26
B1111	F/R/P/C Abut 4 Stem, Backwall and WW	10	2027-08-27	2027-09-09
B1115	Backfill Abut 4	2	2027-09-10	2027-09-13
B1120	Build Falsework Between Abut 1 & Pier 2	30	2027-09-14	2027-10-25
B1125	Build Falsework Between Pier 3 & Abut 4	30	2027-09-14	2027-10-25
B1130	Excavate at Pier 2 Loc	2	2027-07-30	2027-08-02
B1140	Drive two 72" CISS piles at Pier 2	2	2027-08-03	2027-08-04
B1150	F/R/P/C Pier 2 Columns	10	2027-08-05	2027-08-18
B1170	Install Cofferdam at Pier 3	15	2027-08-19	2027-09-08
B1175	Excavate at Pier 3 Loc	2	2027-09-09	2027-09-10
B1176	Drive two 72" CISS piles at Pier 3	2	2027-09-13	2027-09-14
B1180	F/R/P/C Pier 3 Columns	10	2027-09-15	2027-09-28
B1190	Build Falsework Between Pier 2 & Pier 3	40	2027-09-29	2027-11-23
B1200	F/R/P/C Stem & Soffit	70	2027-11-24	2028-02-29
B1210	Form Lost Deck	30	2028-03-01	2028-04-11
B1220	F/R/P/C Deck	12	2028-04-12	2028-04-27
B1230	F/R/P/C Approach Slab	5	2028-04-28	2028-05-04
B1240	F/R/P/C CB Type 85	5	2028-05-05	2028-05-11
B1250	Install Joint Seal	2	2028-05-12	2028-05-15
04-0Q010-1.2.2	Switch Traffic-1	12	2028-05-16	2028-05-31
C1000	District Work to Conform and Traffic Switch	12	2028-05-16	2028-05-31



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Notes & Assumptions:
1.Start Date is based on MS500 Contract Approval Date from VISION.
2. Construction is done in 2 stages as shown on APS Alt 2A plans.
3. Can only work in water June - October.
4. Time to build temporary construction trestle and remove falsework is not considered pending further inputs.

Activity ID	Activity Name	Planned Duration	Start	Finish
04-0Q010-1.2.3	Stage 2	175	2028-06-01	2029-01-31
D1000	Demolish Remaining Existing Bridge	10	2028-06-01	2028-06-14
D1010	Excavate at Abut 1 Loc	2	2028-06-15	2028-06-16
D1020	Drive remaining 24" CISS piles at Abut 1	5	2028-06-19	2028-06-23
D1030	Form/Rebar/Pour/Cure Abut 1 Ftg	10	2028-06-26	2028-07-07
D1040	F/R/P/C Abut 1 Stem, Backwall and WW	10	2028-07-10	2028-07-21
D1050	Backfill Abut 1	2	2028-07-24	2028-07-25
D1060	Excavate at Abut 4 Loc	2	2028-06-26	2028-06-27
D1070	Drive remaining 24" CISS piles at Abut 4	5	2028-06-28	2028-07-04
D1080	Form/Rebar/Pour/Cure Abut 4 Ftg	10	2028-07-05	2028-07-18
D1090	F/R/P/C Abut 4 Stem, Backwall and WW	10	2028-07-19	2028-08-01
D1100	Backfill Abut 4	2	2028-08-02	2028-08-03
D1110	Build Falsework Between Abut 1 & Pier 2	25	2028-07-26	2028-08-29
D1120	Build Falsework Between Pier 3 & Abut 4	25	2028-07-26	2028-08-29
D1130	Excavate at Pier 2 Loc	2	2028-07-05	2028-07-06
D1140	Drive last 72" CISS pile at Pier 2	2	2028-07-07	2028-07-10
D1150	F/R/P/C last Pier 2 Column	10	2028-07-11	2028-07-24
D1160	Install Cofferdam at Pier 3	15	2028-06-19	2028-07-07
D1170	Excavate at Pier 3 Loc	2	2028-07-10	2028-07-11
D1180	Drive last 72" CISS pile at Pier 3	2	2028-07-12	2028-07-13
D1190	F/R/P/C last Pier 3 Column	10	2028-07-14	2028-07-27
D1200	Build Falsework Between Pier 2 & Pier 3	35	2028-07-28	2028-09-14
D1210	F/R/P/C Stem & Soffit	50	2028-09-15	2028-11-23
D1220	Form Lost Deck	20	2028-11-24	2028-12-21
D1230	F/R/P/C Deck	12	2028-12-22	2029-01-08
D1240	F/R/P/C Approach Slab	5	2029-01-09	2029-01-15
D1250	F/R/P/C CB Type 85	5	2029-01-16	2029-01-22
D1260	Install Pedestrian Railing	5	2029-01-23	2029-01-29
D1270	Install Joint Seal	2	2029-01-30	2029-01-31
04-0Q010-1.2.4	Switch Traffic-2	10	2029-02-01	2029-02-14
A1040	District Work to Conform and Traffic Switch	10	2029-02-01	2029-02-14



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Notes & Assumptions:
1.Start Date is based on MS500 Contract Approval Date from VISION.
2. Construction is done in 2 stages as shown on APS Alt 2A plans.
3. Can only work in water June - October.
4. Time to build temporary construction trestle and remove falsework is not considered pending further inputs.

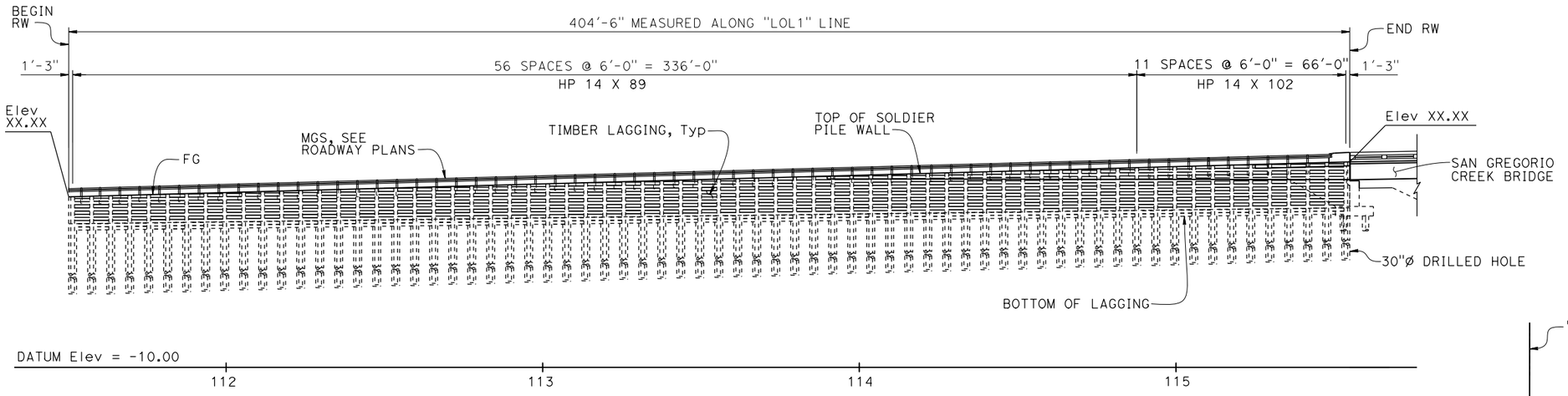
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
04	SM	1	17.9/18.0

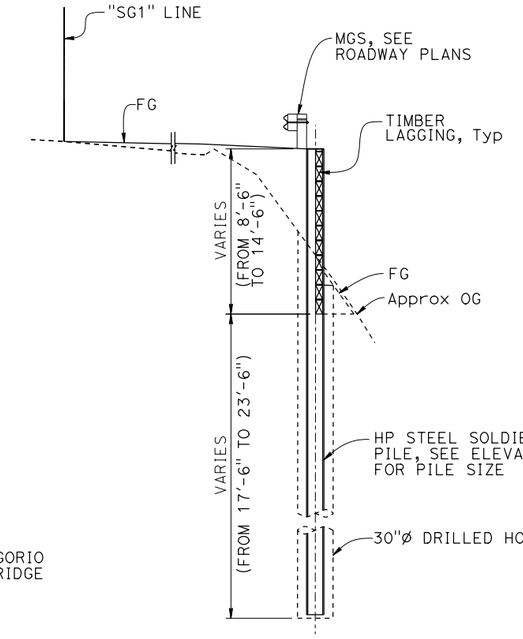
INCOMPLETE PLAN
FOR DESIGN STUDY

PRINTED
DATE: 5-JUN-2024

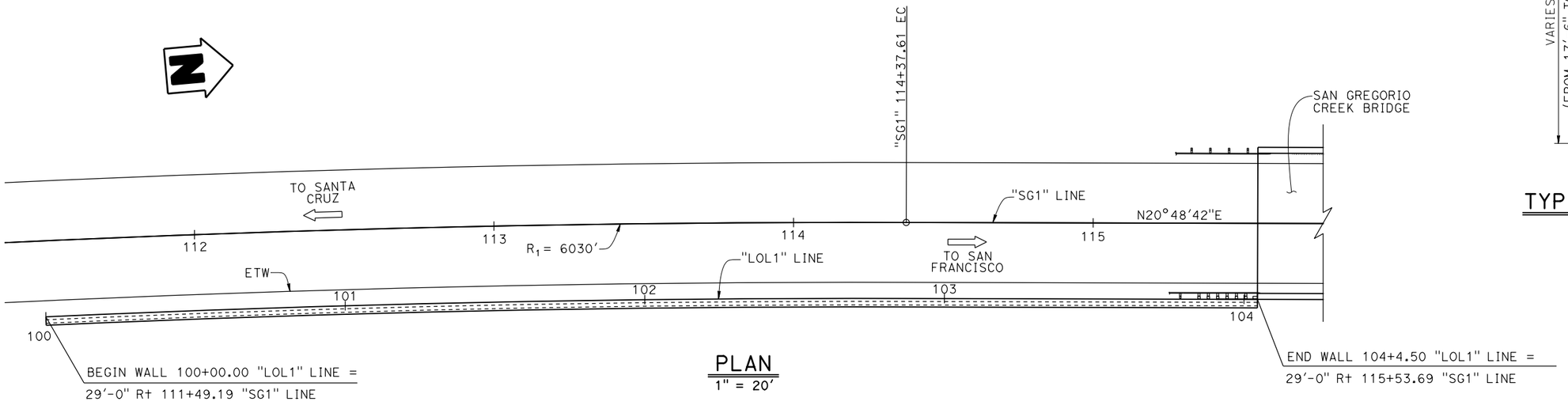
Office of
Structure Design
STATE OF CALIFORNIA



DEVELOPED ELEVATION
1" = 20'



TYPICAL SECTION
3/16" = 1'-0"



PLAN
1" = 20'

CURVE DATA
R = 6030.00'
Δ = 13°39'36"
T = 722.23'
L = 1437.61'

DESIGNED BY Daniel Matsumoto	DATE 04-08-24	BRIDGE DESIGN	PLANNING STUDY
DRAWN BY Amar Boufnar	DATE 04-08-24	BRANCH 8	SAN GREGORIO CREEK BRIDGE - SOLDIER PILE WALL 1
CHECKED BY X	DATE X		UNIT: 3593 / BRIDGE No.: 35-0030
APPROVED X	DATE X		PROJECT EA: 04-0Q010 / PROJECT No. & PHASE: 04180000350

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/10/2021)

DATE PLOTTED => 5-JUN-2024 TIME PLOTTED => 22:33
FILE => 35-0030_aps_rw1&2.dgn USERNAME => s152657

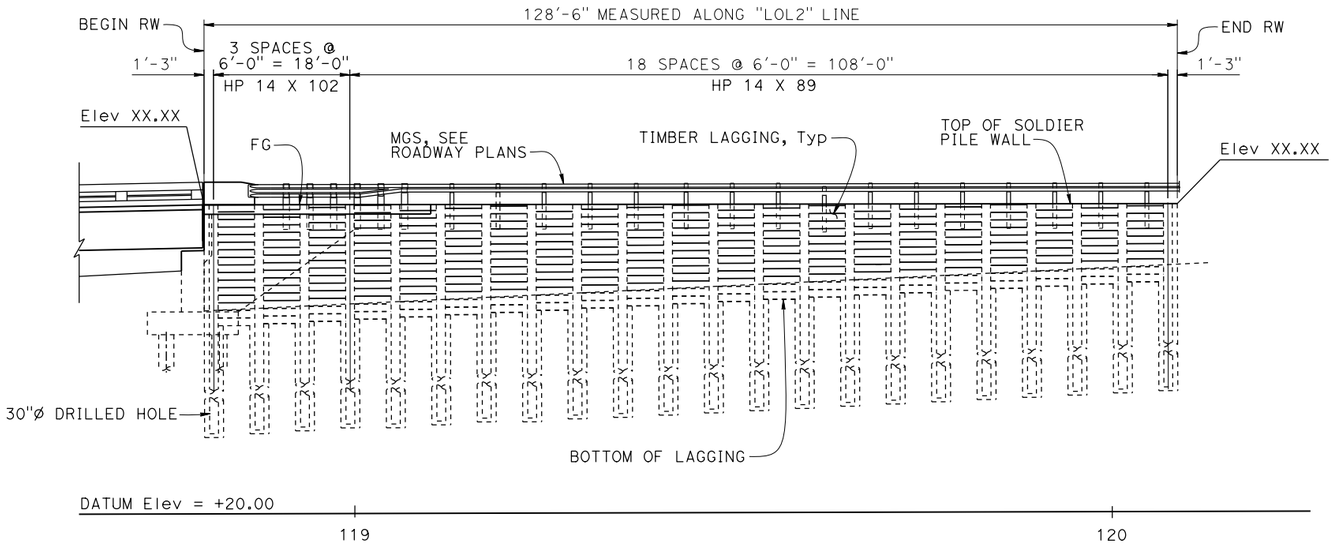
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
04	SM	1	17.9/18.0

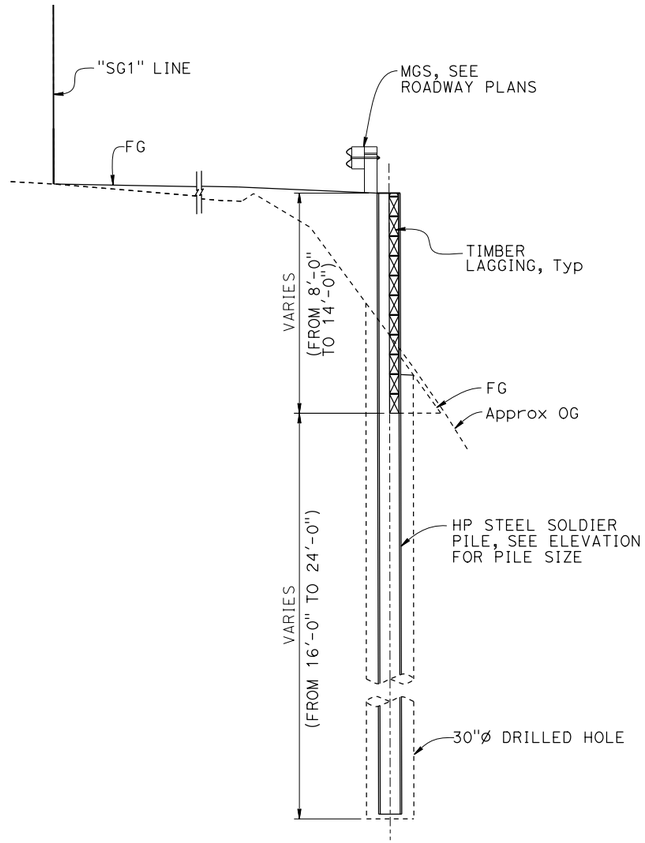
INCOMPLETE PLAN
FOR DESIGN STUDY

PRINTED
DATE: 5-JUN-2024

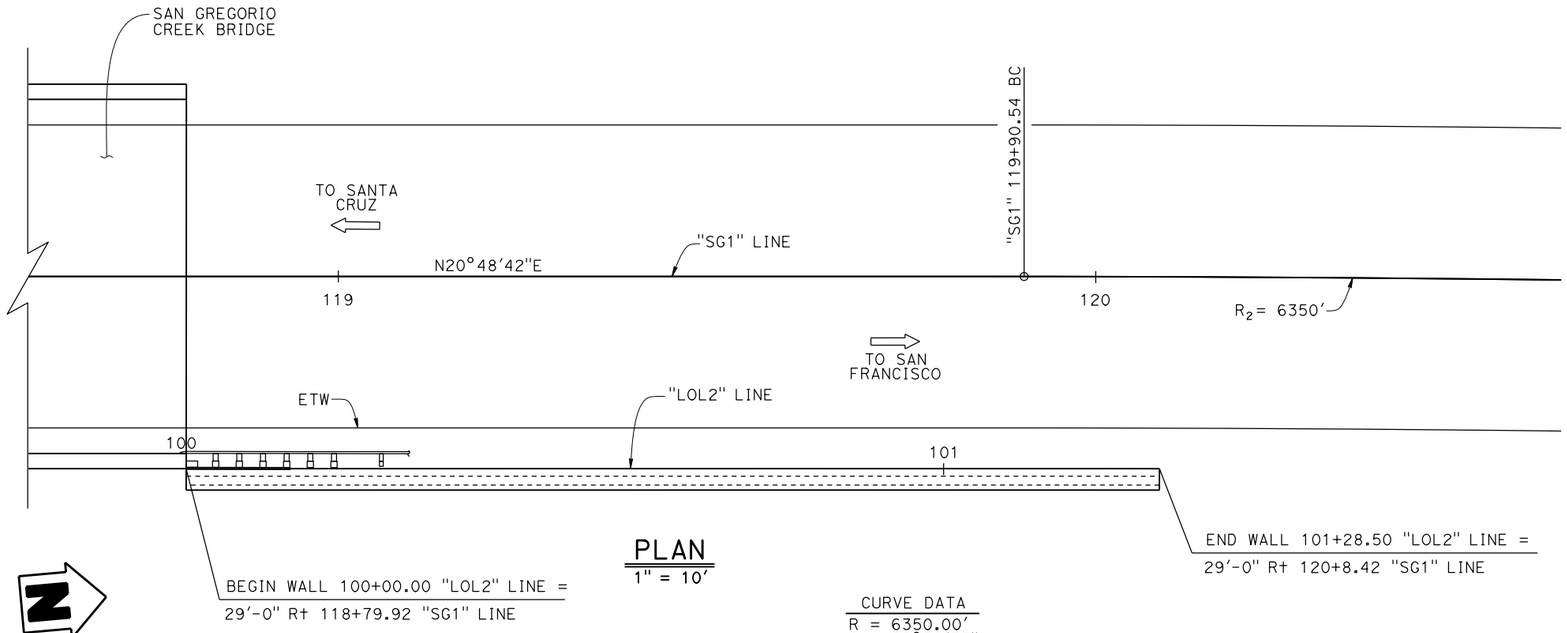
Office of
Structure Design
STATE OF CALIFORNIA



DEVELOPED ELEVATION
1" = 10'



TYPICAL SECTION
1/4" = 1'-0"



PLAN
1" = 10'

CURVE DATA
R = 6350.00'
Δ = 09°38'35"
T = 535.62'
L = 1068.72'

DESIGNED BY: Daniel Matsumoto	DATE: 04-09-24	BRIDGE DESIGN BRANCH 8	PLANNING STUDY
DRAWN BY: Amar Boufnar	DATE: 04-09-24		SAN GREGORIO CREEK BRIDGE - SOLDIER PILE WALL 2
CHECKED BY: X	DATE: X		UNIT: 3593 / BRIDGE No.: 35-0030
APPROVED: X	DATE: X		PROJECT EA: 04-0Q010 / PROJECT No. & PHASE: 04180000350

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/10/2021)

DATE PLOTTED => 5-JUN-2024 TIME PLOTTED => 22:33
FILE => 35-0030_aps_rw1&2.dgn USERNAME => s152657

PROBABILISTIC STRUCTURE COST ESTIMATE

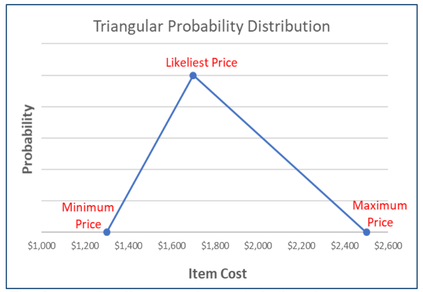
INPUT

[ ] GENERAL PLAN ESTIMATE [x] ADVANCE PLANNING ESTIMATE

BD-0109 (REV 05/03/2023)

BRIDGE NAME:	San Gregorio Retaining Wall No. 1
BRIDGE NUMBER:	
TYPE:	Soldier Pile Wall
EA:	04-0Q010
PROJECT ID:	0418000035
ACCELERATED BRIDGE PROJECT	NO
DESIGN BRANCH:	08
NO. OF STRUCTURES IN PROJECT :	2
PRICES BY :	SY
PRICES CHECKED BY :	PKH
QUANTITIES BY:	G.Vazquez and D.Matsumoto

IN EST:	5/2/2024
OUT EST:	6/3/2024
DISTRICT:	04
CO:	SM
RTE:	1
PM:	17.9/18.0
DEPTH	
LENGTH	404'-6"
WIDTH	
AREA	
EST. NO.	1
COST INDEX:	1608



The Assumption Curves, unless noted otherwise, are modeled with a triangular distribution with the "Minimum, Likeliest and Maximum values."

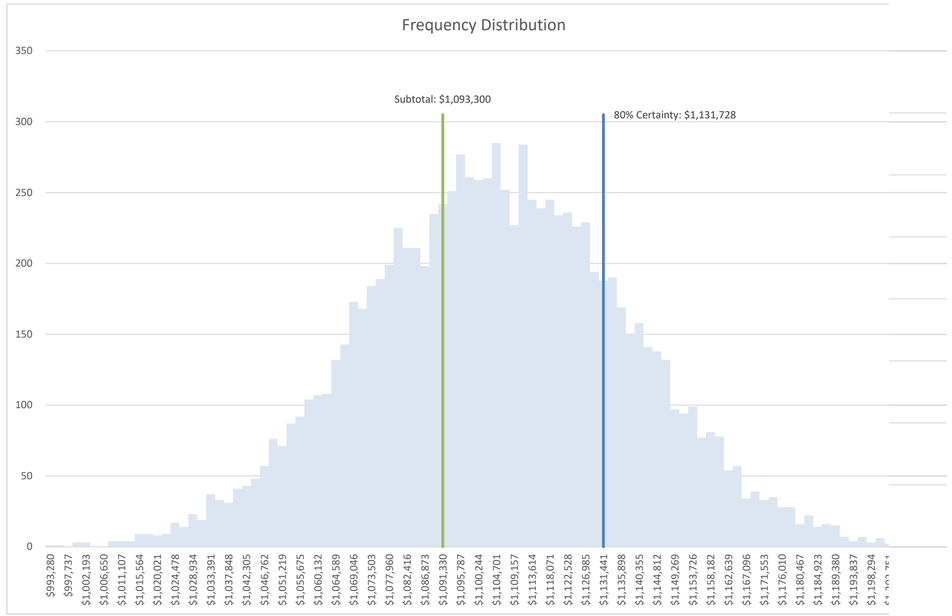
	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	ITEM PRICE RANGE MINIMUM	LIKELIEST	MAXIMUM	AMOUNT
1	STRUCTURE EXCAVATION (SOLDIER PILE WALL)		CY	22	$700.00	$1,000.00	$1,300.00	$22,000
2	STRUCTURE BACKFILL (SOLDIER PILE WALL)		CY	115	$200.00	$300.00	$500.00	$34,500
3	CONCRETE BACKFILL (SOLDIER PILE WALL)		CY	255	$300.00	$425.00	$600.00	$108,375
4	LEAN CONCRETE BACKFILL		CY	25	$300.00	$475.00	$600.00	$11,875
5	STEEL SOLDIER PILE (HP 14 X 89)		LF	1720	$105.00	$135.00	$165.00	$232,200
6	STEEL SOLDIER PILE (HP 14 X 102)		LF	456	$235.00	$265.00	$285.00	$120,840
7	30" DRILLED HOLE		LF	1547	$150.00	$165.00	$175.00	$255,255
8	TIMBER LAGGING		MFBM	29	$5,700.00	$6,500.00	$8,000.00	$188,500
9	CLEAN AND PAINT STEEL SOLDIER PILING		LB	199592	$0.50	$0.60	$0.70	$119,755
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
							SUBTOTAL	$1,093,300

	TYPE	UNIT	QUANTITY	MINIMUM	LIKELIEST	MAXIMUM	
BRIDGE REMOVAL		SQFT					

Comments

OUTPUT

This probabilistic estimate forecasts a range of likely final costs and their associated probabilities of occurring, or confidence levels. Item cost uncertainty is captured by estimating a range of prices: minimum, likely and maximum. The estimate model assumes a triangular distribution for each item, independent from the other items. A Monte Carlo simulation with 10,000 trials is used to develop a reasonable range of possible cost combinations.



Time Related Overhead, Mobilization and Contingency NOT INCLUDED

Percentiles:	Forecast values
0%	$993,280
10%	$1,060,890
20%	$1,075,227
30%	$1,085,759
40%	$1,095,066
50%	$1,103,260
60%	$1,112,004
70%	$1,121,388
80%	**$1,131,728**
90%	$1,146,320
100%	$1,216,121

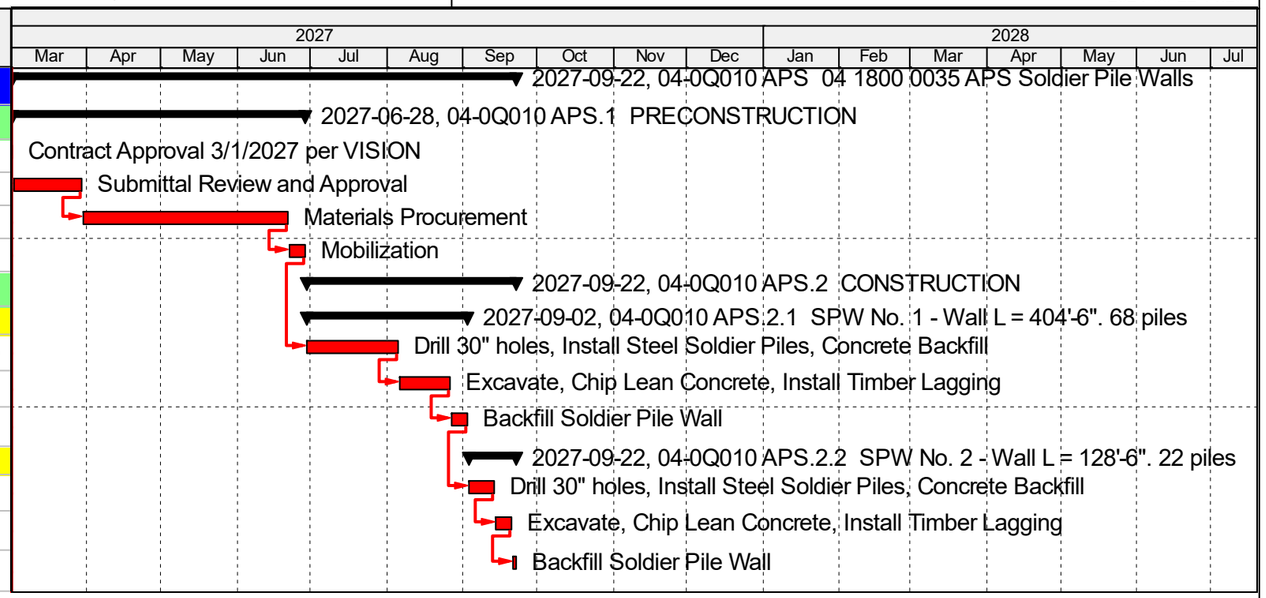
BASED ON THE ASSUMPTIONS USED TO CREATE THE MODEL, DES STRUCTURE OFFICE ENGINEER RECOMMENDS THAT THE PROGRAMMING LEVEL BUDGET FOR THIS PROJECT BE DESIGNATED AT THE 80% FORECAST VALUE.

BRIDGE COST PER SQUARE FOOT	
BRIDGE REMOVAL	
ESTIMATED COST Subtotal + Bridge	$1,132,000
TOTAL	$1,729,000

DOES NOT INCLUDE time related overhead (TRO), mobilization and contingency. The "Bridge Cost Per Square Foot, Bridge Removal, and Estimated Cost" are provided for use in the "11-Page Estimate"

INCLUDES mobilization: 10%, structure TRO: 10% and contingency: 25%

Activity ID	Activity Name	Planned Duration	Start	Finish
04-0Q010 APS	**04 1800 0035 APS Soldier Pile Walls**	148	2027-03-01	2027-09-22
04-0Q010 APS.1	**PRECONSTRUCTION**	86	2027-03-01	2027-06-28
A1000	Contract Approval 3/1/2027 per VISION	1	2027-03-01	2027-03-01
A1010	Submittal Review and Approval	20	2027-03-02	2027-03-29
A1020	Materials Procurement	60	2027-03-30	2027-06-21
A1030	Mobilization	5	2027-06-22	2027-06-28
04-0Q010 APS.2	**CONSTRUCTION**	62	2027-06-29	2027-09-22
04-0Q010 APS.2.1	**SPW No. 1 - Wall L = 404'-6". 68 piles**	48	2027-06-29	2027-09-02
B1000	Drill 30" holes, Install Steel Soldier Piles, Concrete Backfill	28	2027-06-29	2027-08-05
B1010	Excavate, Chip Lean Concrete, Install Timber Lagging	15	2027-08-06	2027-08-26
B1020	Backfill Soldier Pile Wall	5	2027-08-27	2027-09-02
04-0Q010 APS.2.2	**SPW No. 2 - Wall L = 128'-6". 22 piles**	14	2027-09-03	2027-09-22
C1000	Drill 30" holes, Install Steel Soldier Piles, Concrete Backfill	7	2027-09-03	2027-09-13
C1010	Excavate, Chip Lean Concrete, Install Timber Lagging	5	2027-09-14	2027-09-20
C1020	Backfill Soldier Pile Wall	2	2027-09-21	2027-09-22



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Assumptions:
1. M500 Contract Approval Date per VISION.
2. MGS at Top of Wall is roadway item.

PROBABILISTIC STRUCTURE COST ESTIMATE

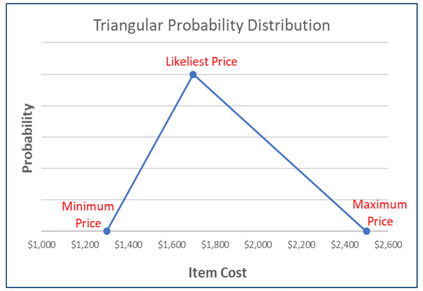
INPUT

[ ] GENERAL PLAN ESTIMATE [x] ADVANCE PLANNING ESTIMATE

BD-0109 (REV 05/03/2023)

BRIDGE NAME:	San Gregorio Retaining Wall No. 2
BRIDGE NUMBER:	
TYPE:	Soldier Pile Wall
EA:	04-0Q010
PROJECT ID:	0418000035
ACCELERATED BRIDGE PROJECT	NO
DESIGN BRANCH:	08
NO. OF STRUCTURES IN PROJECT :	2
PRICES BY :	SY
PRICES CHECKED BY :	PKH
QUANTITIES BY:	G.Vazquez and D.Matsumoto

IN EST:	5/2/2024
OUT EST:	6/3/2024
DISTRICT:	04
CO:	SM
RTE:	1
PM:	17.9/18.0
DEPTH	
LENGTH	128'-6"
WIDTH	
AREA	
EST. NO.	1
COST INDEX:	1608



The Assumption Curves, unless noted otherwise, are modeled with a triangular distribution with the "Minimum, Likeliest and Maximum values."

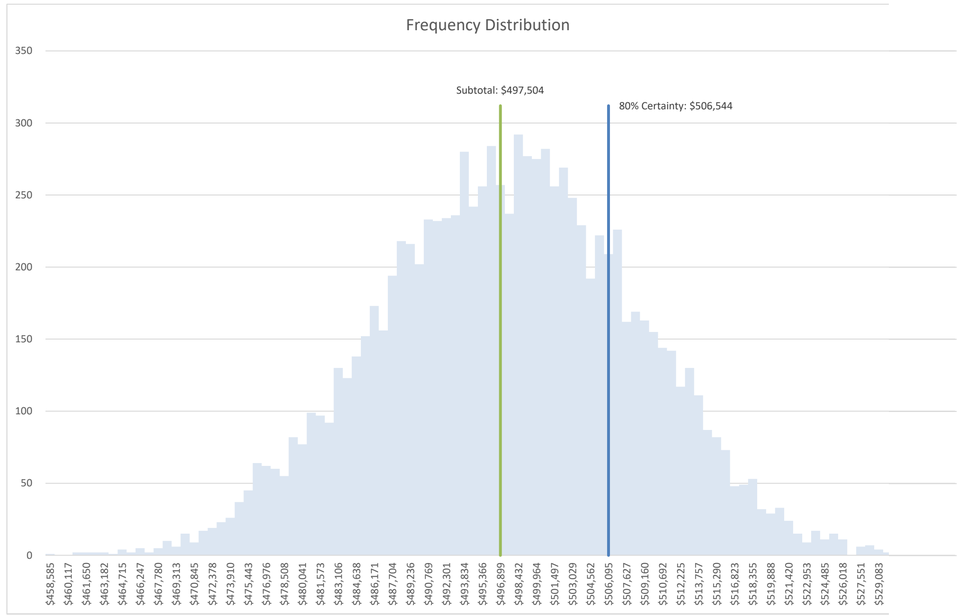
	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	ITEM PRICE RANGE MINIMUM	LIKELIEST	MAXIMUM	AMOUNT
1	STRUCTURE EXCAVATION (SOLDIER PILE WALL)		CY	7	$1,000.00	$1,300.00	$1,700.00	$9,100
2	STRUCTURE BACKFILL (SOLDIER PILE WALL)		CY	35	$400.00	$580.00	$900.00	$20,300
3	CONCRETE BACKFILL (SOLDIER PILE WALL)		CY	74	$320.00	$450.00	$600.00	$33,300
4	LEAN CONCRETE BACKFILL		CY	8	$600.00	$800.00	$1,000.00	$6,400
5	STEEL SOLDIER PILE (HP 14 X 89)		LF	480	$200.00	$230.00	$250.00	$110,400
6	STEEL SOLDIER PILE (HP 14 X 102)		LF	152	$235.00	$270.00	$285.00	$41,040
7	30" DRILLED HOLE		LF	452	$235.00	$245.00	$255.00	$110,740
8	TIMBER LAGGING		MFBM	9	$10,000.00	$12,000.00	$14,000.00	$108,000
9	CLEAN AND PAINT STEEL SOLDIER PILING		LB	58224	$0.90	$1.00	$1.10	$58,224
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
							SUBTOTAL	$497,504

	TYPE	UNIT	QUANTITY	MINIMUM	LIKELIEST	MAXIMUM	
BRIDGE REMOVAL		SQFT					

Comments

OUTPUT

This probabilistic estimate forecasts a range of likely final costs and their associated probabilities of occurring, or confidence levels. Item cost uncertainty is captured by estimating a range of prices: minimum, likely and maximum. The estimate model assumes a triangular distribution for each item, independent from the other items. A Monte Carlo simulation with 10,000 trials is used to develop a reasonable range of possible cost combinations.



Time Related Overhead, Mobilization and Contingency NOT INCLUDED

Percentiles:	Forecast values
0%	$458,585
10%	$482,787
20%	$487,724
30%	$491,224
40%	$494,348
50%	$497,309
60%	$500,102
70%	$502,960
80%	**$506,544**
90%	$511,307
100%	$535,214

BASED ON THE ASSUMPTIONS USED TO CREATE THE MODEL, DES STRUCTURE OFFICE ENGINEER RECOMMENDS THAT THE PROGRAMMING LEVEL BUDGET FOR THIS PROJECT BE DESIGNATED AT THE 80% FORECAST VALUE.

BRIDGE COST PER SQUARE FOOT	
BRIDGE REMOVAL	
ESTIMATED COST Subtotal + Bridge	$507,000
TOTAL	$774,000

DOES NOT INCLUDE time related overhead (TRO), mobilization and contingency. The "Bridge Cost Per Square Foot, Bridge Removal, and Estimated Cost" are provided for use in the "11-Page Estimate"

INCLUDES mobilization: 10%, structure TRO: 10% and contingency: 25%

Activity ID	Activity Name	Planned Duration	Start	Finish
04-0Q010 APS	**04 1800 0035 APS Soldier Pile Walls**	148	2027-03-01	2027-09-22
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A1020	Materials Procurement	60	2027-03-30	2027-06-21
A1030	Mobilization	5	2027-06-22	2027-06-28
04-0Q010 APS.2	**CONSTRUCTION**	62	2027-06-29	2027-09-22
04-0Q010 APS.2.1	**SPW No. 1 - Wall L = 404'-6". 68 piles**	48	2027-06-29	2027-09-02
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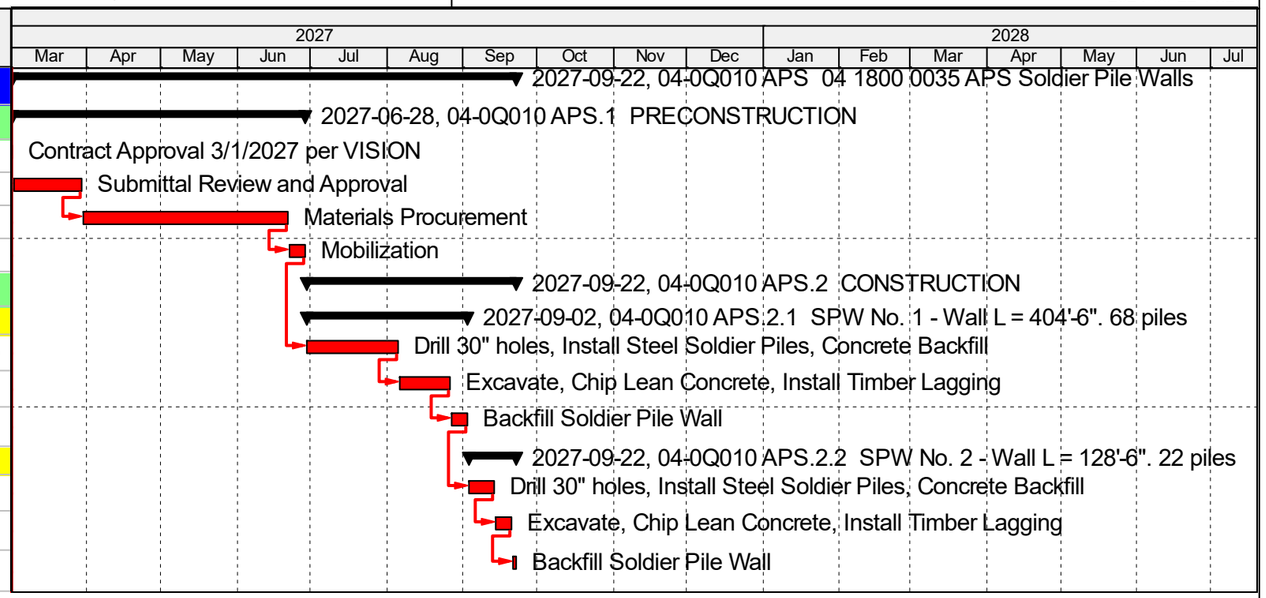
B1010	Excavate, Chip Lean Concrete, Install Timber Lagging	15	2027-08-06	2027-08-26
B1020	Backfill Soldier Pile Wall	5	2027-08-27	2027-09-02
04-0Q010 APS.2.2	**SPW No. 2 - Wall L = 128'-6". 22 piles**	14	2027-09-03	2027-09-22
C1000	Drill 30" holes, Install Steel Soldier Piles, Concrete Backfill	7	2027-09-03	2027-09-13
C1010	Excavate, Chip Lean Concrete, Install Timber Lagging	5	2027-09-14	2027-09-20
C1020	Backfill Soldier Pile Wall	2	2027-09-21	2027-09-22



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Assumptions:
1. M500 Contract Approval Date per VISION.
2. MGS at Top of Wall is roadway item.

Attachment E
Right of Way Data Sheet

To: Office of Design South, Peninsula

Date: 12/10/2024
Dist 04 Co SM Rte 1 PM 17.4/18.2

Attention: KELSEY KRESS
District Branch Chief

EA 0Q010
Project ID: 0418000035

From: MONA POON
Right of Way Resource Manager

D.S. 7867 UPDATED

Proj. Descr. Seismic Restoration at San Gregorio Creek Bridge

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced project based on maps we received from you on **November 13, 2024** and the following assumptions and limiting conditions.

[ ] 1. The mapping did not provide sufficient detail to determine the limits of the right of way required.
[ ] 2. The transportation facilities have not been sufficiently designed so our estimator could determine the damages to any of the remainder parcels affected by the project.
[ ] 3. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.
[ ] 4. This estimate does not include $_____right of way costs previously incurred on the project, which may affect the total project right of way costs for programming purposes.
[ ] 5. We have determined there are no right of way functional involvements in the proposed project at this time, as designed.
[ ] 6. This Data Sheet is being completed without an estimate for Environmental Permit Fees or Mitigation Costs.

Right of Way Lead Time will require a minimum of 6 months after we begin receiving final right of way requirements, necessary environmental clearance has been obtained, and freeway agreements have been approved. From the date of receipt of final right of way requirements, we will require a minimum of 4 months prior to the date of certification of the project. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

Right of Way Resource Manager

Attachments:

[X] Right of Way Data Sheet – Page One (always required)
[X] Right of Way Data Sheet – All Pages (required when interest in real property is being acquired)
[X] Utility Information Sheet
[ ] Railroad Information Sheet

RIGHT OF WAY DATA SHEET

TO: Office of Design South Peninsula Date 12/10/2024 D.S. # 7867
Dist. 04 Co. SM Rte 1 PM 17.9-18.2
EA 0Q010 (0418000035)
ATTN: Kelsey Kress Project Description: SHOPP 201.113
District Branch Chief Seismic Restoration at San Gregorio Creek Bridge

SUBJECT: Right of Way Data - Alternate No.

1. Right of Way Cost Estimate:

		Current Value (Future Use)	Escalation Rate	Escalated Value
A.	Acquisition, including Excess Lands, Damages, and Goodwill	$0.00	%	$0.00
	Permits			$430,000.00
	Environmental Mitigation			$1,347,000.00
	Grantor's Appraisal Cost			$0.00
B.	Utility Relocation (State Share)	$5,000.00	%	$5,000.00
C.	Railroad (from page 6)			$0.00
D.	Relocation Assistance	$0.00	%	$0.00
E.	Clearance Demolition	$0.00	%	$0.00
F.	Title and Escrow Fees	$0.00	%	$0.00
G.	TOTAL ESCALATED VALUE			$1,782,000.00
H.	Construction Contract Work	$0.00		
I.	Railroad Phase 4 Costs	$0.00		
J.	Utility Phase 4 Costs	$0.00		

2. Anticipated Date of Right of Way Certification 4/1/2026

3. Parcel Data:

	Type	Dual/Appr
X		
A		
B		
C		
D		
E	XXXX	
F	XXXX	
Total	0	

Utilities Involvements	
Utility Verification	7
Positive Identification	5
Utility Relocation	0
Other (Specify)	0

RR Involvements	
None	X
C&M Agrmt	
R/W Agrmt	
Design	
Const.	
Lic/RE/Clauses	
Misc R/W Work	
RAP Displ	0
Clear Demo	0
Const. Permits	0
Condemnation	0

Areas: Right of Way _____ No. Excess Parcels ___ Excess _____

4. Are there any major items of construction contract work?
Yes ☐ No ☑ (If yes, explain)

5. Provide a general description of the right of way and excess lands required(zoning, use, major improvements critical or sensitive parcels, etc.).
No right of way required. ☑
Per request memo, all work to take place within existing right of way.

6. Is there an effect on assessed valuation? (If yes explain)
Yes ☐ Not Significant ☐ No ☑

7. Are utility facilities or rights of way affected? Yes ☑ No ☐
(If yes, attach Utility Information Sheet Exhibit 01-01-05)

8. Are railroad facilities or rights of way affected? Yes ☐ No ☑
(If yes, attach Railroad Information Sheet Exhibit 01-01-06)

9. Were any previously unidentified sites with hazardous waste and/or material found?
Yes ☐ None evident ☑
(If yes, attach memorandum per Procedural Handbook Volume 1, Section 101.011)

10. Are RAP displacements required? Yes ☐ No ☑
(If yes, provide the following information)

No. of personal property relocations _____

No. of single family _____ No. of business/non profit _____

No. of multi-family _____ No. of farms _____

Based on Draft / Final Relocation Impact Statement / Study dated_____ , it is anticipated that sufficient replacement housing will / will not be available without Last Resort Housing.

11. Are material borrow and / or disposal sites required? Yes ☐ No ☑
(If yes, explain)

12. Are there potential relinquishments / abandonments? Yes ☐ No ☑
(If yes, explain)

13. Are there any existing and/or potential Airspace sites? Yes ☐ No ☑
(If yes, explain)

14. Are there Permit Fees? Yes ☑ No ☐
(If yes, explain)
$430,000 in permit fees, per request memo.

15. Are there Environmental Mitigation Costs? Yes ☑ No ☐
(If yes, explain)
$1,347,000 in mitigation costs, per request memo.

16. Indicate the anticipated Right of Way schedule and lead time requirements.
Based on the R/W Requirements on Page 1 of this Data Sheet, R/W will require a lead time of 6 months from the date regular appraisals can begin to project certification.

17. Is it anticipated that all Right of Way work be performed by CALTRANS staff?
Yes ☑ No ☐ (If no, discuss)

Assumptions and Limiting Conditions

- This data sheet was completed without a hazardous waste/materials report.

- Information on this data sheet was based on maps provided by Kelsey Kress on 11/13/2024

Evaluation Prepared By: Sean Molloy

Right of Way: Name Dan Asprogerakas Date 12/04/2024

Railroad: Name Alden Chalk Date 12/04/2024

Utilities: Name [signature] Date 12/04/2024

Recommended for Approval:

[signature]
Right of Way Capital Cost Coordinator

I have personally reviewed this Right of Way Data Sheet and all supporting information. It is my opinion that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper subject to the limiting conditions set fourth, and find this Data Sheet complete and current.

[signature]
Chief, R/W Appraisal Services

12/04/2024
Date

cc: Program Manager
Project Manger

UTILITY INFORMATION SHEET

1. Utility owners located within project limits:
PG&E (electric and gas), AT&T, Comcast, Verizon, Water, Sewer

2. Facilities potentially impacted by project (if known, include Owners(s) & facility type(s)):
None expected.

3. Anticipated Workload:

7	Utility Verification Required
5	Positive Identification
0	Utility Relocation
0	Other (Specify)

4. Additional information concerning anticipated utility involvements (include limiting conditions and a narative addressing likelihood that conflicts will occur);

_____ Involves possible relocation of electric transmission facilities
(If X'd, Data sheet should be forwarded to environmental)

_____ Utility agreements will be required for this project due to CCW on public utility facilities for all public utility relocations and adjustments, including but not limited to, manhole cover adjustments to grade (unless determined & specified in writing by the Utility Engineering Workgroup (UEW) that none are required for this project). A minimum lead-time of 12 months from PA&ED to RWC is needed to secure the utility agreement(s) and specifications as required for the RWC and PS&E milestones. Leadtime requires that UEW provide RW Utilities with a conflict memo and maps no later than the PA&ED milestone.

5. Estimated Costs:

Positive Identification $ 5000.00

Estimated 5 POS-LOC

Utility Relocation $ 0.00

None anticipated.

Phase 4* $ 0.00

None anticipated.

*not apart of page 1 total

ESTIMATED STATE SHARE OF COSTS $ 5,000.00

Prepared by: Latorya Young

Latorya Young
Right of Way Utility Coordinator

12/04/2024
Date

Attachment F
Final Initial Study / Environmental Assessment

San Gregorio Creek Bridge Project

SAN MATEO COUNTY, CALIFORNIA
DISTRICT 4 – SM – 1 (PM 17.4/18.2)
0Q010/0418000035

Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

May 2025

GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact (IS/EA) (MND/FONSI), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Mateo County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures. The Draft Initial Study/Environmental Assessment (IS/EA) circulated to the public for 30 days between February 5, 2025, and March 7, 2025. Comments received during this period are included in Section 4.3 of this document. Changes to the document made since the draft document circulation are shown with a line in the margin. Minor editorial changes and clarifications are not shown. Additional copies of this document and the related technical studies are available for review at Caltrans District 4 111 Grand Avenue Oakland, CA 94623. This document may be downloaded at the following website: www.caltransd4environmental.com.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Attn: Jeneane Crawford, P.O. Box 23660, MS 8B, Oakland, CA 94623-0660; (510) 390-3253 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711. The interactive web-based platform will also display the document text based on the language settings of your web browser. This can be accessed at http://www.caltransd4environmental.com.

4-SM-1-PM 17.4/18.2
EA No. 04-0Q010
Project No. 0418000035
SCH # 2025020198

Seismic Restoration of the San Gregorio Creek Bridge on State Route 1 in Unincorporated San Mateo County from Post mile 17.4 to Post mile 18.2

Initial Study with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agencies: U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service

Responsible Agencies: California Transportation Commission, California Coastal Commission, San Mateo County, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Wildlife

05/05/2025

Dina A. El-Tawansy
District Director
Caltrans District 4
CEQA/NEPA Lead Agency

Date

The following persons may be contacted for more information about this document:

California Department of Transportation, District 4
Office of Environmental Analysis
Attn: Tanvi Gupta, Environmental Scientist
P.O. Box 23660, MS 8B
Oakland, CA 94623-0660
tanvi.gupta@dot.ca.gov
(510) 421-8378

4-SM-1-PM 17.4/18.2
EA No. 04-0Q010
Project No. 0418000035
SCH # 2025020198

CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

FOR

Seismic restoration of the San Gregorio Creek Bridge on State Route 1 in unincorporated San Mateo County from postmile 17.4 to postmile 18.2

The California Department of Transportation (Caltrans) has determined that Alternative 2 with Option A will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

05/05/2025

Dina A. El-Tawansy
District Director
Caltrans District 4
CEQA/NEPA Lead Agency

Date

4-SM-1-PM 17.4/18.2
EA No. 04-0Q010
Project No. 0418000035
SCH # 2025020198

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes a seismic restoration of the San Gregorio Creek Bridge (Bridge Number 35-0030) on State Route (SR) 1 (also known as Cabrillo Highway or Highway 1) in unincorporated San Mateo County from post mile (PM) 17.40 to PM 18.20, just south of SR 84. Alternatives under consideration include retrofitting the existing bridge or replacing the existing bridge with a new bridge featuring pedestrian and bicycle facilities.

Determination

Caltrans has prepared an Initial Study for this project, and following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have no effect on agriculture and forest resources, air quality, mineral resources, population and housing, public services, and recreation.
- In addition, the proposed project would have less than significant effects to aesthetics, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, transportation, tribal cultural resources, utilities and service systems, and wildfire.
- With the implementation of mitigation measures MM-BIO-1 (Compensatory Mitigation for Wetlands) and MM-BIO-2 (Compensatory Mitigation for Special-Status Species) incorporated, the proposed project would have less than significant effects to biological resources.

Dina A. El-Tawansy
District Director
Caltrans District 4
CEQA/NEPA Lead Agency

05/05/2025
Date

Attachment G
Bridge Life-Cycle Cost Analysis

BRIDGE LIFE-CYCLE COST ANALYSIS

Life-Cycle Period (years)	75	EA:	04-0Q010	Date	1/27/2025
Real Discount Rate*	4.00%	EFIS:		Prepared By:	Long Ly
				Checked By:	

			Alt 1 Column Casing, Barrier, Paint Truss			Alt 2A Replacement (CIP)		
A. INITIAL COST								
Year	**PV Factor**	**Work Description**	**Amount**	**Present Value**		**Work Description**	**Amount**	**Present Value**
0	1.00000	Column Casing, Chloride Extraction	$ 17,152,000	$ 17,152,000		Bridge Replacement (CIP) w/RW	$ 22,444,000	$ 22,444,000
B. SUBSEQUENT BIENNUAL (EVERY 2 YEARS) COSTS								
		Inspection		$ 800		Inspection		$ 800
	Total Subsequent Annual Inspection Costs:			$ 800				$ 800
	Total Subsequent Annual Underwater Costs:			$ 2,000				$ 2,000
	Present Value Factor (P/A):			11.582				11.582
	PRESENT VALUE OF SUBSEQUENT ANNUAL COSTS (Rounded):			**$ 23,000**				**$ 23,000**
C. SUBSEQUENT SINGLE COSTS								
Year	**PV Factor (P/F)**	**Work Description**	**Amount**	**Present Value**		**Work Description**	**Amount**	**Present Value**
1	0.96154			$ -				$ -
2	0.92456			$ -				$ -
3	0.88900			$ -				$ -
4	0.85480			$ -				$ -
5	0.82193	Bridge Painting (cables, brackets, b	$ 285,000	$ 234,249				$ -
6	0.79031			$ -				$ -
7	0.75992			$ -				$ -
8	0.73069			$ -				$ -
9	0.70259			$ -				$ -
10	0.67556	Bridge Painting (cables, brackets, b	$ 285,000	$ 192,536				$ -
11	0.64958			$ -				$ -
12	0.62460			$ -				$ -
13	0.60057			$ -				$ -
14	0.57748			$ -				$ -
15	0.55526	Bridge Painting (cables, brackets, b	$ 285,000	$ 158,250				$ -
16	0.53391			$ -				$ -
17	0.51337			$ -				$ -
18	0.49363			$ -				$ -
19	0.47464			$ -				$ -
20	0.45639	Bridge Replacement (CIP)	$ 22,444,000	$ 10,243,149		Methacrylate & Joint Seals	$ 414,457	$ 189,153
21	0.43883			$ -				$ -
22	0.42196			$ -				$ -
23	0.40573			$ -				$ -
24	0.39012			$ -				$ -
25	0.37512			$ -				$ -
26	0.36069			$ -				$ -
27	0.34682			$ -				$ -
28	0.33348			$ -				$ -
29	0.32065			$ -				$ -
30	0.30832			$ -		Polyester, Joint Seal	$ 1,512,225	$ 466,247
31	0.29646			$ -				$ -
32	0.28506			$ -				$ -
33	0.27409			$ -				$ -
34	0.26355			$ -				$ -
35	0.25342			$ -				$ -
36	0.24367			$ -				$ -
37	0.23430			$ -				$ -
38	0.22529			$ -				$ -
39	0.21662			$ -				$ -
40	0.20829	Methacrylate & Joint Seals	$ 414,457	$ 86,327				$ -
41	0.20028			$ -				$ -
42	0.19257			$ -				$ -
43	0.18517			$ -				$ -
44	0.17805			$ -				$ -
45	0.17120							$ -
46	0.16461			$ -				$ -
47	0.15828			$ -				$ -
48	0.15219			$ -				$ -
49	0.14634			$ -				$ -
50	0.14071	Polyester, Joint Seal	$ 1,512,225	$ 212,789		Polyester, Joint Seal	$ 1,512,225	$ 212,789
51	0.13530			$ -				$ -
52	0.13010			$ -				$ -
53	0.12509			$ -				$ -
54	0.12028			$ -				$ -
55	0.11566			$ -				$ -
56	0.11121			$ -				$ -
57	0.10693			$ -				$ -
58	0.10282			$ -				$ -
59	0.09886			$ -				$ -
60	0.09506							$ -
61	0.09140			$ -				$ -
62	0.08789			$ -				$ -
63	0.08451			$ -				$ -
64	0.08126			$ -				$ -
65	0.07813			$ -				$ -
66	0.07513			$ -				$ -
67	0.07224			$ -				$ -
68	0.06946			$ -				$ -
69	0.06679			$ -				$ -
70	0.06422	Polyester, Joint Seal	$ 1,512,225	$ 97,114		Polyester, Joint Seal	$ 1,512,225	$ 97,114
71	0.06175			$ -				$ -
72	0.05937			$ -				$ -
73	0.05709			$ -				$ -
74	0.05490			$ -				$ -
75	0.05278	SALVAGE	$ (5,985,067)	$ (315,914)				$ -
	PRESENT VALUE OF SUBSEQUENT SINGLE COSTS (Rounded):			**$ 10,909,000**				**$ 965,000**
D. TOTAL SUBSEQUENT ANNUAL AND SINGLE COSTS (B+C)				**$ 10,932,000**				**$ 988,000**
E. TOTAL SUBSEQUENT COSTS SAVINGS:								**$ 9,944,000**
F. TOTAL PRESENT VALUE COST (A+D)		*Alt 1 total + future maintenance costs*		**$ 28,084,000**		*Alt 2 total + future maintenance costs*		**$ 23,432,000**
TOTAL LIFE-CYCLE SAVINGS:								**$ 4,652,000**

*Based on Alt 1 to Retrofit, then replacing in 20 years due to SLR vs. Alt 2A to Replace w/RWs.

LIFE-CYCLE COST ANALYSIS

Life-Cycle Period (years)	75	EA:	04-0Q010	Date	1/13/2025
Real Discount Rate*	4.00%	EFIS:		Prepared By:	Long Ly
				Checked By:	

			Alt 1 Column Casing, Barrier, Paint Truss (+All Other Costs)			Alt 2B Replacement (Precast) (+All Other Costs)		
A. INITIAL COST								
	Year	**PV Factor**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	0	1.00000	Column Casing, Chloride Extraction	$ 28,175,000	$ 28,175,000	Bridge Replacement (Precast) w/RV	$ 31,348,000	$ 31,348,000
B. SUBSEQUENT BIENNUAL (EVERY 2 YEARS) COSTS								
			Inspection		$ 800	Inspection		$ 800
	Total Subsequent Annual Inspection Costs:				$ 800			$ 800
	Total Subsequent Annual Underwater Costs:				$ 2,000			$ 2,000
	Present Value Factor (P/A):				11.582			11.582
	PRESENT VALUE OF SUBSEQUENT ANNUAL COSTS (Rounded):				**$ 23,000**			**$ 23,000**
C. SUBSEQUENT SINGLE COSTS								
	Year	**PV Factor (P/F)**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	1	0.96154			$ -			$ -
	2	0.92456			$ -			$ -
	3	0.88900			$ -			$ -
	4	0.85480			$ -			$ -
	5	0.82193	Bridge Painting (cables, brackets, b	$ 285,000	$ 234,249			$ -
	6	0.79031			$ -			$ -
	7	0.75992			$ -			$ -
	8	0.73069			$ -			$ -
	9	0.70259			$ -			$ -
	10	0.67556	Bridge Painting (cables, brackets, b	$ 285,000	$ 192,536			$ -
	11	0.64958			$ -			$ -
	12	0.62460			$ -			$ -
	13	0.60057			$ -			$ -
	14	0.57748			$ -			$ -
	15	0.55526	Bridge Painting (cables, brackets, b	$ 285,000	$ 158,250			$ -
	16	0.53391			$ -			$ -
	17	0.51337			$ -			$ -
	18	0.49363			$ -			$ -
	19	0.47464			$ -			$ -
	20	0.45639	Bridge Replacement (Precast)	$ 31,348,000	$ 14,306,818	Methacrylate & Joint Seals	$ 414,457	$ 189,153
	21	0.43883			$ -			$ -
	22	0.42196			$ -			$ -
	23	0.40573			$ -			$ -
	24	0.39012			$ -			$ -
	25	0.37512			$ -			$ -
	26	0.36069			$ -			$ -
	27	0.34682			$ -			$ -
	28	0.33348			$ -			$ -
	29	0.32065			$ -			$ -
	30	0.30832			$ -	Polyester, Joint Seal	$ 1,512,225	$ 466,247
	31	0.29646			$ -			$ -
	32	0.28506			$ -			$ -
	33	0.27409			$ -			$ -
	34	0.26355			$ -			$ -
	35	0.25342			$ -			$ -
	36	0.24367			$ -			$ -
	37	0.23430			$ -			$ -
	38	0.22529			$ -			$ -
	39	0.21662			$ -			$ -
	40	0.20829	Methacrylate & Joint Seals	$ 414,457	$ 86,327			$ -
	41	0.20028			$ -			$ -
	42	0.19257			$ -			$ -
	43	0.18517			$ -			$ -
	44	0.17805			$ -			$ -
	45	0.17120						$ -
	46	0.16461			$ -			$ -
	47	0.15828			$ -			$ -
	48	0.15219			$ -			$ -
	49	0.14634			$ -			$ -
	50	0.14071	Polyester, Joint Seal	$ 1,512,225	$ 212,789	Polyester, Joint Seal	$ 1,512,225	$ 212,789
	51	0.13530			$ -			$ -
	52	0.13010			$ -			$ -
	53	0.12509			$ -			$ -
	54	0.12028			$ -			$ -
	55	0.11566			$ -			$ -
	56	0.11121			$ -			$ -
	57	0.10693			$ -			$ -
	58	0.10282			$ -			$ -
	59	0.09886			$ -			$ -
	60	0.09506						$ -
	61	0.09140			$ -			$ -
	62	0.08789			$ -			$ -
	63	0.08451			$ -			$ -
	64	0.08126			$ -			$ -
	65	0.07813			$ -			$ -
	66	0.07513			$ -			$ -
	67	0.07224			$ -			$ -
	68	0.06946			$ -			$ -
	69	0.06679			$ -			$ -
	70	0.06422	Polyester, Joint Seal	$ 1,512,225	$ 97,114	Polyester, Joint Seal	$ 1,512,225	$ 97,114
	71	0.06175			$ -			$ -
	72	0.05937			$ -			$ -
	73	0.05709			$ -			$ -
	74	0.05490			$ -			$ -
	75	0.05278	SALVAGE	$ (8,359,467)	$ (441,243)			$ -
	PRESENT VALUE OF SUBSEQUENT SINGLE COSTS (Rounded):				**$ 14,847,000**			**$ 965,000**
D.	**TOTAL SUBSEQUENT ANNUAL AND SINGLE COSTS (B+C)**				**$ 14,870,000**			**$ 988,000**
E.	**TOTAL SUBSEQUENT COSTS SAVINGS:**							**$ 13,882,000**
F.	**TOTAL PRESENT VALUE COST (A+D)**		*Alt 1 total + future maintenance costs*		**$ 43,045,000**	*Alt 2 total + future maintenance costs*		**$ 32,336,000**
TOTAL LIFE-CYCLE SAVINGS:								**$ 10,709,000**

*Based on Alt 1 to Retrofit (include all other costs), then replacing in 20 years due to SLR vs. Alt 2B to Replace w/RWs (include all other costs).

BRIDGE LIFE-CYCLE COST ANALYSIS

Life-Cycle Period (years)	75	EA:	04-0Q010	Date	11/21/2024
Real Discount Rate*	4.00%	EFIS:		Prepared By:	Long Ly
				Checked By:	

			Alt 1 Column Casing, Barrier, Paint Truss			Alt 2B Replacement (Precast)		
A.	**INITIAL COST**							
	Year	**PV Factor**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	0	1.00000	Column Casing, Chloride Extraction	$ 28,175,000	$ 28,175,000	Bridge Replacement (Precast) w/RW	$ 31,348,000	$ 31,348,000
B.	**SUBSEQUENT BIENNUAL (EVERY 2 YEARS) COSTS**							
			Inspection		$ 800	Inspection		$ 800
	Total Subsequent Annual Inspection Costs:				$ 800			$ 800
	Total Subsequent Annual Underwater Costs:				$ 2,000			$ 2,000
	Present Value Factor (P/A):				11.582			11.582
	PRESENT VALUE OF SUBSEQUENT ANNUAL COSTS (Rounded):				**$ 23,000**			**$ 23,000**
C.	**SUBSEQUENT SINGLE COSTS**							
	Year	**PV Factor (P/F)**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	1	0.96154			$ -			$ -
	2	0.92456			$ -			$ -
	3	0.88900			$ -			$ -
	4	0.85480			$ -			$ -
	5	0.82193	Bridge Painting (cables, brackets, b	$ 285,000	$ 234,249			$ -
	6	0.79031			$ -			$ -
	7	0.75992			$ -			$ -
	8	0.73069			$ -			$ -
	9	0.70259			$ -			$ -
	10	0.67556	Bridge Painting (cables, brackets, b	$ 285,000	$ 192,536			$ -
	11	0.64958			$ -			$ -
	12	0.62460			$ -			$ -
	13	0.60057			$ -			$ -
	14	0.57748			$ -			$ -
	15	0.55526	Bridge Painting (cables, brackets, b	$ 285,000	$ 158,250			$ -
	16	0.53391			$ -			$ -
	17	0.51337			$ -			$ -
	18	0.49363			$ -			$ -
	19	0.47464			$ -			$ -
	20	0.45639	Bridge Replacement (Precast) SLR	$ 31,348,000	$ 14,306,818	Jacking Bridge, Meth, Joints (SLR) A	$ 17,658,457	$ 8,059,089
	21	0.43883			$ -			$ -
	22	0.42196			$ -			$ -
	23	0.40573			$ -			$ -
	24	0.39012			$ -			$ -
	25	0.37512			$ -			$ -
	26	0.36069			$ -			$ -
	27	0.34682			$ -			$ -
	28	0.33348			$ -			$ -
	29	0.32065			$ -			$ -
	30	0.30832			$ -	Polyester, Joint Seal	$ 1,512,225	$ 466,247
	31	0.29646			$ -			$ -
	32	0.28506			$ -			$ -
	33	0.27409			$ -			$ -
	34	0.26355			$ -			$ -
	35	0.25342			$ -			$ -
	36	0.24367			$ -			$ -
	37	0.23430			$ -			$ -
	38	0.22529			$ -			$ -
	39	0.21662			$ -			$ -
	40	0.20829	Methacrylate & Joint Seals	$ 414,457	$ 86,327			$ -
	41	0.20028			$ -			$ -
	42	0.19257			$ -			$ -
	43	0.18517			$ -			$ -
	44	0.17805			$ -			$ -
	45	0.17120						$ -
	46	0.16461			$ -			$ -
	47	0.15828			$ -			$ -
	48	0.15219			$ -			$ -
	49	0.14634			$ -			$ -
	50	0.14071	Polyester, Joint Seal	$ 1,512,225	$ 212,789	Polyester, Joint Seal	$ 1,512,225	$ 212,789
	51	0.13530			$ -			$ -
	52	0.13010			$ -			$ -
	53	0.12509			$ -			$ -
	54	0.12028			$ -			$ -
	55	0.11566			$ -			$ -
	56	0.11121			$ -			$ -
	57	0.10693			$ -			$ -
	58	0.10282			$ -			$ -
	59	0.09886			$ -			$ -
	60	0.09506						$ -
	61	0.09140			$ -			$ -
	62	0.08789			$ -			$ -
	63	0.08451			$ -			$ -
	64	0.08126			$ -			$ -
	65	0.07813			$ -			$ -
	66	0.07513			$ -			$ -
	67	0.07224			$ -			$ -
	68	0.06946			$ -			$ -
	69	0.06679			$ -			$ -
	70	0.06422	Polyester, Joint Seal	$ 1,512,225	$ 97,114	Polyester, Joint Seal	$ 1,512,225	$ 97,114
	71	0.06175			$ -			$ -
	72	0.05937			$ -			$ -
	73	0.05709			$ -			$ -
	74	0.05490			$ -			$ -
	75	0.05278	SALVAGE (20 yrs remaining since b	$ (8,359,467)	$ (441,243)			
	PRESENT VALUE OF SUBSEQUENT SINGLE COSTS (Rounded):				**$ 14,847,000**			**$ 8,835,000**
D.	**TOTAL SUBSEQUENT ANNUAL AND SINGLE COSTS (B+C)**				**$ 14,870,000**			**$ 8,858,000**
E.	**TOTAL SUBSEQUENT COSTS SAVINGS:**							**$ 6,012,000**
F.	**TOTAL PRESENT VALUE COST (A+D)**		*Alt 1 total + future maintenance costs*		**$ 43,045,000**	*Alt 2 total + future maintenance costs*		**$ 40,206,000**
TOTAL LIFE-CYCLE SAVINGS:								**$ 2,839,000**

*Based on Alt 1 to Retrofit, then replacing in 20 years due to SLR vs. Alt 2B to Replace w/RWs, then replacing it in 20 years due to SLR by Jacking bridge & including other costs.

BRIDGE LIFE-CYCLE COST ANALYSIS

Life-Cycle Period (years)	75	EA:	04-0Q010
Real Discount Rate*	4.00%	EFIS:	
		Date	11/21/2024
		Prepared By:	Long Ly
		Checked By:	

			Alt 1 Column Casing, Barrier, Paint Truss			Alt 2B Replacement (Precast)		
A.	**INITIAL COST**							
	Year	**PV Factor**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	0	1.00000	Column Casing, Chloride Extraction	$ 17,152,000	$ 17,152,000	Bridge Replacement (Precast) w/RV	$ 15,354,000	$ 15,354,000
B.	**SUBSEQUENT BIENNUAL (EVERY 2 YEARS) COSTS**							
			Inspection		$ 800	Inspection		$ 800
	Total Subsequent Annual Inspection Costs:				$ 800			$ 800
	Total Subsequent Annual Underwater Costs:				$ 2,000			$ 2,000
	Present Value Factor (P/A):				11.582			11.582
	PRESENT VALUE OF SUBSEQUENT ANNUAL COSTS (Rounded):				**$ 23,000**			**$ 23,000**
C.	**SUBSEQUENT SINGLE COSTS**							
	Year	**PV Factor (P/F)**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	1	0.96154			$ -			$ -
	2	0.92456			$ -			$ -
	3	0.88900			$ -			$ -
	4	0.85480			$ -			$ -
	5	0.82193	Bridge Painting (cables, brackets, b	$ 285,000	$ 234,249			$ -
	6	0.79031			$ -			$ -
	7	0.75992			$ -			$ -
	8	0.73069			$ -			$ -
	9	0.70259			$ -			$ -
	10	0.67556	Bridge Painting (cables, brackets, b	$ 285,000	$ 192,536			$ -
	11	0.64958			$ -			$ -
	12	0.62460			$ -			$ -
	13	0.60057			$ -			$ -
	14	0.57748			$ -			$ -
	15	0.55526	Bridge Painting (cables, brackets, b	$ 285,000	$ 158,250			$ -
	16	0.53391			$ -			$ -
	17	0.51337			$ -			$ -
	18	0.49363			$ -			$ -
	19	0.47464			$ -			$ -
	20	0.45639	Bridge Replacement (Precast) Sea-L	$ 15,354,000	$ 7,007,365	Jacking Bridge, Meth, Joints (SLR)	$ 1,664,457	$ 759,636
	21	0.43883			$ -			$ -
	22	0.42196			$ -			$ -
	23	0.40573			$ -			$ -
	24	0.39012			$ -			$ -
	25	0.37512			$ -			$ -
	26	0.36069			$ -			$ -
	27	0.34682			$ -			$ -
	28	0.33348			$ -			$ -
	29	0.32065			$ -			$ -
	30	0.30832			$ -	Polyester, Joint Seal	$ 1,512,225	$ 466,247
	31	0.29646			$ -			$ -
	32	0.28506			$ -			$ -
	33	0.27409			$ -			$ -
	34	0.26355			$ -			$ -
	35	0.25342			$ -			$ -
	36	0.24367			$ -			$ -
	37	0.23430			$ -			$ -
	38	0.22529			$ -			$ -
	39	0.21662			$ -			$ -
	40	0.20829	Methacrylate & Joint Seals	$ 414,457	$ 86,327			
	41	0.20028			$ -			$ -
	42	0.19257			$ -			$ -
	43	0.18517			$ -			$ -
	44	0.17805			$ -			$ -
	45	0.17120						$ -
	46	0.16461			$ -			$ -
	47	0.15828			$ -			$ -
	48	0.15219			$ -			$ -
	49	0.14634			$ -			$ -
	50	0.14071	Polyester, Joint Seal	$ 1,512,225	$ 212,789	Polyester, Joint Seal	$ 1,512,225	$ 212,789
	51	0.13530			$ -			$ -
	52	0.13010			$ -			$ -
	53	0.12509			$ -			$ -
	54	0.12028			$ -			$ -
	55	0.11566			$ -			$ -
	56	0.11121			$ -			$ -
	57	0.10693			$ -			$ -
	58	0.10282			$ -			$ -
	59	0.09886			$ -			$ -
	60	0.09506						$ -
	61	0.09140			$ -			$ -
	62	0.08789			$ -			$ -
	63	0.08451			$ -			$ -
	64	0.08126			$ -			$ -
	65	0.07813			$ -			$ -
	66	0.07513			$ -			$ -
	67	0.07224			$ -			$ -
	68	0.06946			$ -			$ -
	69	0.06679			$ -			$ -
	70	0.06422	Polyester, Joint Seal	$ 1,512,225	$ 97,114	Polyester, Joint Seal	$ 1,512,225	$ 97,114
	71	0.06175			$ -			$ -
	72	0.05937			$ -			$ -
	73	0.05709			$ -			$ -
	74	0.05490			$ -			$ -
	75	0.05278	SALVAGE	$ (4,094,400)	$ (216,117)			
	PRESENT VALUE OF SUBSEQUENT SINGLE COSTS (Rounded):				**$ 7,773,000**			**$ 1,536,000**
D.	**TOTAL SUBSEQUENT ANNUAL AND SINGLE COSTS (B+C)**				**$ 7,796,000**			**$ 1,559,000**
E.	**TOTAL SUBSEQUENT COSTS SAVINGS:**							**$ 6,237,000**
F.	**TOTAL PRESENT VALUE COST (A+D)**		*Alt 1 total + future maintenance costs*		**$ 24,948,000**	*Alt 2 total + future maintenance costs*		**$ 16,913,000**
TOTAL LIFE-CYCLE SAVINGS:								**$ 8,035,000**

*Based on Alt 1 to Retrofit, then replacing in 20 years due to SLR vs. Alt 2B to Replace w/RWs, then replacing it in 20 years due to SLR by Jacking bridge & including other costs.

BRIDGE LIFE-CYCLE COST ANALYSIS

Life-Cycle Period (years)	75	EA:	04-0Q010	Date	11/21/2024
Real Discount Rate*	4.00%	EFIS:		Prepared By:	Long Ly
				Checked By:	

			Alt 1 Column Casing, Barrier, Paint Truss			Alt 2B Replacement (Precast)		
A.	**INITIAL COST**							
	Year	**PV Factor**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	0	1.00000	Column Casing, Chloride Extraction	$ 17,152,000	$ 17,152,000	Bridge Replacement (Precast) w/RV	$ 15,354,000	$ 15,354,000
B.	**SUBSEQUENT BIENNUAL (EVERY 2 YEARS) COSTS**							
			Inspection		$ 800	Inspection		$ 800
	Total Subsequent Annual Inspection Costs:				$ 800			$ 800
	Total Subsequent Annual Underwater Costs:				$ 2,000			$ 2,000
	Present Value Factor (P/A):				11.582			11.582
	PRESENT VALUE OF SUBSEQUENT ANNUAL COSTS (Rounded):				**$ 23,000**			**$ 23,000**
C.	**SUBSEQUENT SINGLE COSTS**							
	Year	**PV Factor (P/F)**	**Work Description**	**Amount**	**Present Value**	**Work Description**	**Amount**	**Present Value**
	1	0.96154			$ -			$ -
	2	0.92456			$ -			$ -
	3	0.88900			$ -			$ -
	4	0.85480			$ -			$ -
	5	0.82193	Bridge Painting (cables, brackets, b	$ 285,000	$ 234,249			$ -
	6	0.79031			$ -			$ -
	7	0.75992			$ -			$ -
	8	0.73069			$ -			$ -
	9	0.70259			$ -			$ -
	10	0.67556	Bridge Painting (cables, brackets, b	$ 285,000	$ 192,536			$ -
	11	0.64958			$ -			$ -
	12	0.62460			$ -			$ -
	13	0.60057			$ -			$ -
	14	0.57748			$ -			$ -
	15	0.55526	Bridge Painting (cables, brackets, b	$ 285,000	$ 158,250			$ -
	16	0.53391			$ -			$ -
	17	0.51337			$ -			$ -
	18	0.49363			$ -			$ -
	19	0.47464			$ -			$ -
	20	0.45639	Bridge Replacement (Precast)	$ 15,354,000	$ 7,007,365	Methacrylate & Joint Seals	$ 414,457	$ 189,153
	21	0.43883			$ -			$ -
	22	0.42196			$ -			$ -
	23	0.40573			$ -			$ -
	24	0.39012			$ -			$ -
	25	0.37512			$ -			$ -
	26	0.36069			$ -			$ -
	27	0.34682			$ -			$ -
	28	0.33348			$ -			$ -
	29	0.32065			$ -			$ -
	30	0.30832			$ -	Polyester, Joint Seal	$ 1,512,225	$ 466,247
	31	0.29646			$ -			$ -
	32	0.28506			$ -			$ -
	33	0.27409			$ -			$ -
	34	0.26355			$ -			$ -
	35	0.25342			$ -			$ -
	36	0.24367			$ -			$ -
	37	0.23430			$ -			$ -
	38	0.22529			$ -			$ -
	39	0.21662			$ -			$ -
	40	0.20829	Methacrylate & Joint Seals	$ 414,457	$ 86,327			$ -
	41	0.20028			$ -			$ -
	42	0.19257			$ -			$ -
	43	0.18517			$ -			$ -
	44	0.17805			$ -			$ -
	45	0.17120						$ -
	46	0.16461			$ -			$ -
	47	0.15828			$ -			$ -
	48	0.15219			$ -			$ -
	49	0.14634			$ -			$ -
	50	0.14071	Polyester, Joint Seal	$ 1,512,225	$ 212,789	Polyester, Joint Seal	$ 1,512,225	$ 212,789
	51	0.13530			$ -			$ -
	52	0.13010			$ -			$ -
	53	0.12509			$ -			$ -
	54	0.12028			$ -			$ -
	55	0.11566			$ -			$ -
	56	0.11121			$ -			$ -
	57	0.10693			$ -			$ -
	58	0.10282			$ -			$ -
	59	0.09886			$ -			$ -
	60	0.09506						$ -
	61	0.09140			$ -			$ -
	62	0.08789			$ -			$ -
	63	0.08451			$ -			$ -
	64	0.08126			$ -			$ -
	65	0.07813			$ -			$ -
	66	0.07513			$ -			$ -
	67	0.07224			$ -			$ -
	68	0.06946			$ -			$ -
	69	0.06679			$ -			$ -
	70	0.06422	Polyester, Joint Seal	$ 1,512,225	$ 97,114	Polyester, Joint Seal	$ 1,512,225	$ 97,114
	71	0.06175			$ -			$ -
	72	0.05937			$ -			$ -
	73	0.05709			$ -			$ -
	74	0.05490			$ -			$ -
	75	0.05278	SALVAGE	$ (4,094,400)	$ (216,117)			$ -
	PRESENT VALUE OF SUBSEQUENT SINGLE COSTS (Rounded):				**$ 7,773,000**			**$ 965,000**
D.	**TOTAL SUBSEQUENT ANNUAL AND SINGLE COSTS (B+C)**				**$ 7,796,000**			**$ 988,000**
E.	**TOTAL SUBSEQUENT COSTS SAVINGS:**							**$ 6,808,000**
F.	**TOTAL PRESENT VALUE COST (A+D)**		*Alt 1 total + future maintenance costs*		**$ 24,948,000**	*Alt 2 total + future maintenance costs*		**$ 16,342,000**
TOTAL LIFE-CYCLE SAVINGS:								**$ 8,606,000**

*Based on Alt 1 to Retrofit, then replacing in 20 years due to SLR vs. Alt 2B to Replace w/RWs.

Attachment H
Transportation Management Plan
Data Sheet

TRANSPORTATION MANAGEMENT PLAN DATA SHEET
(Preliminary TMP Elements and Costs)

Co/Rte/PM SM-001-17.9/18.0 EA 0Q010 Project ID 0418000035 Engineer Kelsey Kress

Project Limits: San Mateo County in San Gregorio on Route 1 at San Gregorio Creek Bridge #35-0030

Project Description: Alternative 2: Replacement of San Gregorio Creek Bridge (Br. No. 05-0030) with new alignment and installation of retaining walls.

1) Public Information

- ☐ a. Brochures and Mailers $
- ☐ b. Press Release
- ☐ c. Paid Advertising $
- ☐ d. Public Information Center/Kiosk $
- ☐ e. Public Meeting/Speakers Bureau
- ☐ f. Telephone Hotline
- ☐ g. Internet, E-mail
- ☐ h. Notification to impacted groups (i.e. bicycle users, pedestrians with disabilities, others...)
- ☒ i. Others As determined by PIO $ 10,000

2) Traveler Information Strategies

- ☐ a. Changeable Message Signs (Fixed) $
- ☒ b. Changeable Message Signs (Portable) $ 100,000
- ☐ c. Ground Mounted Signs $
- ☐ d. Highway Advisory Radio $
- ☐ e. Caltrans Highway Information Network (CHIN)
- ☐ f. Detour maps (i.e. bicycle, vehicle, pedestrian...etc)
- ☐ g. Revised Transit Schedules/maps
- ☐ h. Bicycle community information
- ☐ i. Others $

3) Incident Management

- ☒ a. Construction Zone Enhanced Enforcement Program (COZEEP) $ 1,503,000
- ☐ b. Construction Tow Services $
- ☐ c. Traffic Management Team
- ☐ d. Helicopter Surveillance $
- ☐ e. Traffic Surveillance Stations (Loop Detector and CCTV) $
- ☐ f. Others _____ $

4) Construction Strategies

- ☒ a. Lane Closure Chart
- ☒ b. Reversible Lanes
- ☐ c. Total Facility Closure
- ☐ d. Contra Flow
- ☐ e. Truck Traffic Restrictions $
- ☐ f. Reduced Speed Zone $
- ☐ g. Connector and Ramp Closures
- ☐ h. Incentive and Disincentive $
- ☐ i. Moveable Barrier $
- ☒ j. Maintain Traffic $ 3,000
- ☐ k. Others _____ $

5) Demand Management

- ☐ a. HOV Lanes/Ramps (New or Convert) $
- ☐ b. Park and Ride Lots $
- ☐ c. Rideshare Incentives $
- ☐ d. Variable Work Hours
- ☐ e. Telecommute
- ☐ f. Ramp Metering (Temporary Installation) $
- ☐ g. Ramp Metering (Modify Existing) $
- ☐ h. Others _____ $

6) Alternate Route Strategies

- ☐ a. Add Capacity to Freeway Connector $ _____
- ☐ b. Street Improvement (widening, traffic signal... etc) $ _____
- ☐ c. Traffic Control Officers $ _____
- ☐ d. Parking Restrictions
- ☐ e. Others _____ $ _____

7) Other Strategies

- ☐ a. Application of New Technology $ _____
- ☐ b. Others _____ $ _____

TOTAL ESTIMATED COST OF TMP ELEMENTS = $ 1,616,000

**Please note that any change in project scope, schedule, or cost will require re-submittal of TMP Data Sheet request.*

PREPARED BY Stan Kung DATE 5/9/2024

APPROVAL RECOMMENDED BY Lance Hall DATE 5/9/2024

Attachment I
SHOPP Performance Measures

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 04 **Tool ID:** 11357 **Project ID:** 0418000035 **EA:** 0Q010 **Co-Rte-PM:** SM-001-17.9/18 (Primary Location) View/Print PIR (Performance) Report

Multi-Objective Worksheet MO | Bridge B | Pavement | Drainage | Facilities | Signs and Lighting | Mobility | Roadside | Bicycle and Pedestrian Infrastructure | Sustainability /Climate Change | Advance Mitigation /Mitigation | Major Damage & Betterments | Green-house Gases | Relinquishment

Performance & Accomplishments (PPC)

	ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - Agree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1	A02	Bridge Replacement/New Construction (201.110, .111, .113, .322)	Bridge and Tunnel Health	Square Feet	16494.000			8439.000	8055.000	8439.000			Yes		02/06/25		
2	A02		Bridge Scour Mitigation				8439.000			8439.000			Yes		02/06/25		
3	A02		Bridge Seismic Restoration					8439.000		8439.000			Yes		02/06/25		
4	A02		Bridge Goods Movement Upgrades			8439.000				8439.000			Yes		02/06/25		
5	A03	Bridge Rail (201.112)	Bridge Rail Replacement and Upgrade	Linear Feet	610.000			610.000		610.000			Yes		02/06/25		
6	A08	Number of Bridges	No Performance Objective in the SHSMP	Each	1.000								Yes		02/06/25		
7	E23	Collisions Reduced (201.015)	Collision Severity Reduction	Fatal/Serious Injury Collisions	0.200			0.200		0.200							Project Life: 20 years
8	E55	Proactive Safety Vehicles	Proactive Safety	Annual Fatal & Serious Injury Collisions	0.010			0.010		0.010							
9	H06	Bikeway Class II	No Performance Objective in the SHSMP	Linear Feet	650.000				650.000								
10	H21	Sidewalks (less than 8 feet)	No Performance Objective in the SHSMP	Linear Feet	325.000				325.000								
11	H32	Is any Location Within the Project Limits Ped/Bike Accessible?	No Performance Objective in the SHSMP	Yes/No	Yes												yes, conventional hwy
12	H63	Bicycle and Pedestrian Infrastructure	Bicycle and Pedestrian Infrastructure	Linear Feet	975.000				975.000								
13	N01	Qualitative	No Performance Objective in the SHSMP	-													use local mat'l within local radius

(Last Saved - 02/06/25 @ 9:37 AM by Long Ly)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.113	Bridge - Seismic	Primary	Bridge	1.0	Bridge(s)	Square Feet	0.0	0.0	8,439.0	8,439.0	8,439.0	8,055.0	16,494.0	0.0	0.0	16,494.0

Bridge/Tunnel Number	Pre-Health	Post-Health	Area
35 0030	Poor	Good	8439

Notes:

1. The crosswalk for reporting performance in the "Programming Performance Summary" was developed to assist the districts on performance reporting requirements for CTC and PCRs. For discrepancies or errors, please notify AM Tool admins via e-mail at CT-TAM@dot.ca.gov.
2. The data summarized in the table represents the performance reported or to be reported in CTIPS.
3. Programming only requires the breakdown of Good, Fair and Poor for Primary and Supplementary Asset Classes.
4. Reporting of bridge pre and post conditions may contain errors if the project RTL is before 2024/25.
5. Reporting drainage pre-total and post good may differ whenever projects contain abandoned/removed culverts as the culvert no longer exists at post construction, is deleted from the pre-total value for posting of the post good value, and gets deleted from the statewide CIP inventory database.
6. Reactive Safety projects will temporally use the same performance outputs of Safety Improvement projects. When the reporting requirements for CTC changes, the logic in the AM Tool will change.
7. During the transition to the new Proactive Safety objective, the performance output for projects with a primary activity category of Proactive Safety (under program codes 015, 112, or 235) will continue to be presented here in the units of measure corresponding to the activities historically reported to date. A change in units to "Annual Fatal and Serious Injury Collisions" for future programming requests is being planned.

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 04 **Tool ID:** 11357 **Project ID:** 0418000035 **EA:** 0Q010 **Co-Rte-PM:** SM-001-17.9/18 (Primary Location) View/Print PIR (Performance) Report

Multi-Objective Worksheet | Bridge | Pavement | Drainage | Facilities | Signs and Lighting | Mobility | Roadside | Bicycle and Pedestrian Infrastructure | Sustainability /Climate Change | Advance Mitigation /Mitigation | Major Damage & Betterments | Green-house Gases | Relinquishment

Performance & Accomplishments (PRG)

	ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - Agree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1	A02	Bridge Replacement/New Construction (201.110, .111, .113, .322)	Bridge and Tunnel Health	Square Feet	13515.000			8439.000	5076.000	8439.000							
2	A02		Bridge Scour Mitigation				8439.000			8439.000							
3	A02		Bridge Seismic Restoration					8439.000		8439.000							
4	A02		Bridge Goods Movement Upgrades			8439.000				8439.000							
5	A03	Bridge Rail (201.112)	Bridge Rail Replacement and Upgrade	Linear Feet	610.000			610.000		610.000							
6	A08	Number of Bridges	No Performance Objective in the SHSMP	Each	1.000												
7	H07	Class III Bike Routes	No Performance Objective in the SHSMP	Linear Feet	528.000				528.000								New bridge shoulders in both directions
8	H21	Sidewalks (less than 8 feet)	No Performance Objective in the SHSMP	Linear Feet	265.000				265.000								6-foot wide sidewalk (one direction) on proposed bridge replacement
9	H32	Is any Location Within the Project Limits Ped/Bike Accessible?	No Performance Objective in the SHSMP	Yes/No	Yes												yes, conventional hwy
10	H63	Bicycle and Pedestrian Infrastructure	Bicycle and Pedestrian Infrastructure	Linear Feet	265.000				265.000								
11	N01	Qualitative	No Performance Objective in the SHSMP	-													use local mat'l within local radius

(Last Saved - 09/05/23 @ 3:49 PM by AMT Admin)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.113	Bridge - Seismic	Primary	Bridge	1.0	Bridge(s)	Square Feet	0.0	0.0	8,439.0	8,439.0	8,439.0	5,076.0	13,515.0	0.0	0.0	13,515.0

Bridge/Tunnel Number	Pre-Health	Post-Health	Area
35 0030	Poor	Good	8439

Notes:

1. The crosswalk for reporting performance in the "Programming Performance Summary" was developed to assist the districts on performance reporting requirements for CTC and PCRs. For discrepancies or errors, please notify AM Tool admins via e-mail at CT-TAM@dot.ca.gov.
2. The data summarized in the table represents the performance reported or to be reported in CTIPS.
3. Programming only requires the breakdown of Good, Fair and Poor for Primary and Supplementary Asset Classes.
4. Reporting of bridge pre and post conditions may contain errors if the project RTL is before 2024/25.
5. Reporting drainage pre-total and post good may differ whenever projects contain abandoned/removed culverts as the culvert no longer exists at post construction, is deleted from the pre-total value for posting of the post good value, and gets deleted from the statewide CIP inventory database.
6. Reactive Safety projects will temporally use the same performance outputs of Safety Improvement projects. When the reporting requirements for CTC changes, the logic in the AM Tool will change.
7. During the transition to the new Proactive Safety objective, the performance output for projects with a primary activity category of Proactive Safety (under program codes 015, 112, or 235) will continue to be presented here in the units of measure corresponding to the activities historically reported to date. A change in units to "Annual Fatal and Serious Injury Collisions" for future programming requests is being planned.

Attachment J
Complete Streets Decision Document

Complete Streets Decision Document (CSDD)

1) Is it infeasible to include complete streets improvements because the project is located entirely on a facility where bicyclists and pedestrians are legally prohibited and the project does not involve a shared use path, pedestrian/bicycle structure or work impacting a local road crossing or interchange? (For example, a project including freeway mainline and ramp work, not including the ramp connection with the minor road, where the project freeway segment legally prohibits bicyclists and pedestrians.)

   __X__ NO – Proceed to Question 2
   _____ YES – Stop here. The project is exempt from further complete streets evaluation. Sign and attach to the Project Initiation Document (PID).

2) Is the scope of the primary project not suitable because the purpose is to address assets that are outside of the roadbed where pedestrian and bicycle travel is not affected, and the proposed project will not affect future pedestrian and bicycle facilities? Examples may include culvert outfalls, storm water treatment facilities, bridge substructure or scour mitigation, planting or vegetation removal, retaining walls, etcetera.

   __X__ NO – Continue to Question 3
   _____ YES – Stop here. The project is exempt from further complete streets evaluation. Sign and attach to PID.

3) Has a Transportation Planning Scoping Information Sheet (TPSIS) been completed for this project?

   __X__ NO – Proceed to Question 4
   _____ YES – Skip to Question 5 (Note: TPSIS is attached to the PID)

4) Which of the following planning documents were consulted to determine bicycle, pedestrian or transit needs? Select all that apply and proceed to Question 5.
   - __X__ a. District Active Transportation Plan
   - __X__ b. Other Caltrans or local/regional agency bike/ped/transit/safe routes to school plans
   - _____ c. ADA Transition Plan/Grievances (consult with the District ADA Coordinator)
   - _____ d. Corridor planning documents
   - _____ e. Other (list here) _____

5) Based on the reviews completed in Question 4 or identified in the TPSIS, after a review of the roadway geometrics, or identified by the PDT, are there any bicycle, pedestrian, or transit needs, deficiencies or opportunities for improvement identified for the project location?

   _____ NO – Provide brief description of findings: _____
   Stop here. The project meets the requirements for consideration of Complete Streets elements. Sign and attach to the PID.
   __X__ YES – Describe them here and proceed to Question 6: Planned Class I shared-use path, per Unincorporated San Mateo County Active Transportation Plan and C/CAG Countywide Bicycle and Pedestrian Plan

6) Based on the needs identified in Question 5, what would be the preferred complete streets elements to address those needs (e.g. road diet, separated bikeway, reconstructed sidewalk, etc.)? Resources include the Complete Streets Elements Toolbox, the Contextual Guidance for Bikeway Facility Selection, the Bikeway Facility Selection Guidance Memorandum, etc. List them in the table below and provide a rough estimated cost to construct preferred project complete streets elements (including right-of-way and support costs) and proceed to Question 7.

FACILITY TYPE	UNIT	APPROXIMATE QUANTITY	ESTIMATED TOTAL COST
Class I Path	*LF*	*1,630*	*$2,670,000*

7) Was there any known public and stakeholder opposition to any preferred complete streets elements identified for the project? Provide response and proceed to Question 8.

__X__ NO
_____ YES – Describe the opposition position here: _____

8) Does the programmable project alternative/project scope include all the complete streets elements identified in Question 6?

__X__ NO – Proceed to Question 9
_____ YES – Stop here. The project has met the requirements for consideration of complete streets elements. Sign and attach to PID.

9) Does the project include any of the complete streets elements that are identified in Question 6? Or are there any proposed incremental improvements related to the complete streets elements in Question 6? Provide response and proceed to Question 10.

_____ NO – The programmable project alternative does not include any complete streets elements, and therefore does not address identified needs for complete streets elements.
__X__ YES – List them here:

FACILITY TYPE	UNIT	APPROXIMATE QUANTITY	ESTIMATED TOTAL COST
Class II Bike Ln/8-ft shoulder (San Gregorio Bridge)	*LF*	*650*	*$730,000*
Class II Bike Ln/8-ft shoulder (roadway)	*LF*	*2,060*	*$5,587,000*
Pedestrian Path (San Gregorio Bridge)	*LF*	*325*	*$459,000*

10) Does the project funding have constraints that would preclude the ability to incorporate additional complete streets elements into the project (For example, cannot combine funding with other sources.)? Provide response and proceed to Question 11.

_____ NO
__X__ YES – Describe the constraints here: D4 SHOPP Cycle has significantly exceeded the SHOPP TYP Budget. There is a financial constraint to include costly improvements that do not contribute the performance targets.

11) Provide a rationale and justification for not including all the recommended complete streets elements into the project: (Consider the engineering justification, right-of-way constraints, environmental impacts, etc.). Due to the financial constraint of the 2022 SHOPP, most project reports including 0Q010 are undergoing 10% capital cost cuts, as directed by D4 Management. There is no opportunity to include the recommended Class I Bike Path at this stage, however, the proposed Class II Bikeway will span a longer distance due to the increase in bridge length from the K phase to PA&ED.

Prepared by:

Robert Blanco
Office of Advance Planning, PID II Branch

Concurred by:

Name
District Complete Streets Coordinator

7-6-21
Date

Name
Deputy District Director, Planning

07-08-2021
Date

Name
Deputy District Director, Design or
Division Chief, Design/Project Development

July 12, 2021
Date

Revalidation or supersession of CSDD at PA&ED

Does the project scope defined in the project approval document include the complete streets elements identified in Question 6 or 9 of this CSDD and the PID?

_____ NO – Prepare a superseding CSDD (answer questions 1 through 11) replacing the original CSDD, certify, and obtain concurrence signatures in sequence. Attach the superseding CSDD to the project approval document. Email superseding CSDD to HQ Division of Design at CSDD@dot.ca.gov.
__X__ YES – Certify there are no changes to the scope of complete streets elements with only the project engineer certification signature below on the original approved CSDD and attach the CSDD to the project approval document. Email revalidated CSDD to HQ Division of Design at CSDD@dot.ca.gov.

Certified by:

Samuel Ray, Project Engineer — 04/24/25
Design Peninsula — Date

Concurrence: *(Include concurrence signatures only if a superseding CSDD is prepared.)*

Sergio Ruiz, District Complete Streets Coordinator — Date

Susie Lindsay, Chief, Office of Complete Streets, Headquarters Division of Design — Date

Jean Finney, Deputy District Director, Planning — Date

Wajahat Nyaz, Deputy District Director, Design — Date

Dina El-Tawansy, District Director — Date

Revalidation or supersession of CSDD at PS&E

Does the project scope designed in the plans, specifications and estimate include the complete streets elements identified in Question 6 or 9 of the revalidated CSDD (or superseding CSDD, if applicable) certified at PA&ED and the project approval document?

_____ NO – Prepare a superseding CSDD (answer questions 1 through 11) replacing the CSDD that was revalidated or superseded at PA&ED, certify, and obtain concurrence signatures in sequence. Attach completed superseding CSDD to the supplemental PR. If a supplemental PR is not required, place in the project history file. Email superseding CSDD to HQ Division of Design at CSDD@dot.ca.gov.
_____ YES – Certify there are no changes to scope of complete streets elements in the project, and that temporary bike and pedestrian facilities during construction have been considered. Include only the project engineer certification signature below on the CSDD that was completed at PA&ED and place the CSDD in the project history file. Email revalidated CSDD to HQ Division of Design at CSDD@dot.ca.gov.

Certified by:

_____ _____
Name, Project Engineer Date
Branch/Company

Concurrence: *(Include concurrence signatures only if a superseding CSDD is prepared.)*

_____ _____
Name, District Complete Streets Coordinator Date

_____ _____
Name, Chief, Office of Complete Streets, Date
Headquarters Division of Design

_____ _____
Name, Deputy District Director, Planning Date

_____ _____
Name, Deputy District Director, Design or Date
Division Chief, Design/Project Development

_____ _____
Name, District Director Date

PID Complete Streets Decision Document

Complete Streets Decision Document (CSDD)

1) Is the project located entirely on a facility where bicyclists and pedestrians are legally prohibited and the project does not involve a shared use path, pedestrian/bicycle structure or work impacting a local road crossing or interchange? (For example, a project including freeway mainline and ramp work, not including the ramp connection with the minor road, where the project freeway segment legally prohibits bicyclists and pedestrians.)

   ☒ NO - Proceed to Question 2
   ☐ YES - Stop here. The project is exempt from further complete streets evaluation. Sign and attach to the Project Initiation Document (PID).

2) Is the primary project purpose to address assets that are outside of the roadbed where pedestrian and bicycle travel is not affected, and proposed project will not affect future pedestrian and bicycle facilities? Examples may include culvert outfalls, storm water treatment facilities, bridge substructure or scour mitigation, planting or vegetation removal, retaining walls, etc.

   ☒ NO - Continue to Question 3
   ☐ YES - Stop here. The project is exempt from further complete streets evaluation. Sign and attach to PID.

3) Has a Transportation Planning Scoping Information Sheet (TPSIS) been completed for this project?

   ☒ NO – Proceed to Question 4
   ☐ YES – Skip to Question 5 (Note: TPSIS is attached to the PID)

4) Which of the following planning documents were consulted to determine bicycle, pedestrian or transit needs? Select all that apply and proceed to Question 5.
   - ☒ a. District Active Transportation Plan
   - ☒ b. Other Caltrans or local/regional agency bike/ped/transit/safe routes to school plans
   - ☐ c. ADA Transition Plan/Grievances (consult with the District ADA Coordinator)
   - ☐ d. Corridor planning documents
   - ☐ e. Other (list here) _____

5) Based on the reviews completed in Question 4 or identified in the TPSIS, after a review of the roadway geometrics, or identified by the PDT, are there any bicycle, pedestrian, or transit needs, deficiencies or opportunities for improvement identified for the project location?

   ☐ NO – Provide brief description of findings: _____
   Stop here. The project meets the requirements for consideration of Complete Streets elements. Sign and attach to the PID.
   ☒ YES – Describe them here and proceed to Question 6: Planned Class I shared-use path, per Unincorporated San Mateo County Active Transportation Plan and C/CAG Countywide Bicycle and Pedestrian Plan.

6) Based on the needs identified in Question 5, what would be the preferred complete streets elements to address those needs (e.g. road diet, separated bikeway, reconstructed sidewalk, etc.)? Resources include the Complete Streets Elements Toolbox, the Contextual Guidance for Bikeway Facility Selection, the Bikeway Facility Selection Guidance Memorandum, etc. List them in the table below and provide a rough estimated cost to construct preferred project complete streets elements (including right-of-way and support costs) and proceed to Question 7.

FACILITY TYPE	UNIT	QUANTITY	ESTIMATED TOTAL COST
Class I path	*LF*	*1630*	*$2,670 K*

7) Was there any known public and stakeholder opposition to any preferred complete streets elements identified for the project? Provide response and proceed to Question 8.

☒ NO
☐ YES – Describe the opposition position here: _____

8) Does the programmable project alternative/project scope include all the complete streets elements identified in Question 6?

☒ NO - Proceed to Question 9
☐ YES - Stop here. The project has met the requirements for consideration of complete streets elements. Sign and attach to PID.

9) Does the project include any of the complete streets elements that are identified in Question 6? Or are there any proposed incremental improvements related to the complete streets elements in Question 6? Provide response and proceed to Question 10.

☐ NO – The programmable project alternative does not include any complete streets elements, and therefore does not address identified needs for complete streets elements.
☒ YES – List them here:

FACILITY TYPE	UNIT	QUANTITY	ESTIMATED TOTAL COST
Class II Bike Ln/8-ft shoulder (San Gregorio Bridge)	*LF*	*265*	*$950 K*
Class II Bike Ln/8-ft shoulder (roadway)	*LF*	*1631*	*$830 K*
Sidewalk (San Gregorio Bridge)	*LF*	265	*$713 K*

10) Does the project funding have constraints that would preclude the ability to incorporate additional complete streets elements into the project (For example, cannot combine funding with other sources.)? Provide response and proceed to Question 11.

☐ NO
☒ YES – Describe the constraints here: FY 20/21 D4 PID SHOPP Cycle has significantly exceeded the SHOPP TYP budget. There is a financial constraint to include costly improvements that do not contribute to the performance targets.

11) Provide a rationale and justification for not including all the recommended complete streets elements into the project: (Consider the engineering justification, right-of-way constraints, environmental impacts, etc.). Due to the financial constraint of the 2022 SHOPP, most PIDs including 0Q010 are undergoing 10% capital cost cuts, as directed by D4 Management. There is no opportunity to include the recommended Class I Bike Path at this stage. If funding becomes available when the project is in the PA&ED phase, the Project Engineer needs to verify if a Class I Bike Path could be added.

Prepared by:

Robert Blanco
Office of Advance Planning, PID II Branch

Concurred by:

Name
District Complete Streets Coordinator

7-6-21
Date

Name
Deputy District Director, Planning

07-08-2021
Date

Name
Deputy District Director, Design or
Division Chief, Design/Project Development

July 12, 2021
Date

Revalidation of CSDD at PA&ED

Does the project scope defined in the project approval document include the complete streets elements identified in Question 6 or 9 of this CSDD and the PID?

☐ NO – Prepare a Superseding CSDD (answer Questions 1 through 11) replacing the original CSDD, obtain all certified and concurrence signatures below, and attach the superseding CSDD to the project approval document.
☐ YES – Certify there are no changes to the scope of complete streets elements with only the project engineer certification signature below on the original approved CSDD and attach the CSDD to the project approval document.

Certified by:

Name, Project Engineer
Branch/Company

Date

Concurred by: (Only include concurrence signatures if a Superseding CSDD is prepared.)

Name
District Complete Streets Coordinator

Date

Name
Deputy District Director, Planning

Date

Name
Deputy District Director, Design or
Division Chief, Design/Project Development

Date

Revalidation of CSDD at PS&E

Does the project scope designed in the plans, specifications and estimate include the complete streets elements identified in Question 6 or 9 of the CSDD (or Superseding CSDD, if applicable) certified at the PA&ED revalidation and the project approval document?

☐ NO – Prepare a Superseding CSDD (answer Questions 1 through 11) replacing the CSDD that was approved at PA&ED revalidation, obtain all certified and concurrence signatures below, and attach to the Supplemental PR. If a Supplemental PR is not required, place in the project history file.
☐ YES – Certify there are no changes to scope of complete streets elements in the project, and that temporary bike and pedestrian facilities during construction have been considered. Include only the project engineer certification signature below on the CSDD that was approved at PA&ED revalidation and place the CSDD in the project history file.

Certified by:

Name, Project Engineer
Branch/Company

Date

Concurred by: (Only include concurrence signatures if a Superseding CSDD is prepared.)

Name

Date

District Complete Streets Coordinator

Name Deputy District Director, Planning	Date
Name Deputy District Director, Design or Division Chief, Design/Project Development	Date

Attachment K
Stormwater Data Report Cover Sheet

Dist-County-Route: 04-SM-1
Post Mile Limits: 17.4/18.2
Type of Work: Bridge Replacement
Project ID (EA): 04-1800-0035(0Q010)

Phase: ☐ PID ☒ PA/ED ☐ PS&E

Applicable Caltrans Post Construction Treatment Requirement: 2012 ☐ 2022 ☒

Regional Water Quality Control Board(s): San Francisco Bay- Region 2

Total Disturbed Soil Area: 2.8 ac PCTA: 0.5 ac

Alternative Compliance (acres): 0.0 ac ATA 2 (50% Rule)? Yes ☐ No ☒

Estimated Const. Start Date: 3/1/27 Estimated Const. Completion Date: 3/1/29

Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other:

Is (M)WELO applicable? Yes ☐ No ☐

Is the Project within a TMDL watershed? Yes ☒ No ☐

Does the project require trash treatment? Yes ☐ No ☒

Notification of ADL reuse (if yes, provide date): Yes ☐ Date: No ☐

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.

Demeke Tsige, Registered Project Engineer/Landscape Architect — 12/6/2024 Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Rommel Pardo /For — 12/06/24
Kerry Morgan, Project Manager — Date

Amrinder Jhajj — 12/06/2024
Amrinder Jhajj, District Maintenance Stormwater Coordinator — Date

Chris Padick /FOR — 12/06/24
Kimberly White, Designated Landscape Architect Representative — Date

Mojgan Osooli — 12/9/2024
[Stamp Required at PS&E only]
Mojgan Osooli, District/Regional Design SW Coordinator or Designee — Date

Attachment L
Materials Recommendation

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Making Conservation
A California Way of Life.

To: Kelsey Kress
Senior Transportation Engineer
Maintenance Engineering

Attention: Dianne Galvez

Date: April 10, 2025

File: 04 - SM - 001 - PM 17.4/18.2
EA: 04- 0Q010
PROJECT ID: 0418000035
Bridge Seismic Restoration

Mahdi Saghafi

From: Mahdi Saghafi, PhD, PE
Materials & Pavements Design Engineer
Office of Materials & Pavements - West

Jacob F. Duncan

Concurred by: Jacob F. Duncan, PhD, PE
Branch Chief
Office of Materials & Pavements – West

Subject: **Revised Materials Recommendation for Bridge Seismic Restoration**

This memo is in response to your request dated 7/10/2024, regarding the Bridge Seismic Restoration Project on State Route 001, from Post Mile (PM) 17.4 to 18.2 in San Mateo County. Per your direction, this updated memo replaces the version submitted on August 23, 2024, and focuses solely on the bridge replacement alternative. The previous retrofit alternative has been excluded as requested.

This project proposes to provide seismic restoration of San Gregorio Creek Bridge on State Route 1 in San Gregorio in San Mateo County. The proposed improvements will consist of replacing the existing concrete baluster railings in both directions and full bridge replacement to address the seismic requirements with the alignment shifted east. All work will be performed in the state ROW.

Information received with your request:

- Project Initiation Report/Project Description
- Vicinity Map
- APS Study
- Draft Layouts (for full bridge replacement alternative)

Existing Conditions:

Figure 1 shows the vicinity map of the project at San Mateo County. Within the project limits on State Route 001 from PM 17.20 to 18.40 is 2-lane asphalt concrete (AC) roadways 0 to 6 feet AC shoulder.

Based on the field visit performed on July 31st, 2024, AC pavement approaching to the San Gregorio Creek Bridge from the south was in good condition with sign of normal weathering (see Figure 2). The AC pavement approaching to the bridge from north had similar condition expect within the 10 feet of the bridge where the pavement had several potholes and raveling distresses (see Figure 3).

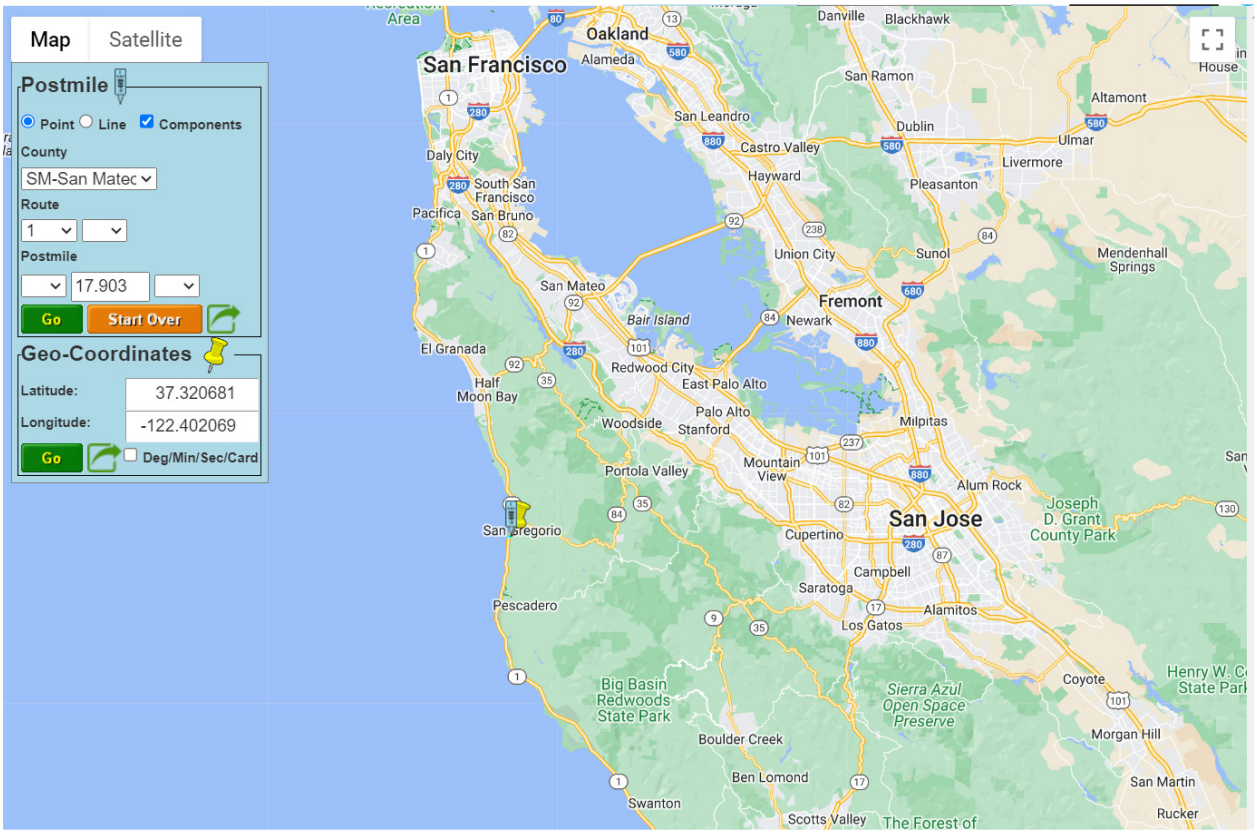


Figure 1- Project Vicinity Map at State Route 001 Between PM 17.4 and PM 18.2

Figure 2- Pavement Condition at South of the San Gregorio Creek Bridge at State Route 001 @ PM 18.00

Figure 3- Pavement Condition at State Route 001 Approaching the San Gregorio Creek Bridge from South

Figure 4- Pavement Condition at State Route 001 Approaching the San Gregorio Creek Bridge from North

A significant drop off was observed at the edge of pavement particularly at the turnout areas at both north and south of the bridge. As shown in Figure 5, at some locations more than one foot shoulder drop off was observed. The turnout area is unpaved and has numerous depressions and potholes.

Figure 5- Pavement Shoulder Drop off at South of the San Gregorio Creek Bridge at State Route 001

As-Built:

Based on the information collected from the as-built drawing, the existing pavement structural sections layers within the project limit on **Route 001** consist of:

Postmile	Direction	Materials	Thickness (feet)
SM Route 001 **PM 10.6 TO 21.5** EA: 04- 3J5104 Dated: 11/18/2016	NB & SB Main Lanes and Shoulders	AC (Existing)	0.60
		AB (Existing)	Varies

In addition to this, at several locations at both the NB and SB the existing AC within the traveled way was dug out 0.35' and replaced with 0.35' new hot mix asphalt Type A (HMA-A) overlay. Travel lanes and shoulders at both the NB and SB were then milled 0.10' and overlayed with 0.10' Rubberized Hot Mix Asphalt-Gap Graded (RHMA-G).

The Office of Materials & Pavements – West has no responsibility nor can guarantee the validity of the information of the As-Builts drawings.

Design Approach:

The subgrade properties of the project site were explored from the available boring data from a 1990 road construction project along SR 1 (Contract No. 04-121874, EA 121871). This project extended along SR 1 between PM 10.6 and PM 17.9 and included replacement of five existing culverts. A total of five borings (one boring per culvert) were drilled in 1990 up to a maximum depth of about 80 feet. The borings (B-1 through B-5) are included in attachment. The Boring B-5 which was drilled at PM 17.40 to a depth of about 21 feet, is the closest boring to our project site. Based on the bore data, the subsurface materials at the project site are anticipated to predominantly encounter stiff to very stiff fine-grained silty and lean clayey (CL) soils.

CalME was utilized to design the required 40-years pavement structure for the new pavement structural section for full bridge replacement scenario. As the existing pavement in this location is flexible, rigid pavement options are not considered. Based on the project location, the estimated traffic index (TI) of 10.8 and subgrade R-Value of 16, commonly used for CL subgrades, were considered based on estimates from the CalME Software. The other design variables and inputs are shown in attached CalME report. Pavement recommendations below are subject to revision if estimated factors above are updated in the future.

Recommendation:

Based on the field investigation and review of the project pavement As-Built information, we recommend the following for new pavement structural section for full bridge replacement:

- Sawcut one foot inside the edge of shoulder to get a clean edge.
- Remove 1.80' AC/AB, replace with:
  0.15' RHMA-G (PG 64-16 Binder)
  0.65' HMA-A (PG 64-10 Binder)
  1.00' AB-Class 2
  SEG Class A1
- A final Cold plane and overlay of 0.15' with RHMA-G (using PG 64-16 binder) shall be performed on any remaining existing pavement utilized in the final alignment within the project limits.
- Application of tack coat is required per **2023 Standard Specifications §39-2.01C(3)f**.
- Refer to **Standard Specifications §39-3.01** for general specifications on existing asphalt concrete and **Standard Specifications §39-3.02** for specifications on replacing asphalt concrete surfacing.
- If the profile grade of the bridge is changed, the minimum AC transition taper slope should be 200:1 or flatter.
- To address the shoulder drop-off, our office recommends that the pavement transition to the turnout and the turnout area be improved.

* * * *

If there is any question, please feel free to contact Mahdi Saghafi at (510) 807-1569 or Jacob F. Duncan at (510) 406-5003.

Attachment M
Preliminary Cost Estimate

PROJECT

PRELIMINARY COST ESTIMATE©

EA: 04-0Q010 PID: 418000035

EA: 04-0Q010

PID: 418000035

District-County-Route: 04-SM-01

PM: 17.4-18.2

Type of Estimate : Project Report

Program Code : SHOPP 201.113

Project Limits : State Route 1 within PM 17.4 to 18.2

Project Description: San Gregorio Creek Bridge Seismic Restoration Project

Scope : Replacing/upgrading existing concrete baluster railings and seismically retrofitting the existing bridge

Alternative : Build Alternative - Cast in place Bridge Replacement w/ Haunched Girders

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	**$ 13,570,600**	**$ 16,524,625**
TOTAL STRUCTURES COST	**$ 22,444,000**	**$ 27,329,571**
SUBTOTAL CONSTRUCTION COST	**$ 36,014,600**	**$ 43,854,196**
TOTAL RIGHT OF WAY COST	**$ 1,782,000**	**$ 1,782,000**
TOTAL CAPITAL OUTLAY COSTS	**$ 37,797,000**	**$ 45,637,000**
PA/ED SUPPORT	**$ 2,866,000**	**$ 2,866,000**
PS&E SUPPORT	**$ 2,932,000**	**$ 2,932,000**
RIGHT OF WAY SUPPORT	**$ 183,000**	**$ 183,000**
CONSTRUCTION SUPPORT	**$ 8,126,000**	**$ 8,126,000**
TOTAL SUPPORT COST	**$ 14,107,000**	**$ 14,107,000**
TOTAL PROJECT COST	**$ 52,000,000**	**$ 59,800,000** *

Programmed Amount $ 59,743,000

	Month	/	Year
Date of Estimate (Month/Year)	4	/	2025
Estimated Construction Start (Month/Year)	12	/	2027
Number of Working Days =	501		
Estimated Mid-Point of Construction (Month/Year)	12	/	2028
Estimated Construction End (Month/Year)	12	/	2029
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	7/30/2019
PA/ED Approval	5/5/2025
PS&E	2/1/2027
RTL	6/30/2027
Begin Construction	12/22/2027

Reviewed by District O.E. or Cost Estimate Certifier	Kelsey Kress	4/29/2025	(510) 807-1248
	Office Engineer / Cost Estimate Certifier	**Date**	**Phone**
Approved by Project Manager	Rommel Pardo	4/29/2025	(510) 715-5474
	Project Manager	**Date**	**Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	1,067,800
2	**Pavement Structural Section**	$	804,600
3	**Drainage**	$	100,000
4	**Specialty Items**	$	146,000
5	**Environmental**	$	2,281,800
6	**Traffic Items**	$	934,200
7	**Detours**	$	142,500
8	**Minor Items**	$	301,300
9	**Roadway Mobilization**	$	577,900
10	**Supplemental Work**	$	432,200
11	**State Furnished**	$	2,472,200
12	**Time-Related Overhead**	$	2,540,000
13	**Total Roadway Contingency**	$	1,770,100
	TOTAL ROADWAY ITEMS	**$**	**13,570,600**

Estimate Prepared By :	Rahmon Farzad, TE	11/15/2024	(510) 775-3397
	Name and Title	Date	Phone
Estimate Reviewed By :	Kelsey Kress, Sr. TE	4/29/2025	(510) 807-1248
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	556	x	334.50	=	$	185,982
19010X	Roadway Excavation (Insert Type) ADL	CY		x		=	$	-
198010	Imported Borrow	CY	24,000	x	33.20	=	$	796,800
194001	Ditch Excavation	CY		x		=	$	-
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
170105	Clearing & Grubbing	ACRE	5	x	15,000.00	=	$	75,000
100100	Develop Water Supply	LS	1	x	10,000.00	=	$	10,000
19801X	Imported Borrow	CY/TON		x		=	$	-
21012X	Duff	ACRE/SQFT		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 1,067,800

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY		x		=	$	-
400050	Continuously Reinforced Concrete Pavement	CY		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON	313	x	616.50	=	$	192,965
260203	Class 2 Aggregate Base	CY	480	x	426.90	=	$	204,912
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
414240	Isolation Joint Seal (Asphalt Rubber)	LF		x		=	$	-
414241	Isolation Joint Seal (Silicone)	LF		x		=	$	-
280010	Rapid Strength Concrete Base	CY		x		=	$	-
410096	Drill and Bond (Dowel Bar)	EA		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	884	x	337.50	=	$	298,350
391006	Asphalt Binder (Geosynthetic Pavement Interlayer)	TON		x		=	$	-
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
397005	Tack Coat	TON	1	x	2,706.60	=	$	2,707
377501	Slurry Seal	TON		x		=	$	-
374493	Polymer Asphaltic Emulsion (Seal Coat)	TON		x		=	$	-
370001	Sand Cover (Seal)	TON		x		=	$	-
731530	Minor Concrete (Textured Paving)	CY		x		=	$	-
731502	Minor Concrete (Miscellaneous Construction)	CY		x		=	$	-
39407X	Place Hot Mix Asphalt Dike (Insert Type)	LF		x		=	$	-
398100	Remove Asphalt Concrete Dike	LF		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
398300	Remove Base and Surfacing	CY		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
41800X	Remove Concrete Pavement	SQYD/CY		x		=	$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		=	$	-
398200	Cold Plane Asphalt Concrete Pavement	SQYD	5,550	x	16.50	=	$	91,575
846046	6" Rumble Strip (Asphalt Concrete Pavement)	STA		x		=	$	-
846049	6" Rumble Strip (Concrete Pavement)	STA		x		=	$	-
846051	12" Rumble Strip (Asphalt Concrete Pavement)	STA	17	x	750.00	=	$	12,750
846052	12" Rumble Strip (Concrete Pavement)	STA	3	x	435.00	=	$	1,305
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 804,600

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
71013X	Remove Culvert	EA/LF		x		=	$	-
710240	Modify Inlet	EA		x		=	$	-
710370	Sand Backfill	CY		x		=	$	-
71010X	Abandon Culvert	EA/LF		x		=	$	-
710196	Adjust Inlet	LF		x		=	$	-
710262	Cap Inlet	EA		x		=	$	-
510501	Minor Concrete	CY		x		=	$	-
510502	Minor Concrete (Minor Structure)	CY		x		=	$	-
731627	Minor Concrete (Curb, Sidewalk, and Curb Ramp)	CY		x		=	$	-
6101XX	XX" Alternative Pipe Culvert (Insert Type)	LF		x		=	$	-
6411XX	XX" Plastic Pipe	LF		x		=	$	-
65XXXX	XX" Reinforced Concrete Pipe (Insert Type)	LF		x		=	$	-
6811XX	XX" Plastic Pipe (Edge Drain)	LF		x		=	$	-
6901XX	XX" Corrugated Steel Pipe Downdrain (0.XXX" Thic	LF		x		=	$	-
7006XX	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
7032XX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF		x		=	$	-
7050XX	XX" Steel Flared End Section	EA		x		=	$	-
703233	Grated Line Drain	LF		x		=	$	-
72XXXX	Rock Slope Protection (Type and Method)	CY/TON		x		=	$	-
72901X	Rock Slope Protection Fabric (Insert Class)	SQYD		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Drainage (Install 2-GI DI's with 24-12x grate & 40 L	LS	1	x	100,000.00	=	$	100,000

TOTAL DRAINAGE ITEMS	**$**	**100,000**

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
520103	Bar Reinforced Steel (Retaining Wall)	LB		x		=	$	-
5100XX	Structural Concrete	CY		x		=	$	-
510060	Structural Concrete, Retaining Wall	CY		x		=	$	-
5201XX	Bar Reinforcing Steel	LB		x		=	$	-
080050	Progress Schedule (Critical Path Method)	LS	1	x	5,000.00	=	$	5,000
582001	Sound Wall (Masonry Block)	SQFT		x		=	$	-
510530	Minor Concrete (Wall)	CY		x		=	$	-
60005X	Remove Sound Wall	LF/LS/SQFT		x		=	$	-
070030	Lead Compliance Plan	LS		x		=	$	-
141120	Treated Wood Waste	LB	3,850	x	2.00	=	$	7,700
839750	Remove Barrier	LF		x		=	$	-
839752	Remove Guardrail	LF	550	x		=	$	-
710167	Remove Flared End Section	EA		x		=	$	-
8000XX	Chain Link Fence (Insert Type)	LF		x		=	$	-
80XXXX	XX" Chain Link Gate (Type CL-X)	EA		x		=	$	-
832001	Midwest Guardrail System (Insert Type)	LF	875	x	105.00	=	$	91,875
839301	Single Thrie Beam Barrier	LF		x		=	$	-
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
839566	Terminal System (Type CAT)	EA		x		=	$	-
839584	Alternative In-line Terminal System	EA	2	x	6,800.00	=	$	13,600
839585	Alternative Flared Terminal System	EA		x		=	$	-
4906XX	XX" Cast-In-Drilled-Hole Concrete Piling	LF		x		=	$	-
8396XX	Crash Cushion (Insert Type)	EA		x		=	$	-
38934	Concrete Barrier (Anchor Block)	LF	40	x	105.00	=	$	4,200
475010	Retaining Wall (Masonry Wall)	SQFT		x		=	$	-
511035	Architectural Treatment	SQFT		x		=	$	-
780460	Anti-Graffiti Coating	SQFT		x		=	$	-
780450	Rock Stain	SQFT		x		=	$	-
4730XX	Reinforced Concrete Crib Wall (Insert Type)	SQFT		x		=	$	-
83954X	Transition Railing (Insert Type)	EA	4	x	5,900.00	=	$	23,600
780440	Prepare and Stain Concrete	SQFT		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
83958X	End Anchor Assembly (Insert Type)	EA						

TOTAL SPECIALTY ITEMS	**$**	**146,000**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation (on-site)	LS		x		=	$	-
80010X	Temporary Fence (Insert Type)	LF		x		=	$	-
130670	Temporary Reinforced Silt Fence	LF		x		=	$	-
					Subtotal Environmental Mitigation		*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
20XXXX	Highway Planting	LS	1	x	200,000.00	=	$	200,000
20XXXX	Irrigation System	LS		x		=	$	-
204099	Plant Establishment Work	LS	1	x	100,000.00	=	$	100,000
20XXXX	Follow-up Landscape Project	LS		x		=	$	-
206405	Remove Irrigation Facility	LS		x		=	$	-
204096	Maintain Existing Planted Areas	LS		x		=	$	-
206400	Check and Test Existing Irrigation Facilities	LS		x		=	$	-
21011X	Imported Topsoil	CY/TON		x		=	$	-
205033	Gravel Mulch	SQFT	23,500	x	2.50	=	$	58,750
200122	Weed Germination	SQYD		x		=	$	-
20XXXX	Biological Monitoring (10-year)	LS	1	x	400,000.00	=	$	400,000
2087XX	XX" Conduit (Use for Irrigation x-overs)	LF		x		=	$	-
20890X	Extend X" Conduit (Use for Extension of Irrigation	LF		x		=	$	-
					Subtotal Landscape and Irrigation		*$*	*758,750*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost
2102XX	Erosion Control (Disturbed Soil Area)	LS	1	x	162,000.00	=	$	162,000
210010	Move-In/Move-Out (Erosion Control)	EA		x		=	$	-
210350	Fiber Rolls	LF		x		=	$	-
210360	Compost Sock	LF		x		=	$	-
2102XX	Rolled Erosion Control Product (Insert Type)	SQFT		x		=	$	-
21025X	Bonded Fiber Matrix	SQFT/ACRE		x		=	$	-
210300	Hydromulch	SQFT		x		=	$	-
210420	Straw	SQFT		x		=	$	-
210430	Hydroseed	SQFT		x		=	$	-
210610	Compost	CY		x		=	$	-
210630	Incorporate Materials	SQFT						
					Subtotal Erosion Control		*$*	*162,000*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130300	Prepare SWPPP	LS	1	x	5,000.00	=	$	5,000
130200	Prepare WPCP	LS		x		=	$	-
130100	Job Site Management	LS	1	x	5,000.00	=	$	5,000
130330	Storm Water Annual Report	EA		x		=	$	-
130310	Rain Event Action Plan	EA	1	x	5,000.00	=	$	5,000
130320	Storm Water Sampling and Analysis Day	EA		x		=	$	-
130520	Temporary Hydraulic Mulch	SQYD		x		=	$	-
130550	Temporary Hydroseed	SQYD		x		=	$	-
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		=	$	-
130640	Temporary Fiber Roll	LF		x		=	$	-
131201	Temporary Creek Diversion Systems	LS	1	x	350,000.00	=	$	350,000
xxxxxx	Total Construction Site BMPs	LS	1	x	866,000.00	=	$	866,000
xxxxxx	Permanent Treatment BMP	LS	1	x	80,000.00	=	$	80,000
xxxxxx	Permanent Erosion Control BMP	LS	1	x	50,000.00	=	$	50,000
130730	Street Sweeping	LS		x		=	$	-
					Subtotal NPDES		*$*	*1,361,000*

			$	**2,281,800**

Supplemental Work for NPDES

066595	Water Pollution Control Maintenance Sharing*	LS	1	x	100,000.00	=	$	100,000
066596	Additional Water Pollution Control**	LS	1	x	10,000.00	=	$	10,000
066597	Storm Water Sampling and Analysis***	LS	1	x	10,000.00	=	$	10,000
XXXXXX	Some Item	LS		x		=	$	-
					Subtotal Supplemental Work for NDPS		*$*	*120,000*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
120206	Portable Signal Systems	LS	1	x	400,000.00	=	$	400,000
870300	Sign Illumination System	LS		x		=	$	-
870400	Signal and Lighting System	LS		x		=	$	-
870510	Ramp Metering System	LS		x		=	$	-
87181X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
5602XX	Furnish Sign Structure (Insert Type)	LB		x		=	$	-
5602XX	Install Sign Structure (Insert Type)	LB		x		=	$	-
4980XX	XX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
87011X	Inductive Loop Detector	EA/LS		x		=	$	-
870600	Traffic Monitoring Station System	LS		x		=	$	-
56804X	Remove Sign Structure	EA/LS		x		=	$	-
568054	Reconstruct Sign Structure	EA		x		=	$	-
568060	Modify Sign Structure	EA		x		=	$	-
870009	During Construction	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
XXXXX	Some Item	Unit		x		=	$	-

Subtotal Traffic Electrical *$* *400,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
820840	Roadside Sign - One Post	EA		x		=	$	-
820850	Roadside Sign - Two Post	EA		x		=	$	-
5602XX	Furnish Sign Structure (Insert Type)	SQFT		x		=	$	-
820890	Install Sign Panel on Existing Frame	SQFT		x		=	$	-
846020	Remove Painted Traffic Stripe	LF		x		=	$	-
141102	Remove Yellow Painted Traffic Stripe (Hazardous Waste)	LF	2,000	x	4.20	=	$	8,400
846025	Remove Painted Pavement Marking	SQFT		x		=	$	-
820250	Remove Roadside Sign	EA		x		=	$	-
820530	Reset Roadside Sign	EA	1	x	500.00	=	$	500
820610	Relocate Roadside Sign	EA		x		=	$	-
840502	Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF	3,350	x	5.85	=	$	19,598
847082	6" Traffic stripe with Contrast	LF	1,675	x	15.75	=	$	26,381
846007	6" Thermoplastic traffic stripe (Enhanced Wet Night Visibility)	LF	650	x	16.60	=	$	10,790
847218	6" Traffic Stripe with Contrast (Warranty)	LF	325	x	26.20	=	$	8,515
8101XX	Delineator (Insert Class)	EA		x		=	$	-
840502	Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF		x		=	$	-
846012	Thermoplastic Crosswalk and Pavement Marking (Enhanced Wet Night Visibility)	SQFT		x		=	$	-
120090	Construction Area Signs	LS	1	x	10,000.00	=	$	10,000
84XXXX	Permanent Pavement Delineation	LS		x		=	$	-

Subtotal Traffic Signing and Striping *$* *84,184*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128652	Portable Changeable Message Sign	LS	1	x	$ 100,000	=	$	100,000

Subtotal Traffic Management Plan *$* *100,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120198	Plastic Traffic Drums	EA		x		=	$	-
12016X	Channelizer (Insert Type)	EA		x		=	$	-
120116	Type II Barricade	EA		x		=	$	-
120120	Type III Barricade	EA		x		=	$	-
129100	Temporary Crash Cushion Module	EA		x		=	$	-
120100	Traffic Control System	LS	1	x	350,000.00	=	$	350,000
129110	Temporary Crash Cushion	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
120152	Temporary Pavement Marking (Tape)	SQFT		x		=	$	-
8101XX	Delineator (Insert Class)	EA		x		=	$	-

Subtotal Stage Construction and Traffic Handling *$* *350,000*

TOTAL TRAFFIC ITEMS **$** **934,200**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)		Cost
190101	Roadway Excavation	CY		x		= $	-
19801X	Imported Borrow	CY/TON		x		= $	-
390132	Hot Mix Asphalt (Type A)	TON		x		= $	-
26020X	Class 2 Aggregate Base	CY/TON		x		= $	-
250401	Class 4 Aggregate Subbase	CY		x		= $	-
130620	Temporary Drainage Inlet Protection	EA		x		= $	-
120320	Temporary Barrier System	LF	1,900	x	75.00	= $	142,500
128601	Temporary Signal System	LS		x		= $	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		= $	-
80010X	Temporary Fence (Insert Type)	LF		x		= $	-
XXXXXX	Some Item	LS		x		= $	-

TOTAL DETOURS **$ 142,500**

SUBTOTAL SECTIONS 1 through 7 $ 5,476,900

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items						
	ADA Items			0.0%	$	-
8B - Bike Path Items						
	Bike Path Items			0.0%	$	-
8C - Other Minor Items						
	Other Minor Items			5.5%	$	301,230

Total of Section 1-7 $ 5,476,900 x 5.5% = $ 301,230

TOTAL MINOR ITEMS **$ 301,300**

SECTIONS 9: ROADWAY MOBILIZATION *

Item code							
999990	Total Section 1-8	$	5,778,200	x	10%	= $	577,820

TOTAL ROADWAY MOBILIZATION **$ 577,900**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	11,500.00	= $	11,500
066094	Value Analysis	LS	1	x	10,000.00	= $	10,000
066070	Maintain Traffic	LS	1	x	10,000.00	= $	10,000
066919	Dispute Resolution Board	LS	1	x	22,500.00	= $	22,500
066921	Dispute Resolution Advisor	LS	1	x	5,000.00	= $	5,000
066015	Federal Trainee Program	LS	1	x	2,000.00	= $	2,000
066610	Partnering	LS	1	x	20,000.00	= $	20,000
066204	Remove Rock and Debris	LS		x		= $	-
066222	Locate Existing Crossover	LS		x		= $	-
XXXXXX	Some Item	Unit		x		= $	-

*Cost of **NPDES** Supplemental Work specified in Section 5D* = $ 120,000

Total Section 1-8 $ 5,778,200 4% = $ 231,128

TOTAL SUPPLEMENTAL WORK **$ 432,200**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	728,000.00	=	$728,000
066063	Traffic Management Plan - Public Information	LS	1	x	10,000.00	=	$10,000
066901	Water Expenses	LS		x		=	$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	$0
066841	Traffic Controller Assembly	LS		x		=	$0
066840	Traffic Signal Controller Assembly	LS		x		=	$0
066062	COZEEP Contract	LS	1	x	1,503,000.00	=	$1,503,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	Tow Truck Service Patrol	LS		x		=	$0
066916	Annual Construction General Permit Fee	LS		x		=	$0
XXXXXX	Some Item	Unit		x		=	$0
	Total Section 1-8	$	5,778,200		4%	= $	231,128

TOTAL STATE FURNISHED $2,472,200

SECTION 12: TIME-RELATED OVERHEAD

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **9%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	501	X	$5,070	=	$2,540,000

TOTAL TIME-RELATED OVERHEAD $2,540,000

SECTION 13: ROADWAY CONTINGENCY*

Total Section 1-12	$	11,800,500	x	**15%**	=	$1,770,075

TOTAL CONTINGENCY* $1,770,100

EA: 04-0Q010 PID: 418000035

II. STRUCTURE ITEMS

	Bridge 1		Bridge 2		
DATE OF ESTIMATE	09/18/24		00/00/00		00/00/00
Bridge Name	San Gregorio Creek Bridge		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	35-0030		57-XXX		57-XXX
Structure Type	Alt 2a - CIP Replacement		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	51 LF		0 LF		0 LF
Total Bridge Length (Feet)	325 LF		0 LF		0 LF
Total Area (Square Feet)	16494 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	Pile		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$1,209		$150		$0
COST OF EACH	**$19,941,000**		**$0**		**$0**

	Retaining Wall		Retaining Wall		
DATE OF ESTIMATE	06/03/24		06/03/24		00/00/00
Name	San Gregorio Ret. Wall No. 1		San Gregorio Ret. Wall No. 1		xxxxxxxxxxxxxxxxxx
Bridge Number					57-XXX
Structure Type	Soldier Pile Wall		Soldier Pile Wall		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0		$0		$0
COST OF EACH	**$1,729,000**		**$774,000**		**$0**

TOTAL COST OF BRIDGES		**$19,941,000**
TOTAL COST OF RETAINING WALLS		**$2,503,000**
Time-Related Overhead	10%	**INCL**
STRUCTURES MOBILIZATION	10%	**INCL**
STRUCTURES CONTINGENCY*	25%	**INCL**
TOTAL COST OF STRUCTURES		**$22,444,000**

Estimate Prepared By: SY — 9/3/2024

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

EA: 04-0Q010 PID: 418000035

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

				Current Value Future Use		Escalated Value
A)	A1)	Acquisition, including Excess Land, Fees, Damages, Goodwill	$	0	$	0
	A2)	Permits	$	430,000	$	430,000
	A3)	Environmental Mitigation	$	1,347,000	$	1,347,000
	A4)	Railroad Acquisition	$	0	$	0
B)	B1)	Utility Relocation (State Share)	$	5,000	$	5,000
	B2)	Potholing (Design Phase)	$	0	$	0
C)		Utility - Advance Engineering Estimate (Encumber with State Only Funds)	$	0	$	0
D)		RAP and/or Last Resort Housing	$	0	$	0
E)		Clearance & Demolition	$	0	$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	0	$	0
G)		Title and Escrow	$	0	$	0
H)		Environmental Review	$	0	$	0
I)		Condemnation Settlements 0%	$	0	$	0
J)		Design Appreciation Factor 0%	$	0	$	0
K)		Utility Relocation (Construction Cost)	$	0	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$1,782,000**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$1,782,000**
N)	**RIGHT OF WAY SUPPORT**	**$183,000**

Support Cost Estimate Prepared By	David Mars Project Coordinator[1]	(510) 908-8853 Phone
Utility Estimate Prepared By	Latorya Young Utility Coordinator[2]	(510) 960-0152 Phone
R/W Acquisition Estimate Prepared By	Dan Asprogerakas Right of Way Estimator[3]	(510) 908-3642 Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Attachment N
Risk Register / Risk Management Plan

RISK REGISTER LEVEL	2	PROJECT NAME	SM 1 - Bridge seismic retrofit and upgrade bridge rails.	DIST-EA	04-0Q010 (0418000035)	Project Manager	Kerry Morgan	RISK MANAGER	Gurmukh Thiara	TOTAL COST (Capital +Support)	$21,859,000.00
PROJECT PHASE	PA&ED	PDT MEMBERS		RISK ASSESSMENT INFORMATION						TOTAL DAYS (Construction + Initial review (30 days)+ Closeout (60 days))	490

Risk Identification						Probability	Cost Impact		Time Impact		Phase	Capital / Support	Individual Risk	Risk Response			
Status	ID #	Category	Title	Risk Statement	Current Status/ Assumptions	Rating	Rating	Score	Rating	Score	ENG/ CON	C/S	Rationale	Strategy	Response Actions	Risk Owner	Updated
Active	1	Environmental	Bird Nesting Season	As a result of nesting birds, protected from harassment under the MBTA (Migratory Bird Treaty Act) and CFGC (California Fish and Game Code), additional construction activity work may occur around bird nesting season, which would lead to additional project cost and schedule delays.	There is a possibility of active nested birds during construction, since past projects have encountered active birds known to nest under bridge structures and nearby trees and bushes. Bird nesting season is between February 1 to September 30.	2-Low	02-Low	4	02-Low	4	CON	C	Based on input of PDT and Department's experience with past projects of similar nature.	Mitigate	All the necessary bird mitigation measures and specifications will be included in the project plans and specification during PS&E. If nesting birds are encountered near construction, contractor will need to stop all nearby construction activities and RE to notify the biologist. Construction activities will only proceed when the area is cleared by the biologist.	Environmental	11/20/2024
Active	2	Environmental	Biological Mitigation Areas	If any of the work or staging is done off-pavement or affects the existing San Gregorio Creek, a fish passage assessment and a Letter of Concurrence may be required.	Work is done on pavement and off pavement staging and work can be controlled and avoided.	2-Low	02-Low	4	02-Low	4	ENG	S	Based on input of PDT and Department's experience with past projects of similar nature.	Mitigate	Environmental will closely coordinate with Design during the future phase on the fish passage assessment task to ensure that the Letter of Concurrence is obtained, if required, to avoid unforeseen design or construction delay	Design	11/20/2024
Active	3	Construction	Construction Window	The construction window has preliminarily been established. If the window is not met, then there will be delay due to need to comply with construction window restriction	Seasonal construction work windows: April 15-October 15 (USFWS) and June 15-October 15 (NMFS,CDFW). The type of work involved makes it a low probability that the construction window cannot be met.	1-Very Low	02-Low	2	04-Moderate	4	CON	C	Based on the input from PDT.	Accept	PDT will include spec during PS&E to prioritize work within creek as first order of work. RE/PM to coordinate with Environmental staff to amend the permits if necessary.	Construction	11/20/2024
Active	4	ROW	Temporary Construction Easements (TCE)	The project may need to encroach on adjacent properties temporarily to carry out work, leading to temporary construction easement (TCE) that was not identify early on the project resulting in additional cost and schedule delays.	The location and extent of temporary easements will be determined in PS&E phase, although the proposed improvements will be performed within the State right-of-way.	2-Low	02-Low	4	02-Low	4	ENG	S	Based on the input from PDT.	Accept	Design to identify any need for TCE and work with ROW to start early coordination with pertinent agencies/owners for agreements.	ROW	11/20/2024
Active	5	ROW	Unidentified Utility Conflicts	As a result of unknown existing utilities within the project work area during Construction, additional utility work may occur, which would lead to additional cost and schedule delays.	Utility verification will be made during PS&E phase.	2-Low	02-Low	4	02-Low	4	CON	C	Based on input of PDT and Department's experience with past projects of similar nature.	Avoid	Design will submit utility verification request during PS&E. If unanticipated utilities are encountered in the field, contractor will notify the RE / field engineer and take appropriate steps as directed.	Construction	11/20/2024
Active	6	Environmental	Hazardous Material	Unanticipated hazardous materials encountered during construction may require mitigation, removal and disposal resulting in additional costs to the project.	Based on the scope of work, the project has a potential of soil contamination. Existing bridges may also contain asbestos materials.	2-Low	02-Low	4	02-Low	4	ENG	C	Based on input of PDT and Department's experience with past projects of similar nature.	Mitigate	Hazardous material assessment will be made during PS&E phase. If any unanticipated hazardous material is countered during construction, RE to consult with Environmental and use oroject contingency funds to cover any additional cost.	Environmental	11/20/2024
Active	7	Construction	Material Cost	As a result of increases in cost of building products, an increase in cost of contract over and above the amount originally estimated in the BEES may occur, which would lead to additional costs to the project.	Increase in material cost due to market forces will increase the project cost above the programmed amount. Price for material is taken from historic contract cost database, which may not be accurate in a improving economy.	2-Low	04-Moderate	8	02-Low	4	ENG	C	Based on CT historical data	Accept	Design to use the recent price data available and revise project cost estimate on constant basis during PS&E phase.	Design	11/20/2024
Retired	8	Design	New or revised project build alternatives	Additional project build alternative(s) or possible revisions to "proposed" build alternatives with changing alignment and design features during the PA&ED phase may lead to changes in project scope, cost and schedule.	Programmable Project Alternative (Alternative 3- Bridge Replacement) is considered. The planning level geometrics layout for Alternative 3 has required the mainline alignment to be shifted further inland within the bridge limits and conformed at both ends. This realigned mainline and related design criteria might change due to further studies in the PA&ED phase.	2-Low	04-Moderate	8	04-Moderate	8	ENG	C	Baes on the input from PDT.	Mitigate	Design will review proposed "realigned" mainline and traffic handling and stage construction plans developed during PID phase for the accuracy and conformity to current design standard.	Design	11/20/2024
Active	9	Construction	Differing Site Conditions	Constructability issues may occur during pile driving leading to unanticipated additional work to mitigate or resolve problems resulting in additional cost and schedule delays to the project.	Piles will be drilled into the ground for the bridge abutment. The issues that may occur include rock pockets and other anomalies. If issues are found, they will have to be resolved and mitigated onsite.	2-Low	04-Moderate	8	04-Moderate	8	CON	C	Based on input of PDT and Department's experience with past projects of similar nature.	Mitigate	Geotechnical studies will be performed during PS&E phase & Design will account for the work, based on the known existing site conditions during PS&E. However, there are situations where the actual field conditions differ during construction. The project's contingency will cover the unaccounted work.	Design	11/20/2024
Active	10	Environmental	Delay To Permits	The work requires permits from various environmental agencies which may have longer than expected lead time for approval leading to schedule delays resulting in additional project cost and time..	Permits will be required from regulatory agencies for work in the creek area	3-Moderate	02-Low	6	04-Moderate	12	ENG	S	Based on input of PDT and Department's experience with past projects of similar nature.	Accept	Environmental to start the process early and work closely with regulatory agencies to obtain the required permits.	Environmental	11/20/2024
Active	11	Environmental	Protected Species In Work Zone	If special status species are found in project site, construction activities may be impacted leading to work stoppage which may result in additional project cost and schedule delays.	Federally and state listed species may be encountered in the work zone.	3-Moderate	02-Low	6	02-Low	6	CON	C	Based on input of PDT and Department's experience with past projects of similar nature.	Mitigate	Perform early field reviews to evaluate and investigate potential presence of special species. If any special species are encountered during construction, biologist to assess the conditions before the work area is cleared for furthur construction activities.	Environmental	11/20/2024

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PROJECT PHASE	PA&ED	PDT MEMBERS			RISK ASSESSMENT INFORMATION							TOTAL DAYS (Construction + Initial review (30 days)+ Closeout (60 days))		490	
Risk Identification					Probability	Cost Impact		Time Impact		Phase	Capital / Support	Individual Risk	Risk Response			
Status	ID #	Category	Title	Risk Statement	Current Status/ Assumptions	Rating	Rating	Score	Rating	Score	ENG/ CON	C/S	Rationale	Strategy	Response Actions	Risk Owner	Updated
Active	12	PM	Public Complaints/Concerns	As a result of public concerns or complaints during the life of the project, additional work to mitigate concerns or complaints may occur, which would lead to additional cost and schedule delays.	The public needs to be informed of all potential issues that impact them. PIO needs to be involved early to mitigate any last minute opposition from public.	2-Low	02-Low	4	02-Low	4	CON	S	Based on input of PDT and Department's experience with past projects of similar nature.	Accept	PDT to work with the PIO branch to address public concerns or complaints during project development and construction.	PM	11/20/2024
Active	13	Design	Lack of Experienced Staff with Building Information Modeling for Infrastructure (BIM4I)	Limited availabilty of staff with BIM4I knowledge and experience may lead to unanticipated delays during PS&E phase resulting in additional project cost and delay to RTL schedule.	It will require time for targeted training for staff to become proficient in BIM4I tools and workflow.	4-High	02-Low	8	04-Moderate	16	ENG	S	Based on input of PDT.	Mitigate	PDT is in constant coordination with management and finding the ways to address the issue.	Design	5/9/2025