ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

Vincent Thomas Bridge Deck Replacement (07-39020)

Resolution SHOPP-P-2425-05B
*(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 March 20, 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 Vincent Thomas Bridge Deck Replacement (07-39020), 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-24-34, "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.

**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: Vincent Thomas Bridge Deck Replacement (07-39020)

Resolution: SHOPP-P-2425-05B

*(to be completed by CTC)*

Rimma Tebeleva — 01/15/2025 (Date)

Rimma Tebeleva
Project Manager
Project Applicant

David Yan — 01/17/2025 (Date)

David Yan
Chief, Office of Program Management
Implementing Agency

[signature] — 01/25/2025 (Date)

Gloria Roberts
District Director
California Department of Transportation

[signature] — 02/27/2025 (Date)

Tony Tavares
Director
California Department of Transportation

[signature] — 10/31/2025 (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: | 01/28/25 09:33:31 AM |
|---|---|

| District | EA | Project ID | PPNO | Project Manager |
|---|---|---|---|---|
| 07 | 39020 | 0722000334 | 6024 | TEBELEVA, RIMMA |

| County | Route | Begin Postmile | End Postmile | Implementing Agency | |
|---|---|---|---|---|---|
| LA | 47 | R 0.4 | 2.1 | PA&ED | Caltrans |
| | | | | PS&E | Caltrans |
| | | | | Right of Way | Caltrans |
| | | | | Construction | Caltrans |

**Project Nickname**

Vincent Thomas Bridge Deck Replacement

**Location/Description**

In the city of Los Angeles, near the Port of Long Beach, at Vincent Thomas Bridge No. 53-1471. Replace bridge deck and seismic sensors. This is a Construction Manager/General Contractor (CMGC) project. (G13 Contingency)

**Legislative Districts**

| Assembly: | 70 | Senate: | 35 | Congressional: | 44 |
|---|---|---|---|---|---|

**PERFORMANCE MEASURES**

| | Primary Asset | Good | Fair | Poor | New | Total | Units |
|---|---|---|---|---|---|---|---|
| Existing Condition | Bridge Health | | | 352044 | | 352044 | Square feet of bridge deck |
| Programmed Condition | Bridge Health | 352044 | | | | 352044 | Square feet of bridge deck |

| Project Milestone | Actual | Planned |
|---|---|---|
| Project Approval and Environmental Document Milestone | 10/24/24 | |
| Right of Way Certification Milestone | | 07/15/25 |
| Ready to List for Advertisement Milestone | | 08/15/25 |
| Begin Construction Milestone (Approve Contract) | | 12/26/25 |

**FUNDING (Allocated amounts are shaded)**

| Component | Fiscal Year | SHOPP | | | | | Total |
|---|---|---|---|---|---|---|---|
| PA&ED | 22/23 | 17,140 | | | | | 17,140 |
| PS&E | 23/24 | 30,360 | | | | | 30,360 |
| RW Support | 23/24 | 1,683 | | | | | 1,683 |
| Const Support | 25/26 | 46,336 | | | | | 46,336 |
| RW Capital | 25/26 | 3,230 | | | | | 3,230 |
| Const Capital | 25/26 | 618,589 | | | | | 618,589 |
| Total | | 717,338 | | | | | 717,338 |

07-LA-47-PM R0.4/2.1
390200-0722000334-6024
Bridge Formula Program 20.XX.201.116
January - 2025

# Supplemental Project Report

# For Project Approval

On Route 47

Between PM R0.4

And PM 2.1

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:

**Dan Murdoch**, Deputy District Director, Right of Way

APPROVAL RECOMMENDED:

**Rimma Tebeleva**, Project Manager

APPROVAL RECOMMENDED:

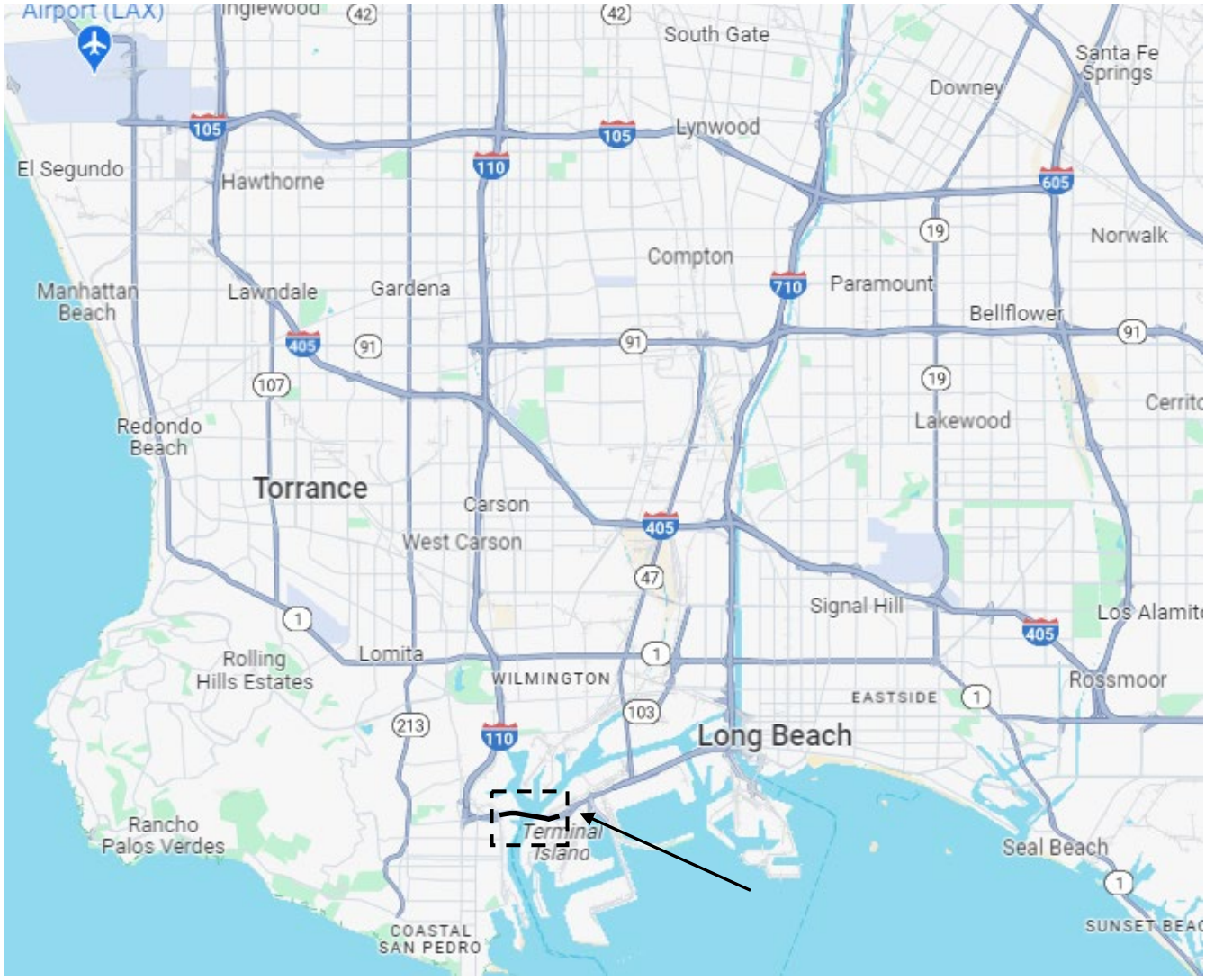
**Gregory Farr**, Deputy District Director, Design

PROJECT APPROVED:

**Gloria Roberts**, District 7 Director

Date

# Vicinity Map




Vincent Thomas Bridge Deck Replacement Project
LA-47-PM R0.4/2.1 - EA 39020

This supplemental 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.

*REGISTERED CIVIL ENGINEER* *DATE*

# Table of Contents

## 1. INTRODUCTION

**Project Description**:

This Supplemental Project Report (SPR) to Project Report approved on 10/24/2024 was prepared to a) Extend the east post limit of the project by 0.1 miles, b) Include additional work within the extended limit, c) Make the associated adjustments to the Cost Estimate and Funding Table based on the added scope and other adjustments resulting from the development of the 60% preliminary plans and d) Revise the project Risk Register as needed.

This project proposes to replace the entire bridge deck, bridge railings and fences, median barrier, seismic sensors and upgrade the lighting system of the Vincent Thomas Bridge (VTB) (Bridge #53-1471) on State Route 47 (SR-47) in Los Angeles County as recommended by the Office of Structure Maintenance and Investigations.

The original post-mile limits (PM 0.4/2.0) are being revised to PM R0.4/2.1. The prefix "R," which is stated correctly in the CTIPS document but missing in the approved Project Report, was added to the lower post-mile limit. This correction did not produce any changes to the original work limit at the west end of the bridge.

On the east end of the bridge, the post-mile was extended by 0.1 miles (PM 2.0 to 2.1) to cover an additional scope consisting of relocating an overhead sign from the east approach (within the bridge limits) to a location outside the bridge limits. This was required to avoid construction conflicts between the heavy crane equipment and the existing overhead sign during the complex construction strategy adopted for the project. The transition of the new bridge section, featuring new ST-75 bridge railing, to the existing roadway section also requires the upgrade of the existing and old metal beam guard railing (MBGR) to the current standard Midwest Guardrail System (MGS), which will protect the relocated overhead sign and existing electroliers within the 0.1-mile extension.

The table below summarizes the revised funding information. The previous figures in the original Project Report are shown crossed out for reference only.

**Project Data Summary Table**

| | | |
|---|---|---|
| **Project Limits** | LA-047, PM R0.4/2.1 | |
| **Number of Alternatives** | 2 – No Build, and Build | |
| | **Current Cost Estimate:** (Preferred Alternative) | **Escalated Cost Estimate:** (Preferred Alternative) |
| **Capital Outlay Support** | ~~93,259,600~~ 91,354,000 | ~~97,424,000~~ 95,519,000 |
| **Capital Outlay Construction** | ~~589,479,000~~ 568,160,000 | ~~641,800,000~~ 618,589,000 |
| **Capital Outlay Right-of-Way** | ~~1,730,000~~ 3,230,000 | ~~1,730,000~~ 3,230,000 |
| **Funding Source** | Bridge Formula Program 20.XX.201.116 | |
| **Funding Year** | 2026 | |
| **Type of Facility** | 4-Lane Freeway | |

| | |
|---|---|
| **Number of Structures** | 1 |
| **SHOPP Project Output** | See Attachment I for SHOPP Performance Measures |
| **Environmental Determination or Document** | EIR/EA |
| **Legal Description** | In Los Angeles County, in the City of Los Angeles, on Route 47 from PM R0.4 to PM 2.1 |
| **Project Development Category** | Category 5 - Projects of minimal economic, social, or environmental significance. These projects would include those categorically exempt under CEQA. |

## 2. RECOMMENDATION

It is recommended that this Supplemental Project Report (SPR) be approved, its changes incorporated into the approved Project Report (PR) and adopted in the ongoing development of the project PS&E phase.

The following sections of the approved Project Report remain unchanged.

## 3. BACKGROUND

## 4. PURPOSE AND NEED

**A. Problem, Deficiencies, Justification**

**B. Regional and System Planning**

**B. Traffic**

## 5. ALTERNATIVES

**5A. Viable Alternatives**

**Alternative 1 - No Build alternative**.

**Alternative 2 – Build Alternative**

**Alternative 2 -Build Alternative Scope**

The following is a list of the major scope items included in Alternative 2. Except for the types of decks referred to above, all the listed items are shared for the different deck materials or deck types analyzed, and therefore, they will apply to the selected preferred alternative. Project scope items added because of the extended post-mile limit from PM 2.0 to 2.1 are listed at the end of the following list with the sub-title: "Extended Post-mile Limit Scope".

- Removal and replacement of the existing lightweight bridge concrete deck along the approach and suspension spans with new concrete and/or orthotropic deck.
- Removal of the existing metal railing and steel plate curb (suspended spans) and their replacement with a CA ST-75 Bridge Rail.
- Removal of the existing 12' height chain link fence on each side of the

suspended spans, and its replacement with a 12’ height chain link fence.

- Removal of the existing Type 2 Barrier with a 6’ barrier-mounted chain link fence along approach spans, and replacement with a CA ST-75 bridge railing with a 9’ curb-mounted chain link fence.
- Removal of the existing median concrete barrier Type 50 and replacement with Type 60M concrete barrier or, optionally, a steel barrier.
- Removal and replacement of 18 joint seals along approach spans.
- Remove and replace 11 joint seals on suspension spans.
- Removal of 4 finger joints at four locations on the suspension spans and replacement with seismic joints.
- Removal of existing 26 seismic sensors and replacement with 44 upgraded. seismic sensors.
- Removal and replacement of 29 barrier-mounted electroliers along approach spans.
- Upgrading of 160 light fixtures of the “low light system” along suspended spans.
- Installation/Upgrade of signs (one OH sign and approximately 26 barrier and/or pole-mounted roadside signs), pavement delineation, and pavement marking per current standard.
- Installation of 30 power receptacles on the bridge's sub-structure for the maintenance painting crew.

**Extended Post-mile Limit Scope (PM 2.0/2.1)**

- Removal of concrete curb and MBGR (L=1,050’)
- Installation of Midwest Guard Rail (MGS) (L=1,050)
- Removal of asphalt concrete pavement behind the new MGS
- Relocation/Replacement of 8 Electroliers to the back of new MGS.
- Installation of 2 MGS-AGT rail transitions between the ST-75 and MGS railing.
- Removal of the OH Sign across the roadway on the east approach of the bridge.
- Installation of a one-post Overhead Sign (CIDH) at the east end of the bridge (outside the bridge)

Except for Subsection 6D, Subsections 5B through Section 7 of the approved Project Report remain unchanged.

**5B. Rejected Alternatives**

## 6. CONSIDERATIONS REQUIRING DISCUSSION

**6A. Hazardous Waste Management**

**6B. Value Analysis**

**6C. Resource Conservation**

**6D. Right-of-Way Issues** (a paragraph has been added before sub-section 6E title)

No permanent Right of Way will be required to complete the proposed construction of this project. A Right of Way Data Sheet was prepared and approved on 10/xx/2024 (See Attachment F). Caltrans owns easement rights, which extend 25' beyond the deck drip line or edges of the bridge since the bridge was constructed in 1963.

The CMGC team has expressed the need to install 4 temporary elevators at ground level under the bridge for workers' access during the construction phase. The installation of these elevators may require short temporary use of areas beyond the current State rights of way. The Port of Los Angeles has been contacted, and they are receptive to issuing an entry permit license, which would minimize the interference with tenant operations.

During public meetings, the communities expressed concerns about air quality due to high volumes of heavy traffic along detours crossing residential and sensitive areas during the bridge closures. Funding for $1.5 million has been included as part of the Right of Way Capital Cost to cover the provision of air filters to the residences along routes being affected as a mitigation measure.

**6E. Environmental Compliance**

**6F. Air Quality Conformity**

**6G. Title VI Considerations**

**6H. Noise Study Analysis**

**6I. Life-Cycle Cost Analysis.**

**6J. Reversible Lanes**

## 7. OTHER CONSIDERATIONS AS APPROPRIATE

**Public Hearing Process**

**Permits**

**Transportation Management Plan**

**Stage Construction and Detour Routes**

**Accommodation of Oversize Loads**

**Graffiti Control**

**Asset Management**

**Complete Streets**

**Broadband and Advanced Technologies**

## 8. FUNDING, PROGRAMMING AND ESTIMATES

**Funding**

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

**Programming and Cost Estimates**

The table below provides updated figures reflecting changes supported by this Supplemental Project Report for the selected alternative, the current programmed information for the project cost component, and the updated cost estimate by component. The current cost estimate for support is escalated to the middle of each component at a rate of 3.7% per year for each component. The construction capital cost is escalated to mid-construction at a rate of 4.89% for FY 24/25 and 3.80% for FY 25/26 and beyond. The Right of Way capital is escalated at 8% to 07/30/2027.

| Fund Source | Programming by Fiscal Year Preferred Build Alternative (Thousands) | | | | | | | | Current Estimate (Escalated) |
|---|---|---|---|---|---|---|---|---|---|
| 20.XX.201.116 | Prior | 24/25 | 25/26 | 26/27 | 27/28 | 28/29 | Future | Programmed Total | At PAED Total |
| Component | In thousands of dollars ($1,000) | | | | | | | | |
| PA&ED Support | 17,140 | | | | | | | 17,140 | 17,140* |
| PS&E Support | 20,900 | | | | | | | 20,900 | 30,360** |
| Right-of-Way Support | 17 | | | | | | | 17 | 1,683** |
| Construction Support | | | 39,840 | | | | | 39,840 | 46,336 |
| Right-of-Way | | | 30 | | | | | 30 | 3,230 |
| Construction | | | 628,464 | | | | | 628,464 | 618,589 |
| Total | 38,057 | | 668,334 | | | | | 706,391 | 717,338 |

* Does not include approved G-12 funding, which is $19,054K

** Voted by CTC in December 2024

## 9. DELIVERY SCHEDULE

| Project Milestones | | Milestone Date (Month/Day/Year) | Milestone Designation (Target/Actual) |
|---|---|---|---|
| PROGRAM PROJECT | M015 | 01/26/2023 | A |
| BEGIN PAED | M020 | 02/03/2023 | A |

| | | | |
|---|---|---|---|
| NOTICE OF PREPARATION (NOP) | M030 | 04/12/2023 | A |
| CIRCULATE DED EXTERNALLY | M120 | 04/16/2024 | A |
| PA & ED | M200 | 10/24/2024 | A |
| START PS&E | M210 | 12/09/2024 | A |
| PRE-60% PS&E | | 01/31/2025 | T |
| 60% CONST PS&E COMPLETED | M313 | 03/14/2025 | T |
| PRE-95% PS&E | | 04/10/2025 | T |
| 95% CONST PS&E COMPLETED | M315 | 05/22/2025 | T |
| PS&E TO DOE | M377 | 06/20/2025 | T |
| DRAFT STRUCTURES PS&E | M378 | 05/01/2025 | T |
| PROJECT PS&E | M380 | 07/15/2025 | T |
| RIGHT-OF-WAY CERTIFICATION | M410 | 07/15/2025 | T |
| READY TO LIST | M460 | 08/15/2025 | T |
| FUND ALLOCATION | M470 | 10/16/2025 | T |
| HEADQUARTERS ADVERTISE | M480 | 10/31/2025* | T |
| AWARD | M495 | 12/01/2025* | T |
| APPROVE CONTRACT | M500 | 12/26/2025* | T |
| CONTRACT ACCEPTANCE | M800 | 02/29/2028 | T |
| END PROJECT | M800 | 05/01/2029 | T |
| PROJECT CLOSEOUT | M900 | 04/01/2030 | T |

*The schedule reflects the General Contractor (CMGC) program schedule.

**10. RISKS**

An updated Risk Register is included in the Attachments section, reflecting changes supported by this Supplemental Project Report. The risk impacts of the project have been re-evaluated and the Risk Register has been updated. Refer to Attachment H (Risk Register) for more details included with this Supplemental Project Report.

**11. EXTERNAL AGENCY COORDINATION**

**12. PROJECT REVIEWS**

**13. PROJECT PERSONNEL**

**14. ATTACHMENTS (**the list of attachments modified is included)

B. Location map (with revised project PM limits)
D. Preliminary Layout Plans
E. Preferred Alternatives Cost Estimate (11-page)
F. Right of Way Data Sheet
G. Storm Water Data Report (1)
H. Risk Register
I. Approved Project Report (10/24/2024)

# ATTACHMENT B

# Location Map

# LOCATION MAP


Vincent Thomas Bridge Deck Replacement Project

LA-47-PM R0.4/2.1 - EA 39020

# ATTACHMENT D

# Preliminary Layout Plans

# ATTACHMENT F

# Right of Way Data Sheet

# ATTACHMENT G

# Storm Water Data Report (SWDR)

# ATTACHMENT H

# Risk Register

07-LA-47-PM 0.4/2.0
390200-0722000334-6024
Bridge Formula Program 20.XX.201.116
October - 2024

# Project Report

# For Project Approval

On Route 47

Between PM 0.4

And PM 2.0

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:

Dan Murdoch

**Dan Murdoch**, Deputy District Director, Right of Way

APPROVAL RECOMMENDED:

Mohammed Chowdhury

for **Rimma Tebeleva**, Project Manager

APPROVAL RECOMMENDED:

Gregory Farr

**Gregory Farr**, Deputy District Director, Design

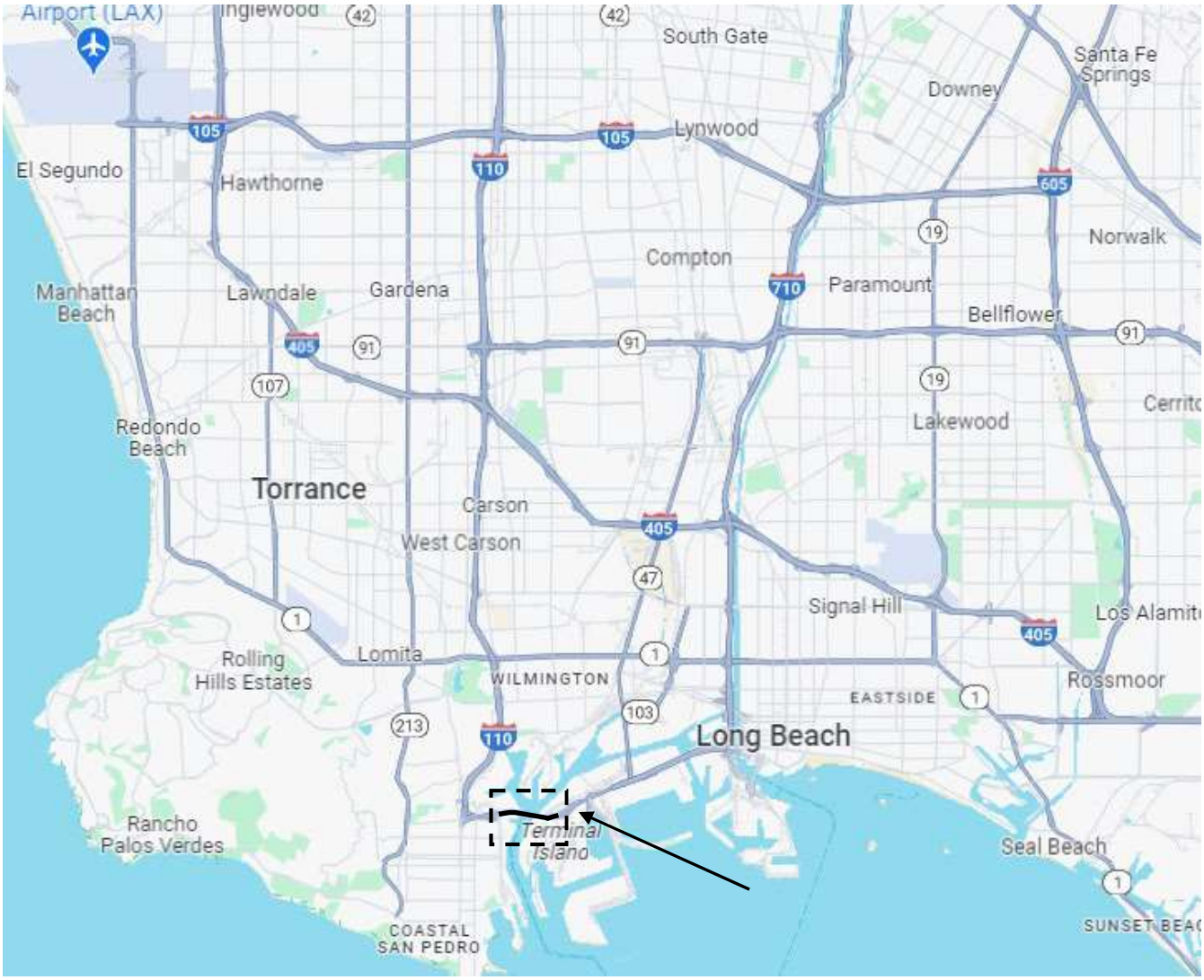
PROJECT APPROVED:

**Gloria Roberts**, District 7 Director

10/24/2024

Date

# Vicinity Map




Vincent Thomas Bridge Deck Replacement Project

LA-47-PM 0.4/2.0 - EA 390201

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.

10/14/2024

*REGISTERED CIVIL ENGINEER* *DATE*

# Table of Contents

## 1. INTRODUCTION

**Project Description**:

This project proposes to replace the entire bridge deck, bridge railings and fences, median barrier, seismic sensors, and upgrade the lighting system of the Vincent Thomas Bridge (VTB) (Bridge #53-1471) on State Route 47 (SR-47) in Los Angeles County as recommended by the Office of Structure Maintenance and Investigations.

| | | |
|---|---|---|
| **Project Limits** | LA-047, PM 0.4/2.0 | |
| **Number of Alternatives** | 2 – No Build, and Build | |
| | **Current Cost Estimate:** (Preferred Alternative) | **Escalated Cost Estimate:** (Preferred Alternative) |
| **Capital Outlay Support** | 91,355,000 | 95,520,000 |
| **Capital Outlay Construction** | 550,336,000 | 599,183,000 |
| **Capital Outlay Right-of-Way** | 1,730,000 | 1,730,000 |
| **Funding Source** | Bridge Formula Program 20.XX.201.116 | |
| **Funding Year** | 2026 | |
| **Type of Facility** | 4-Lane Freeway | |
| **Number of Structures** | 1 | |
| **SHOPP Project Output** | See Attachment I for SHOPP Performance Measures | |
| **Environmental Determination or Document** | EIR/EA | |
| **Legal Description** | In Los Angeles County, in the City of Los Angeles, on State Route SR-47 from PM 0.4 to PM 2.0 | |
| **Project Development Category** | Category 4B. Projects that do not require substantial new right-of-way and do not substantially increase traffic capacity. The project requires an Environmental Impact Report rather than a negative declaration or being categorically exempt under CEQA.. | |

## 2. RECOMMENDATION

It is recommended that this Project Report (PR) be approved to adopt the preferred alternative and that the project proceed to the development of the PS&E phase. The affected local agencies have been consulted concerning the recommended plan, their views have been considered, and the local agencies are in general accord with the plan as presented.

## 3. BACKGROUND

State Route 47 (SR-47) is a freeway that extends from Route I-110 in San Pedro via the Vincent Thomas Bridge to Route I-710. The Vincent Thomas Bridge is a cable-

suspension steel bridge spanning the main channel of Los Angeles Harbor between San Pedro and Terminal Island.

The structure, completed in 1963, has a total length of 6,062 feet. The bridge, which is the main gateway to the Port of Los Angeles, carries an average of 58,000 vehicles daily, of which 6.4% are heavy trucks.

The bridge consists of two concrete approaches (East and West) supported on concrete abutments and bents with span lengths varying between 130' and 230', and three cable-suspended spans of 500', 1500', and 500', comprising the middle portion of the bridge. Two main steel towers combined with massive concrete anchor blocks support these three central suspended spans. The concrete bridge concrete has a variable width between 54.5' for the suspended spans and 58' for the approach spans.

## 4. PURPOSE AND NEED

**Purpose:**

The purpose of the project is to restore the structural integrity of the Vincent Thomas Bridge (Bridge #53-1471) deck and improve the overall safety of the facility for the traveling public and maintenance workers.

**Need:**

There is a need to replace the bridge deck which is rapidly deteriorating due to concrete fatigue caused by heavy truck traffic and the salty marine environment it has been exposed to, throughout the past several decades. The bridge must be often closed for repairs which exposes maintenance crews working next to live traffic. In addition, the existing median barrier and railing do not meet the new Manual for Assessing Safety Hardware (MASH) standards.

### A. Problem, Deficiencies, Justification

In 2001, a Structure Maintenance investigation was performed, and it was determined that the bridge deck was 60% to 70% delaminated. A recommendation was made to rehabilitate the bridge deck with a polyester concrete overlay. In 2009, a polyester concrete overlay was applied to the bridge deck to address spalling in the bridge deck. Starting in 2011, new deck spalls began to occur and have been increasing in severity with each subsequent bridge inspection. An in-depth investigation of the bridge deck was performed using ground penetrating radar equipment, rapid automated sounding equipment, and physical and chemical concrete testing. Test results of concrete samples showed that the deck was failing below the polyester overlay causing the subsequent spalling.

A Structure Maintenance and Investigation (SM&I) Bridge Strategy Meeting was held on 09/09/2021 to determine the appropriate remediation strategy to address the accelerated deterioration of the bridge deck. The SM&I Bridge Strategy session recommended that the decks for both the suspended and approaching spans be removed and replaced.

## B. Regional and System Planning

The State Route 47, where the Vincent Thomas Bridge is located, is part of the following federal and State systems:

National Highway System (NHS)

The NHS consists of approximately 160,000 miles of highways across the United States, and it includes all interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors. SR-47 is a subset of the National Highway System, categorized under "Other NHS Routes".

Freeway and Expressway System

SR-47 is part of the State Highway System, according to Section 347 in Article 3 of the Streets and Highway Code.

Federal Surface Transportation Assistance Act (STAA)

The purpose of the STAA is to identify and address issues with highways and bridges included in the Interstate System, such as truck access and operations on highways. SR-47 is a Terminal Access route. A Terminal Access route allows STAA truck access between National Network Routes or a freight terminal facility.

State Planning

The 2015 Transportation Concept Report (TCR) for SR-47 identifies the segment containing the project as Segment 1A (Vincent Thomas Bridge). This segment has a functional classification of expressways and is a Terminal Access Route. Referencing the SCAG's 2012-2035 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS), the TCR recommends maintaining the existing facility of two mixed flow lanes in either direction through this segment.

Local Planning

The VTB deck replacement project is in conformance with the different improvement projects of the Port of Los Angeles Waterfront Master Plan which includes Front Street, Harbor Boulevard, and Regan Street to be part of the "Heavy Container Corridor". The project is also compatible with the San Pedro Waterfront and Promenade Master Plan.

## B. Traffic

Current Traffic

Table 4.1 below shows the total traffic and truck traffic volumes for the year 2022 from the Traffic Census Program. It is worth noting that the percentage of type 5 (5 axles or more) trucks make up 41% of the total heavy truck volume.

**Table 4.1 - Traffic Volumes and Traffic Composition (Year 2022)**

| Location | Total AADT | Peak MADT | Peak Hour (vph) | Total Truck AADT (%) | Truck 2 Axle AADT (%) | Truck 3 Axle AADT (%) | Truck 4 Axle AADT (%) | Truck 5 Axle AADT (%) | EAL Mill |
|---|---|---|---|---|---|---|---|---|---|
| SR-47 and Harbor Bl PM 0.43 | 58,000 | 64,000 | 5,800 | 5,104 (6.4) | 1,400 (27.4) | 1,387 (27.2) | 227 (4.4) | 2,091 (41.0) | 931 |

AADT: Annual Average Daily Traffic - MADT: Monthly Average Daily Traffic
vpd: vehicles per day - vph: vehicles per hour - EAL: Equivalent Axle Load –
Mill: Millions

Collision Analysis

Tables 4.2 through 4.4 show the number of collisions and their significance, the collision rates, and the collision types along the mainline and within the limits of the project for the period covering the years 2020-2022. The actual collision rates (Table 4.3) are lower than the statewide average for similar facilities. Analysis of collision data shows that rear-end and sideswipe are the most common types of collisions. These types of collisions are typically associated with traffic congestion and narrow shoulders and happen due to unsafe speed, improper turn, and inattention.

**Table 4.2 Number of Collisions/Significance (Years 2020-2022)**

| Location | Total | Fat. | Inj. | F+I | Multi Veh | Collision Conditions | | MVM |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Wet | Dark | |
| SR 47 Mainline Northbound PM 0.2 – 2.0 | 32 | 0 | 4 | 4 | 29 | 0 | 11 | 52.97 |
| SR 47 Mainline Southbound PM 0.2 – 2.0 | 27 | 0 | 13 | 13 | 23 | 2 | 9 | 52.97 |

F= Fatal; I= Injury; F+I= Fatal + Injury Pers Kld: Persons Killed - MVM: Millions of Vehicle Miles

**Table 4.3 Collision Rates (Years 2020-2022)**

| Location | Collision Rates | | | | | |
|---|---|---|---|---|---|---|
| | Actual | | | Statewide Average | | |
| | F | F+I | Total | F | F+I | Total |
| SR 47 Mainline Northbound PM 0.2 – 2.0 | 0.00 | 0.13 | 0.85 | 0.007 | 0.37 | 1.08 |
| SR 47 Mainline Southbound PM 0.2 – 2.0 | 0.00 | 0.27 | 0.65 | 0.007 | 0.37 | 1.08 |

**Table 4.4 Collisions/Types of Collision (Years 2020-2022)**

| Location | Total | Head-on (%) | Rear-end (%) | Sideswipe (%) | Broadside (%) | Hit Object (%) | Overturn (%) |
|---|---|---|---|---|---|---|---|
| SR 47 Mainline Northbound PM 0.4 – 2.0 | 32 | 0 (0%) | 18 (56.2%) | 11 (34.4%) | 0 (0.0%) | 3 (9.4%) | 0 (0.0%) |
| SR 47 Mainline Southbound PM 0.4 – 2.0 | 27 | 0 (0%) | 13 (48.2%) | 9 (33.3%) | 0 (0.0%) | 5 (18.5%) | 0 (0.0%) |

To eliminate and/or minimize the occurrence and severity of the collisions, new pavement markings, signage, object markers, and delineators will be installed per the latest standards. The lighting system along the bridge is also being upgraded.

## 5. ALTERNATIVES

The development of the Project Approval/Environmental Document (PA/ED), the preparation of the Plans, Specifications, and Estimate (PS&E), and the construction phases of this project is being performed under the Construction Manager/General Contractor (CMGC) Program. This is an innovative alternative delivery method that allows Caltrans to receive input on innovative design used in the industry, construction methodology, and staging strategies, from the CMGC technical team throughout the design process with the option to negotiate and become the General Contractor upon an agreed to price.

The following bridge deck replacement alternatives were developed with the close collaboration of the Caltrans Office of Structures Design, the CMGC team, and the participation of a multidisciplinary group composed of professional and technical staff from Caltrans, notably Project Management, Environmental, Roadway Design, Traffic Operations, Traffic and Electrical Design, Transportation Safety, Roadway and Structure Maintenance and Office of Right of Way among others.

### 5A. Viable Alternatives

Two general alternatives were evaluated for the VTB deck replacement:

**Alternative 1 - No Build alternative**.

This alternative keeps the existing operation and maintenance conditions of the deck and would not preserve the life of the Vincent Thomas Bridge, and therefore, does not meet the Purpose and Need of the project.

**Alternative 2 – Build Alternative**

This alternative proposes to replace the entire deck of the bridge with one of these deck-type options: a) Pre-cast Concrete (PC), b) Exodermic Deck Panels (concrete-filled grid), c) Cast-In-Place Concrete (CIP), and d) Orthotropic Steel Deck. Detailed information on the different deck types can be found in the Advance Planning Study Memo/Alternative Design Study.

Alternative 2 -Build Alternative Scope

The following is a list of the major scope items included in Alternative 2. Except for the types of decks referred to above, all the listed items are shared for the different deck materials or deck types analyzed, and therefore, they will apply to the selected preferred alternative.

- Removal and replacement of the existing lightweight bridge concrete deck along the approach and suspension spans with new concrete and/or orthotropic deck.
- Removal of the existing metal railing and steel plate curb (suspended spans) and their replacement with a CA ST-75 Bridge Rail.
- Removal of the existing 12’ height chain link fence on each side of the suspended spans, and its replacement with a 12’ height chain link fence.
- Removal of the existing Type 2 Barrier with a 6’ barrier-mounted chain link fence along approach spans, and replacement with a CA ST-75 bridge railing with a 9’ curb-mounted chain link fence.
- Removal of the existing median concrete barrier Type 50 and replacement with Type 60M concrete barrier or, optionally, a steel barrier.
- Removal and replacement of 18 joint seals along approach spans.
- Remove and replace 11 joint seals on suspension spans.
- Removal of 4 finger joints at four locations of the suspension spans and replacement with seismic joints.
- Removal of existing 26 seismic sensors and replacement with 44 upgraded seismic sensors.
- Removal and replacement of 29 barrier-mounted electroliers along approach spans.
- Upgrading of 160 light fixtures of the “low light system” along suspended spans.
- Installation/Upgrade of signs (2 OH signs and approximately 26 barrier and/or pole-mounted roadside signs), pavement delineation, and pavement marking per current standard.
- Installation of 30 power receptacles on the bridge's sub-structure for the maintenance painting crew.

The implementation of Alternative 2 (Build Alternative), considered four construction staging options allowing the design team to find the best option that produced the minimum environmental and traffic impacts.

The project team analyzed 9 construction scenarios, which were generated based on the “build alternative” scope when combined with the 3 deck types (orthotropic, cast-in-place, and precast concrete) and the four construction stages described below.

• **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last 16 or 41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and Pre-Cast deck types would lead to a construction timeline of approximately 16 months. A Cast-in-Place deck type would lead to a construction timeline of approximately 41 months. Consideration of a hybrid PC deck panel and CIP may be a worthwhile option to analyze during the design phase.

• **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, potentially reduced speeds of approximately 25 miles per hour (mph) due to narrowed lanes, and multiple weekends (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.

• **Three-Stage Construction:** This construction staging option would leave one lane open in each direction and would require the installation of a temporary support/bracing system. One lane would be open in each direction for each stage, and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.

• **Nighttime Bridge Closure:** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m. to 7:00 p.m.). The work would require the installation of a temporary support/bracing system and fully closing the bridge during nighttime hours (7:00 p.m. to 6:00 a.m.) every day. Construction would last approximately 48 months.

The following sections summarize the build alternative scenarios grouped according to the construction stage under which they were analyzed. Three of these scenarios are associated with the Single-Stage Construction, two with the two-stage Construction, two with the three-stage Construction, and the last two with the Nighttime Bridge Closure.

**Single-Stage Construction (Build Alternative - Scenarios 1-3).**

This Alternative involves the removal of the existing concrete deck on both the Approach spans and the Suspended span and replacing the existing deck with either, a Pre-Cast (PC) concrete deck on the approach spans or a steel Orthotropic deck on the suspended span (Scenario 1), Precast Concrete only (Scenario 2) or Cast in Place (CIP) throughout the entire bridge length (Scenario 3)

The closure and deck replacement time for the types of deck considered varied from 16 months for the PC-only and PC/Steel-Orthotropic combination (Scenario 1) to 41 months for the CIP-only option (Scenario 3). The preliminary escalated cost estimate of these deck options was, in the same order, $590M, $543M, and $589M. The first two options meet the March 2027 open-to-traffic project requirement. The CIP-only option extends its open-to-traffic date to Nov-2028.

**Two-Stage Construction (Build Alternative- Scenarios 4-5)**

This two-stage construction alternative involves the removal of the existing concrete deck on both the approach spans and the suspended spans and replacing the deck with either, a Pre-Cast (PC) concrete deck on the approach spans or a steel Orthotropic deck on the Suspended span (Scenario 4) or a Pre-Cast (PC) concrete deck throughout the entire bridge length (Scenario 5).

This alternative entails for the two scenarios considered the closure of half of the bridge and having 2 traffic lanes, one operating in each direction, separated by channelizers, during daytime with full closure of the bridge during nighttime. This will enable the bridge deck to be replaced in 2 stages (East Bound & West Bound) while keeping the bridge operational with one lane in each direction during daytime.

The closure and deck replacement time for the types of deck considered for the two scenarios was 25 months. Both scenarios meet the March 2027 open-to-traffic date timeline requirement. The preliminary escalated cost varied from $577M, for the Pre-Cast-only option (Scenario 4) to $541M for the Pre-cast on the approach spans and steel Orthotropic on the suspended spans option (Scenario 5). The current and mandatory 45 mph posted speed will be reduced to 25 mph throughout the construction zone.

**Three-Stage Construction (Alternative 2 - Scenarios 6-7)**

The Three-Stage involves the removal of the existing concrete deck on both the approach spans and the suspended span and replacing the deck with either, a pre-cast concrete deck throughout the entire length of the bridge (Scenario 6) or a pre-cast concrete deck on the approach spans and a steel Orthotropic deck on the suspended spans (Scenario 7).

This alternative entails the closure of one-third of the bridge having 2 traffic lanes, one operating in each direction during daytime, and full closure of the bridge during nighttime. The difference between the Two-Stage Construction Scenarios and the Three-Stage Construction Scenarios is that in the latter case, the traffic on the operating lanes is separated by a K-rail, while in the Two-Stage Construction Scenarios, the traffic lanes are separated by channelizers. Having a K-rail barrier separating the traffic flowing in opposite directions in a 2-lane configuration requires three stages for the deck replacement, thus requiring an additional time-demanding phase.

The closure and deck replacement time for the types of deck considered for the two scenarios was 32 months, with an estimated open-to-traffic July 2028, which is beyond the desired March 2027 date. The preliminary escalated cost of these two deck options varied from $581M for the Pre-cast/steel Orthotropic deck combination option to $532M for the Pre-Cast-only option. The current and mandatory 45 mph posted speed will be reduced to 25 mph throughout the construction zone.

**Accelerated Bridge Closure (Build Alternative - Scenarios 8-9)**

The Accelerated Bridge Closure alternative is comprised of replacing the bridge deck with either, a Pre-Cast concrete deck throughout the entire length of the bridge (Scenario 8), or a Pre-Cast concrete deck on the Approach spans and a steel Orthotropic

deck on the Suspended spans (Scenario 9).

Both options require a full bridge closure between 7:00 p.m. and 6:00 a.m. and opening the bridge to full traffic outside of these hours. Since the deck replacement on the Approaches will inhibit access to other parts of the bridge, these scenarios will consist of only 2 construction headings.

The actual deck replacement process for the Pre-cast option will be like the previous Alternative 2 Scenarios involving this type of deck, however, due to the limited working hours, this option will require an interim temporary bridge deck panel to be installed before completing the replacement operation with the permanent deck since the deck panel replacement with require multiple shifts. One of the several challenges and concerns with this deck replacement scenario is the difficulty of achieving sufficient concrete strength of the poured haunches over the girders in the limited available work. The preliminary escalated cost of this option (Scenario 8) is $597M.

For Scenario 9, the Orthotropic deck replacement on the suspended span would require a panel replacement that spans between the floor beams spaced every 30 ft. and the splices occurring in cantilever, a few feet beyond the floor beam. In this situation, it is not feasible to connect the newly placed Orthotropic deck panel to the adjacent existing deck, which would cantilever approximately 28 feet from the adjacent floor beam. This constructability limitation led to the conclusion that Scenario 9 is not constructible and therefore rejected as a potential alternative. No preliminary cost or construction schedule was developed for this scenario.

**Build Alternative – Early Work Packages (EWP)**

The complexity and size of the project will require the development of the following Early Work Packages which apply to the nine construction scenarios described in the previous sections:

- Installation of 4 elevators at ground level under the bridge for temporary use during construction for the labor force access at 4 convenient locations. These elevators are anticipated to be erected on concrete slabs poured directly on the existing paved areas without excavation or soil removal.

- Installation of a “Quick Deck” system along and under the bridge's sub-structure that will serve as a working platform and shielding for falling debris during construction. This installation will require temporary access to the ground area under the bridge to move crane equipment.

- Repair of local roads, under Early Work Packages (EWP), identified to serve as detour routes during the project's construction phase. The Final Environmental Document has recommended the repair of designated detour roads as a mitigation measure for the anticipated damage to the pavement structure caused by the significant increase in truck traffic during the bridge's full closures.

**Selection of the Preferred Alternative**

Caltrans has identified and selected the single-stage construction (full bridge closure) as the preferred construction staging option (Scenario 2) within the Build Alternative scenarios analyzed.

The single-stage construction (full bridge closure) option was selected by the Caltrans Project Development Team (PDT) for the following reasons:

- **Stakeholder feedback:** During the 90-day circulation period of the Draft EIR/EA Caltrans received 260 comments, many of which stated their preferred construction staging option. A total of 39 comments stated their preference for the single-stage construction (full bridge closure) option. Important project stakeholders such as the Port of Los Angeles (POLA), the Port of Long Beach (POLB), International Longshore and Warehouse Union (ILWU 13, 63, 94), Harbor Trucking Association, Pacific Merchant Shipping Association, Pacific Maritime Association, Los Angeles Department of Transportation (LADOT), Wilmington Neighborhood Council, Northwest San Pedro Neighborhood Council, Central San Pedro Neighborhood Council, City of Rancho Palos Verdes, and elected official Councilman Tim McOsker (Council District 15) all stated their preference for the single-stage construction (full bridge closure) option.

- **Schedule duration:** A closure of the Vincent Thomas Bridge (partial or full closure) would result in impacts to surrounding communities and facilities for the entire duration of construction. Caltrans, along with the feedback from project stakeholders, determined that a shorter construction duration is important in limiting traffic, economic, and other impacts to surrounding communities and facilities that utilize the Vincent Thomas Bridge. The single-stage construction (full bridge closure) option has the shortest construction schedule of the construction staging options proposed. The single-stage construction (full bridge closure) option with orthotropic or pre-cast deck types would result in a 16-month construction timeline. This timeline is much faster than the 25–48-month timelines for other construction staging options.

- **Worker and driver safety:** A full closure of the Vincent Thomas Bridge would result in no non-construction related vehicular traffic on the bridge for the entire duration of construction. With no vehicular traffic on the bridge, staging measures to separate travel lanes from construction and reduced lane widths would not be needed. This would not only allow for a faster construction timeline but also a safer work environment for construction crews on the bridge and safer for the public not having to drive through a one-lane roadway with no other access for the entire bridge length.

For the type of deck selection, a “type selection report” was prepared, which analyzed the constructability, cost, schedule, traffic handling, material suppliers’ capacity, etc., of the different deck materials originally considered (concrete cast-in-place, orthotropic, and concrete pre-cast slabs). The report recommended the pre-cast slab deck option with a full bridge closure schedule of 16 months.

**Non-Standard Design Features**

All the alternatives or scenarios discussed above share the same roadway geometric features. This project involves a suspended bridge structure, and the geometry of the roadway within the bridge limits cannot be modified unless the entire bridge superstructure is replaced with a new one, which is well beyond the purpose of this project. Thus, it is unfeasible to bring the existing non-standard roadway geometric features up to current standards.

The removal of the existing metal curb and railing and their replacement with an ST-75 railing along the suspended spans will provide the room to widen the deck 9" on each side (W=54.5' to W=56') for the installation of the new ST-75 railing (W=2') and keep the existing lane/shoulders configuration (2-12' lanes/0.5' inside-outside shoulders).

For the approach spans the existing deck width (W=58') will be maintained with the same lane/shoulder configuration of the suspended spans. The extra foot on each side behind the new ST-75 railing will accommodate the poles of new electroliers and the 9.5' high chain link fence. Currently, both the existing electroliers and chain link fence are mounted on the old Type 2 concrete railing, which is not possible to do on the planned ST-75 railing.

Tables 5.2A and 5.2B below summarize the non-standard geometric features that will be maintained for the reasons stated above and that were addressed by an approved Design Standard Decision Document (DSDD)

**Table 5.2A Non-Standard Design Features**

| Design Feature | No. of Locations | HDM Index | Standard | Existing | Proposed |
|---|---|---|---|---|---|
| Stopping Sight Distance | 4 | 201.1 | 360 ft (45 mph) | 338-360 ft (40-45 mph) | 293-360 ft (39-45 mph) |
| Cross Slope Standards | 2 | 301.3(2) 302.2(3) | 1.50% | 0.00-0.83% | 0.00-0.83% |
| Shoulder Width & Horizontal Clearance | 1** | 302.1 309.1(3)(a) | 10 ft 5 ft | 0.5-0.78 ft 0.5-0.78 ft | 0.5-0.78 ft 0.5-078 ft |
| Median Width | 1** | 305.1(3)(a) | 22 ft | 5 ft | 5 ft |
| | | | | | |

** Full length of the bridge (L=6,060 ft)

**Table 5.2B Non-Standard Design Features**

| Location | HDM Index | Nonstandard Element | Freeway Entrances and Exits | | |
|---|---|---|---|---|---|
| | | | Standard | Existing | Proposed |
| SB SR-47 Off-Ramp From Harbor Blvd | 504.2(2) | Departure Angle | 4°52'08" | 4°01'07.1" | 4°01'07.1" |
| | | Deceleration Length | 420 ft | 101.52 ft | 420 ft |
| | 504.2(2) 504.3(6) | Auxiliary Lane | 1300 ft | 0 ft | 0 ft |
| NB SR-47 On-Ramp From Harbor Blvd. | 504.2(2) | Merging Length | 1,067.11 ft | 409.87 ft | 409.87 ft |
| | 504.2(2) | Inlet Nose Radius | 3000 ft | 1400 ft | 1400 ft |
| | 504.2(2) | Lane Taper | 1:30 to1:50 | 1:21 | 1:21 |

### 5B. Rejected Alternatives

Eight of the nine Build Alternative (Alternative 2) scenarios analyzed in the previous section are viable to be implemented and meet the need and purpose of the project. Although every one of them has its advantages and disadvantages when compared to the others, all of them were offered to the public for their input during the public circulation of the Draft Environmental Document.

Alternative 2 Scenario 9 was considered not viable due to the constructability challenges presented by the connection of Orthotropic panels to the adjacent existing deck, and therefore it was rejected. Similarly, the No-Build-Alternative was rejected since it did not address or resolve the deficiency of the bridge structure.

## 6. CONSIDERATIONS REQUIRING DISCUSSION

### 6A. Hazardous Waste Management

The District Hazardous Waste Branch prepared a preliminary Hazardous Waste Reassessment for the project in July of 2023. Recommendations on how to manage potentially hazardous materials on the project site were provided. Notables are the potential presence of Aerially Deposited Lead at locations off the bridge where construction area signs will be installed, asbestos-containing materials (ACM) in the shim plates, weep holes and joint sealants, removed lead base paint (LBP) on the bridge structure, removed yellow and white traffic stripe, pavement marking, and electrical waste disposal produced by the removal of seismic sensors.

### 6B. Value Analysis

A Value Analysis (VA) Study was completed in December 2023. The purpose of the VA Study was to identify ways to improve the proposed alternatives by reducing their cost, reducing their schedule duration, reducing risks, and minimizing the traffic impacts to the users, stakeholders, and general communities in the vicinity of the project.

At the time of the final VA presentation, the decision-makers accepted 11 of the 16 proposed VA alternatives for project improvement. The net effect of improving upon the baseline design performance by +20.4%, and the anticipated cost impact is roughly $7,432,000 in initial savings, with no anticipated impact to the construction schedule. When these value elements are combined, they represent an overall value improvement over the baseline design of +20.9%. With the selection of the preferred alternative, two of the 11 accepted VA Alternatives are not applicable, which reduces the overall value improvement to 17% for the remaining 9 accepted VA Alternatives.

The nine VA Alternatives accepted are related and applicable to the design and construction of the structure portion of the bridge. The structure design team will assess their validity from the technical and economic viewpoints as the design progresses and incorporate them into the final PS&E package.

### 6C. Resource Conservation

The replacement of the deck of the Vincent Thomas Bridge will generate approximately 10,000 CY of concrete debris. This cubic yardage is independent of the alternative selected since the purpose and need of the project is the full replacement of the existing bridge deck. For the alternatives involving the concrete-orthotropic deck options (3), in addition to the cubic yardage of concrete debris generated it would have been necessary to dispose of approximately 20,000 Ft (approx. 680 Tons) of steel stringers (21WF68) that would have to be removed to make room for the orthotropic deck along the suspended spans. The replacement of the existing metal railing and steel plate curb with ST-75 railing along the suspended spans, and the replacement of the chain link fence throughout the length of the bridge will add approximately 100 Tons of reusable chain link fence or recyclable metal.

Following the Department policies regarding the minimization of consumption, destruction, and disposal of nonrenewable resources, it is recommended that cubic yardage of concrete debris be offered to Caltrans projects in the vicinity or to the Port of Los Angeles projects currently under development where it can be processed and used as base, sub-base or structural backfill. Similarly, the footage of the chain link removed will be offered to the Division of Maintenance for the repair of the fences where needed within District 7.

### 6D. Right-of-Way Issues

No permanent Right of Way will be required to complete the proposed construction of this project. A Right of Way Data Sheet was prepared and approved on 10/04/2024 (See Attachment F). Caltrans owns easement rights, which extend 25’ beyond the deck drip line or edges of the bridge since the bridge was constructed in 1963.

The CMGC team has expressed the need to install 4 temporary elevators at ground level under the bridge for workers' access during the construction phase. The installation of these elevators may require short temporary use of areas beyond the current State rights of way. The Port of Los Angeles has been contacted and they are receptive to issuing an entry permit license, which would minimize the interference with tenant operations.

**6E. Environmental Compliance**

Based on the location and scope of work of the proposed project, an Environmental Impact Report/Environmental Assessment (EIR/EA) (Attachment A) has been prepared for California Environmental Quality Act (CEQA) compliance and an Environmental Assessment (EA) has been prepared for National Environmental Policy Act (NEPA) compliance. Consistent with Caltrans requirements, the document prepared for the proposed project is a combined environmental document (EIR/EA), prepared following Caltrans environmental procedures, as well as with State and Federal environmental regulations.

**6F. Air Quality Conformity**

This project is exempt from regional (40 CFR 93.126) conformity requirements as it is categorized as "widening narrow pavements or reconstructing bridges (no additional travel lanes). A separate listing of the project in the Regional Transportation Plan and Transportation Improvement Program, and their regional conformity analyses, is not necessary."

**6G. Title VI Considerations**

It has been the FHWA's long-standing policy to actively ensure nondiscrimination under Title VI of the 1964 Civil Rights Act in federally funded activities. The Civil Rights Restoration Act of 1987 clarified the intent of Title VI to include all programs and activities of federal aid recipients, subrecipients, and contractors whether those programs and activities are federally funded or not. The proposed improvements would not cause any disproportionately high or adverse effects on any minority or low-income populations per the provisions of Executive Order 12898.

**6H. Noise Study Analysis**

The District Division of Environmental prepared a Noise Study Report (2023) to assess the noise impacts on the traveling public and the residential and commercial areas during the periods that the traffic will be detoured to the main arterials within the vicinity of the project, as a result of the implementation of the construction staging associated with the different alternatives. The study analyzed the route segments and intersections identified by the Traffic Operations Analysis Report (TOAR) (2024) as potential alternate routes.

Based on the analysis results, the noise impact for most of the residential areas along all alternate routes during daytime and nighttime resulted in less than a 3 dBA increase in noise levels. Just one area along Willow Street between SR-103 and Santa Fe Avenue would experience a noise increase of up to 5 dBA during the nighttime hours. However,

while this noise increase is considered readily noticeable, it must be noted that the future absolute noise levels of 60 – 65 dBA in this area would not exceed the threshold of 67 dBA. The study concluded that there are no substantial noise increases to the noise-sensitive areas, during daytime or nighttime along any of the detour routes identified due to the construction of the Vincent Thomas Bridge deck replacement project.

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### 6I. Life-Cycle Cost Analysis

The nature of the project, bridge structure deck replacement, does not lean itself to conduct a Life-Cycle Cost Analysis to determine the best option among the different deck materials (or their combination) analyzed. All the deck materials considered, cast-in-place concrete, precast concrete slabs, and steel orthotropic deck, guarantee a deck lifespan of 75 years, which is beyond the end of the remaining useful life of the bridge structure (40 years), which was put in service in 1963.

### 6J. Reversible Lanes

Per Assembly Bill AB 2542, this project does not qualify as a capacity-increasing or a major street or highway realignment project and reversible lanes will not be considered.

## 7. OTHER CONSIDERATIONS AS APPROPRIATE

### Public Hearing Process

A public circulation of the Draft Environmental Document (DED) and a public hearings process occurred between April 16 and July 15, 2024. The 4 construction staging options covering the 8 scenarios of the build alternative analyzed, were presented to the public in general, stakeholders, communities, and users for their comments and recommendations. Based on the input from the public, the Department's project development process policies, and the technical and economic aspects of the project, the full closure scenario of the build alternative was selected as the preferred alternative, as discussed previously in this document. This full-bridge-closure preferred alternative will advance to the design phase. More details of the Public Hearing Process and its outcome can be found in the Environmental Impact Report/Environmental Assessment (See Attachment A).

Meanwhile, the project team continues to get engaged with the local agencies and communities through regularly scheduled Technical Advisory Committee (TAC) and Community Advisory Committee (CAC) meetings which provide discussion opportunities with the public and stakeholders to focus on the development and implementation of the preferred alternative to better address the concerns of the general public and communities impacted by the project.

### Permits

This project will require to secure the following permits before the construction phase:

- US Coast Guard
- California Coastal Commission
- Port of Los Angeles (POLA)
- POLA Coastal Development Permit or exemption

In addition, it will require coordination with Pacific Harbor Line (PHL) the railroad Company operating under the bridge, through the execution of a Flagging Service Contract.

Similarly, with the selection of the detour routes, Cooperative or Service Agreements with the City of Los Angeles, the City of Carson, the City of Wilmington, and the City of Long Beach for the repairs anticipated for the designated detour routes and for the provision of traffic control officers and the signals timing adjustments required along such detours.

**Transportation Management Plan**

The Transportation Management Plan (TMP) developed for the Project Initiation Document (PID) was revised for the draft project report, then modified to cover the different strategies of the 8 scenarios analyzed, and now re-visited to ensure that it is still valid and applicable to the preferred alternative. This alternative will include a continuous full closure of the bridge for 16 months as well as temporary full closures during weekdays (nighttime) and extended weekends outside the 16-month period. The broad TMP prepared for the 8 scenarios is still applicable to meet the needs, after minor refinements, of the preferred alternative construction strategy.

Some TMP elements incorporated were Incident Management, by the addition of Freeway Service Patrol (FSP), Traffic Management Team (TMT), and Traffic Surveillance Stations (Loop detectors and CCTV) elements; the Construction Strategy, by the addition of Total Mainline Freeway Closures, Extended Weekend Closures and Ramp and Connector Closures elements and last, the Alternative Route Strategy, with the addition of street improvements like detours pavement repair, traffic delineation, traffic signal adjustment and traffic control officers to direct traffic during peak periods at key intersections (see Attachment J)

**Stage Construction and Detour Routes**

The Traffic Operation Analysis Report (TOAR) presents a comprehensive study of the traffic behavior on the freeways and main arterials within the area of influence (area impacted by the bridge construction traffic closures) of the Vincent Thomas Bridge facility. The study included 21 roadway segments and 61 intersections. Travel demand modeling was used to study traffic patterns near the project, analyzing various closure scenarios of Vincent Thomas Bridge. The study also suggested potential mitigation for 13 intersections to improve operations through delineation modification, lane re-assignment, and signal timing adjustments. The feasibility of the proposals will be further studied and evaluated with partner agencies during the project's design phase.

With the selection of the preferred alternative (full closure of the bridge) and the continuous input of the communities and stakeholders, potential detour routes have been identified. These routes are still preliminary and will be coordinated through the TMP task force, CAC, and TAC through the end of construction. These include the local routes Harry Bridges Bl, Alameda St, Henry Ford Ave, and Sepulveda Bl, which, combined with the freeways I-110, I-710 and the State routes SR-47, SR-103, and SR-1, will conform to the needed detour system. The cities impacted by these detours are

the City of Los Angeles, the City of Wilmington, the City of Long Beach, and the City of Carson.

### Accommodation of Oversize Loads

Due to the limited and confined cross-section of the bridge structure, which will not allow the provision of full lane widths or even narrow shoulders during the expected continuous traffic closures, no permit or oversize loads will be allowed on the bridge. Detour routes that can accommodate oversized loads will be properly identified for such purposes.

### Graffiti Control

The project is localized in an identified graffiti-prone area. All the proposed alternatives include an item with a dollar amount to cover the Application of Anti-Graffiti Coating.

### Asset Management

With the implementation of the improvements recommended in this Project Report, the Department will comply and will be aligned with the California Transportation Asset Management Plan (FY 2021/22 to FY 2031/32), which has set as a goal for the Bridges Asset Class the following: "Not less than 68% (2/3/)of bridge area to be in good or fair condition by 2027. Fix not less than an additional of 500 bridges by 2027". It is expected that the construction phase of this project will conclude by March of 2027 for the preferred alternative.

### Complete Streets

Caltrans's "Complete Streets" policies do not apply to this project, as all work will occur within the freeway's prism. Pedestrians, wheelchairs, bicycles, and other forms of non-motorized transportation are prohibited from using this segment. Additionally, the proposed project will not impact public transportation facilities.

### Broadband and Advanced Technologies

This project will not include broadband and advanced technology elements. Transportation Management Systems elements will be incorporated into the bridge structure by a separate project (07-36250), which proposes to upgrade the Transportation Management Systems (TMS) on Route 47. Proposed TMS elements include upgrade of fiber optic conduit and cables in both the roadway and bridge (Vincent Thomas Bridge), Closed-Circuit Television Video (CCTV) cameras, California Highway Patrol (CHP) Surveillance Cameras, Vehicle Detection Station (VDS), Traffic Census Station (TCS) and upgrade of existing analog communication equipment to Internet Protocol (IP)

## 8. FUNDING, PROGRAMMING AND ESTIMATES

### Funding

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

**Programming and Cost Estimates**

The table below provides for the selected alternative the current programmed information for the project cost component and the current cost estimate by component. The current cost estimate for support is escalated to the middle of each component at a rate of 3.5% per year for each component. The construction capital cost is escalated to mid-construction at a rate of 4.89% for FY 24/25 and 3.80% for FY 25/26 and beyond. The Right of Way capital is escalated at 8% to 07/30/2027.

| Fund Source | Programming by Fiscal Year Preferred Build Alternative (Thousands) | | | | | | | Current Estimate (Escalated) |
|---|---|---|---|---|---|---|---|---|
| 20.XX.201.116 | Prior | 24/25 | 25/26 | 26/27 | 27/28 | Future | Programmed Total | At PAED Total |
| Component | In thousands of dollars ($1,000) | | | | | | | |
| PA&ED Support | 17,140 | | | | | | 17,140 | 17,140 |
| PS&E Support | 20,900 | | | | | | 20,900 | 30,360 |
| Right-of-Way Support | 17 | | | | | | 17 | 1,684 |
| Construction Support | | | 39,840 | | | | 39,840 | 46,336 |
| Right-of-Way | | | 30 | | | | 30 | 1,730 |
| Construction | | | 628,464 | | | | 628,464 | 599,183 |
| Total | 38,057 | | 668,334 | | | | 706,391 | 696,433 |

## 9. DELIVERY SCHEDULE

| Project Milestones | | Milestone Date (Month/Day/Year) | Milestone Designation (Target/Actual) |
|---|---|---|---|
| PROGRAM PROJECT | M015 | 01/26/2023 | A |
| BEGIN PAED | M020 | 02/03/2023 | A |
| NOTICE OF PREPARATION (NOP) | M030 | 04/12/2023 | A |
| CIRCULATE DED EXTERNALLY | M120 | 04/16/2024 | A |
| PA & ED | M200 | 10/15/2024 | T |
| START PS&E | M210 | 10/16/2024 | T |
| PRE-60% PS&E | | 02/05/2025 | T |
| 60% PS&E | M313 | 03/15/2025 | T |
| PRE-95% PS&E | | 03/30/2025 | T |
| 95% PS&E | M315 | 05/20/2025 | T |
| PS&E TO DOE | M377 | 05/30/2025 | T |
| DRAFT STRUCTURES PS&E | M378 | 04/15/2025 | T |
| PROJECT PS&E | M380 | 06/20/2025 | T |
| RIGHT-OF-WAY CERTIFICATION | M410 | 06/23/2025 | T |
| READY TO LIST | M460 | 07/08/2025 | T |
| FUND ALLOCATION | M470 | 10/16/2025 | T |
| HEADQUARTERS ADVERTISE | M480 | 10/31/2025 | T |
| AWARD | M495 | 10/31/2025 | T |
| APPROVE CONTRACT | M500 | 12/01/2025 | T |
| END PROJECT | M800 | 01/13/2029 | T |
| PROJECT CLOSEOUT | M900 | 12/13/2029 | T |

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## 10. RISKS

The project development team (PDT) conducted re-evaluations of the Risk Register developed during the project initiation phase of the project. The original Risk Register list was modified as the project development progressed. The original Risk Register identified 24 active risks with a Risk Impact on Construction Capital of $111.8M (@ 70th percentile with 25% Contingency). The re-evaluated Risk Register added 20 active risks (total 41) with a Risk Impact on Construction Capital of $81.19M (@ 70th percentile with 17% Contingency). See Attachment H for more details on the re-assessed Risk Register.

## 11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

This project is considered a Delegated Project in accordance with the current FHWA and California Department of Transportation (Caltrans) Joint Stewardship and

Oversight Agreement. Therefore, this project is not listed on FHWA's list of risk-based project involvement projects.

The project requires the following coordination:

United States Coast Guard
Rivers and Harbors Act of 1899 Section 9
Bridge Permit

California Coastal Commission and/or Local Coastal Program
California Public Resources Code Division 20 (California Coastal Act)
Coastal Development Permit

Local Agency
Coordination with the City of Long Beach, the City of Los Angeles, the Port of Los Angeles, and the Port of Long Beach will continue during the design phase.

Railroads
A Railroad Agreement (Flagging Service Agreement) is anticipated to cover flagging services at railroad tracks crossing under one of the bridge spans.

## 12. PROJECT REVIEWS

Scoping team field review.
District Bridge Program Advisor Jennifer Man/Shawn Enjily
Headquarters SHOPP Program Advisor Cory Cowden
District Maintenance Shawn Silva
Caltrans Project Delivery Coordinator Robert Navarro
Project Manager Rimma Tebeleva
Structure Design Mina Pezeshpour, Jinrong Wang
District Safety Review Lee Haber
Constructability Review Kyle Kunitake
Skanska Consultant (CMGC Team) Tony Taddeo, Jeff Smith

## 13. PROJECT PERSONNEL

| Name, Title | Functional Unit | Phone # |
|---|---|---|
| Rimma Tebeleva | Project Manager | (213) 269 - 1791 |
| Mario Gutierrez | Senior T.E. – Design A | (213) 310 -2603 |
| Jason Roach | Environmental Planning | (213) 310 - 2653 |
| Jennifer Man | Program Advisor – Bridge | (213) 266 - 6911 |
| Jack Liu | Hazardous Waste Unit | (213) 269 - 1109 |
| Kyle Kunitake | Constructability | (213) 269 - 1568 |
| Kenneth Young | District Traffic Manager | (213) 435 - 7916 |
| Zebunnesa Tareke | District Design Liaison | (213) 269 - 0625 |

| | | |
|---|---|---|
| Jinrong Wang | Structure Design | (916) 639 - 5891 |
| Wilfred Domingo | Mobility Program Engineer | (213) 266 - 6020 |
| Mohammed Haider | Transp. Safety Engineer | (213) 266 - 6064 |
| Mike Francis | Structure Construction | (310) 766 - 0765 |
| George Saker | Construction | (310) -877 - 4183 |
| Dan Kopulsky | Multimodal System Planning | (213) 317 - 0566 |
| Fatemeh Ansari | Traffic Design Electrical | (213) 266 - 6180 |
| Tony Taddeo | Skanska – CMGC Team | (917) 741 – 8483 |
| Jeffrey D Smith | Skanska – CMGC Team | (951) 232 - 3868 |

## 14. ATTACHMENTS

A. Final Environmental Impact Report/Environmental Assessment
B. Location Map
C. Typical Cross Sections
D. Preliminary Layout Plans
E. Preferred Alternative Cost Estimate (11-page)
F. Right of Way Data Sheet
G. Storm Water Data Report
H. Risk Register
I. SHOPP – Performance Measures
J. Transportation Management Plan Datasheet

15. **REFERENCES –** Engineering Studies/Technical Reports (available upon request)

1. Advance Planning Study (APS) – Feb. 2024
2. Traffic Operations Analysis Report – June 2024
3. Noise Study Report – Dec. 2023
4. Preliminary Bird Abatement Program – Aug. 2024
5. Bridge Type Selection Report – July 2024
6. Asbestos and Lead-Containing Paint Survey Report – June 2024
7. Value Analysis Study – May-2024
8. Design Standard Decision Document – Oct. 2024

# ATTACHMENT A

# Final Environmental Impact Report/Environmental Assessment

# Vincent Thomas Bridge Deck Replacement Project

LOS ANGELES, CALIFORNIA
DISTRICT 7 – LA – 47 (PM 0.4/2.0)
39020/0722000334

# Final Environmental Impact Report/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.

Caltrans

**October 2024**

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# 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 Final Environmental Impact Report/Environmental Assessment (EIR/EA) with Finding of No Significant Impact for the proposed project located on the Vincent Thomas Bridge (State Route-47 [SR-47]) in the Port of Los Angeles (POLA) in Los Angeles County. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under 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 EIR/EA circulated to the public for 90 days between April 16, 2024 and July 15, 2024. Comments received during this period are included in Appendix F. Elsewhere throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications are not shown.

- This document may be viewed and downloaded at the following website: www.virtualeventroom.com/caltrans/vtb/.

## 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 the California Department of Transportation, Attn: Alex Brown, Environmental Planning, 100 S. Main St., Los Angeles, CA 90012; (213) 310-2590 (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.

FHWA Highway ID No.

SCH# 2023040301
07-LA-47-PM 0.4/2.0
39020
0722000334

Vincent Thomas Bridge Deck Replacement Project
(Postmile 0.4 to Postmile 2.0) in the Port of Los Angeles,
Los Angeles County, California

# Final Environmental Impact Report/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

Responsible Agency: California Transportation Commission

_____ 9/27/2024

Gloria Roberts
District Director
California Department of Transportation
NEPA Lead Agency

Date

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

Jason Roach
California Department of Transportation
100 South Main Street, MS-16A
Los Angeles, CA, 90012-3712
Phone No.: (213) 310-2653

# Finding of No Significant Impact (FONSI)

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

FOR

Vincent Thomas Bridge Deck Replacement Project

The California Department of Transportation (Caltrans) has determined that alternative (2: Build Alternative) 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.

| | |
|---|---|
| | 09/27/2024 |
| Caltrans District Director | Date |

Revised May 2022

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# Summary

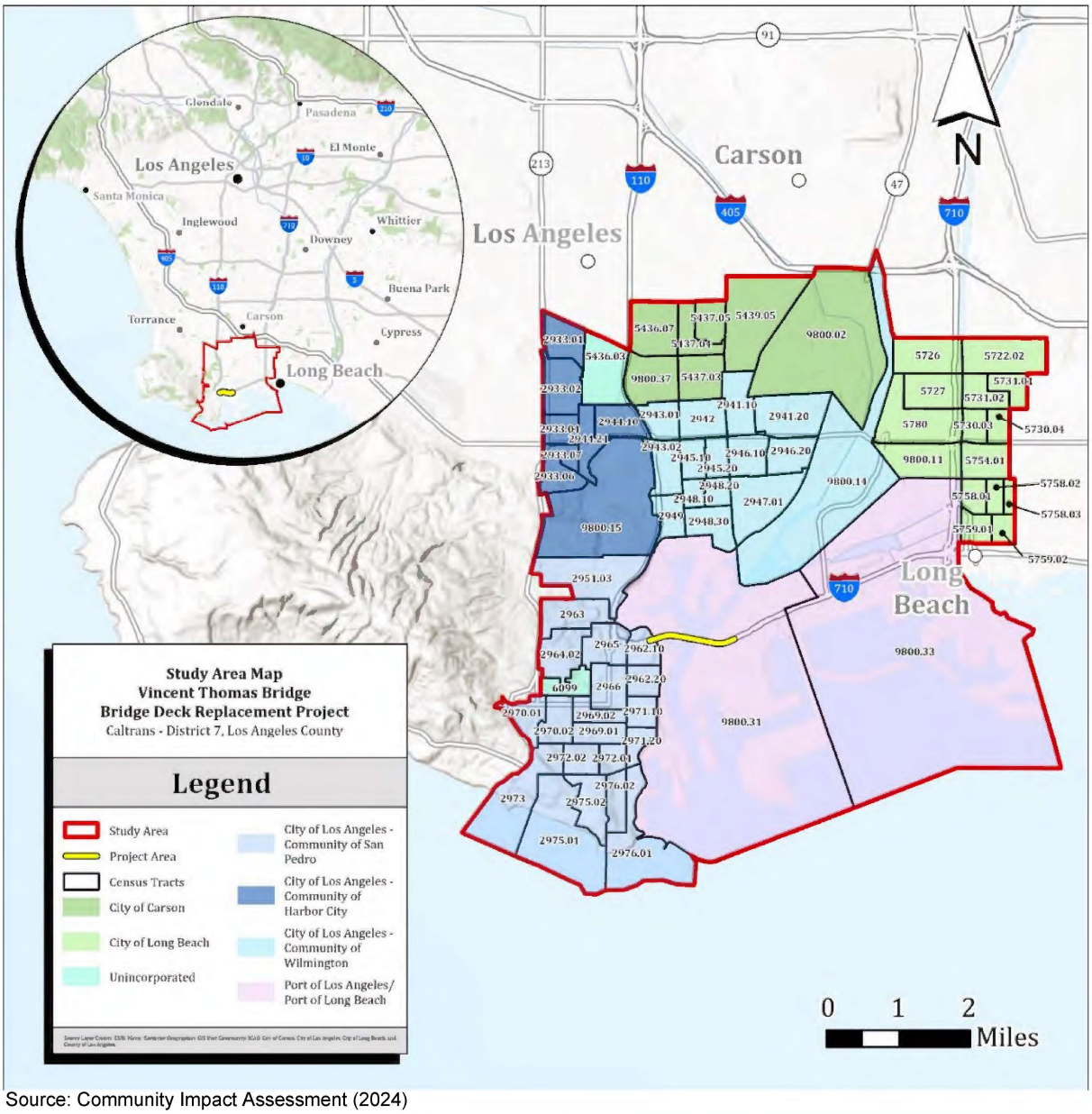
## NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 United States Code (USC) 327 for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. The Moving Ahead for Progress in the 21st Century Act (MAP-21) (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of 10 years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With the NEPA Assignment MOU, the FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 Categorical Exclusion (CE) Assignment MOU, projects excluded by definition, and specific project exclusions.

## Project Description

Caltrans is proposing to replace the deteriorated bridge deck, upgrade seismic sensors, and improve the existing median barrier and railings on the Vincent Thomas Bridge (State Route 47 [SR-47]) in the Port of Los Angeles (POLA). A regional location map is included on Figure S-1. The bridge deck is deteriorating due to concrete fatigue caused by heavy truck traffic over six decades of use. In 2009, a polyester concrete overlay was applied to the bridge deck to address spalling in the bridge deck; however, in 2011, new deck spalls began to occur and have been increasing in severity with each subsequent bridge inspection.

**Figure S-1: Regional Location Map**




Source: Community Impact Assessment (2024)

In-depth investigation of the bridge deck has been ongoing using ground-penetrating radar equipment, rapid automated sounding equipment, and physical and chemical concrete testing. Concrete test samples showed that the deck is failing below the polyester overlay causing the subsequent spalling. According to the latest bridge inspection (2022), the deck conditions have deteriorated from 'fair' to 'poor.' As a result of the evident grade of deterioration of the deck and the results of the physical and chemical testing performed, a technical team of the Office of Structure Maintenance and Investigation determined and recommended that the best strategy to extend the life of the bridge and provide a safe operation for the traveling public was to remove and replace the deck of both the suspended and approach spans of the Vincent Thomas Bridge.

The Vincent Thomas Bridge Deck Replacement Project is located at the southern end of SR-47 in Los Angeles County at the POLA in California, spans the Main Channel, and connects Smith Island to Terminal Island.

A No Build Alternative (Alternative 1) and a Build Alternative (Alternative 2) to replace the existing bridge deck on the Vincent Thomas Bridge are being evaluated as part of the proposed project. Additionally, four construction staging options for closure of the bridge were evaluated in the Build Alternative:

- **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last 16 or 41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and Pre-Cast deck types would lead to a construction timeline of approximately 16 months. A Cast-in-Place deck type would lead to a construction timeline of approximately 41 months.

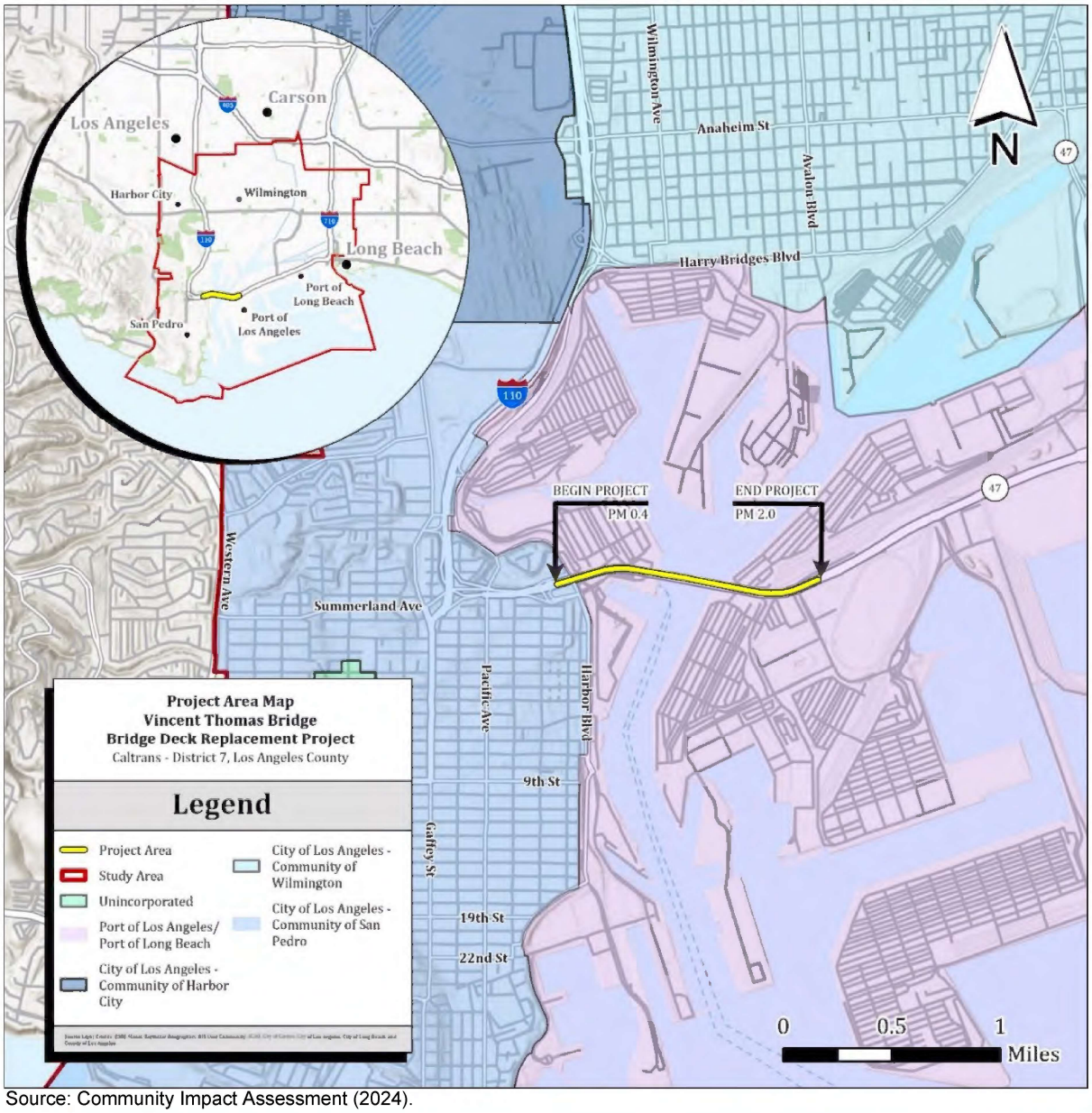
- **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, potentially reduced speeds of approximately 25 miles per hour (mph) due to narrowed lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.

- **Three-Stage Construction:** This construction staging option would leave one lane open in each direction and would require installation of a temporary support/bracing system. One lane would be open in each direction for each stage, and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.

- **Nighttime Bridge Closure:** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m. to 7:00 p.m.). The work would require the installation of a temporary support/bracing system and fully close the bridge during nighttime hours (7:00 p.m. to 6:00 a.m.) every day. Construction would last approximately 48 months.

The Build Alternative would include upgrading seismic sensors and improving the existing median barrier and railings on the bridge. The project limits are illustrated on Figure S-2.

**Figure S-2: Project Limits Map**




Source: Community Impact Assessment (2024).

The Build Alternative is necessary to preserve the life of the Vincent Thomas Bridge deck and ensure the safety of the traveling public. The No Build Alternative would not preserve the life of the bridge deck and would likely lead to emergency repair work and unplanned closures of the bridge.

The proposed project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to State and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and NEPA. Caltrans is the lead agency under both NEPA and CEQA. In addition, FHWA's responsibility for 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 Section 327 and the MOU dated May 27, 2022, and executed by the FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA has been prepared. The Final EIR/EA includes responses to comments received on the Draft EIR/EA and identifies the Preferred Alternative. A Notice of Determination (NOD) has been published for compliance with CEQA, and Caltrans has issued a Finding of No Significant Impact (FONSI) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI has been sent to the affected units of federal, State, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

## Project Impact

The proposed project requires closing the Vincent Thomas Bridge for a bridge deck replacement. The extent and duration of the closure would depend on the construction staging option that is chosen. In all staging options in the Build Alternative, there would be traffic impacts and the necessity for designated detour route(s), primarily through the neighborhood of Wilmington and the city of Carson, which are located north of the POLA.

The project’s primary impacts are due to construction and affect the community and traffic. All the closure options of the Vincent Thomas Bridge in the Build Alternative would require the use of detour route(s) to divert traffic to and from Terminal Island and away from the project site. The use of the detour route(s) by vehicular and port truck traffic could temporarily impact the community through increased traffic. A summary of anticipated project impacts for each construction staging option is shown in Table S-1.

## Table S-1: Anticipated Project Impacts

| Project Impacts for Each Construction Staging Option | Single-Stage Construction | Two-Stage Construction | Three-Stage Construction | Nighttime Bridge Closure |
|---|---|---|---|---|
| **Traffic** | **All Construction Options:** Temporary impacts that are less than significant with mitigation incorporated. (CEQA Determination)<br><br>The following mitigation measures and project feature will be implemented to help alleviate traffic impacts: MM-TR-1, MM-TR-2, and PF-TR-1. More information on these measures and project feature can be found in Section 2.10 Traffic and Transportation/Pedestrian and Bicycle Facilities under Avoidance, Minimization, and Mitigation Measures. | | | |
| **Biology** | **All Construction Options:** Temporary impacts that are less than significant with mitigation incorporated. (CEQA Determination)<br><br>Mitigation includes MM-BIO-1 through MM-BIO-7 include exclusionary devices on the bridge for peregrine falcons, bird surveying, and the construction of artificial nesting. More information on these measures can be found in Section 2.19 Animal Species under Avoidance, Minimization, and Mitigation Measures. | | | |
| **Environmental Justice** | **Single-Stage Construction:** Temporary disproportionately high and adverse effect on minority or low-income populations in accordance with EO 12898 for cumulative traffic and air quality impact. (NEPA Determination)<br><br>Mitigation includes MM-EJ-1 and MM-EJ-2 include regular and ongoing coordination with agencies and the community to coordinate construction schedules and to address community concerns. More information on these measures can be found in Section 2.8 Environmental Justice under Avoidance, Minimization, and Mitigation Measures. | **Two-Stage, Three-Stage, and Nighttime Closure Options:** No temporary disproportionally high and adverse effects on minority or low-income populations.<br><br>MitigationMM-EJ-1 and MM-EJ-2 would be implemented for these staging options (if selected). | | |
| **Cumulative** | **Single-Stage Construction:** Temporary significant and unavoidable impacts to environmental justice communities for cumulatively considerable impacts to traffic and air quality. (CEQA Determination)<br><br>The following mitigation measures will be implemented to help alleviate these impacts: MM-EJ-1 and MM-EJ-2, which include regular and ongoing coordination with agencies and the community to coordinate construction schedules and to address community concerns. The following mitigation measures and project feature will also be implemented: MM-TR-1, MM-TR-2, and PF-TR-1, | **Two-Stage, Three-Stage, and Nighttime Closure Options:** Temporary less than significant impact with mitigation incorporated to environmental justice communities for cumulatively considerable impacts to traffic and air quality. (CEQA Determination)<br><br>Impacts will be less than significant with the implementation of these mitigation measures: MM-EJ-1 and MM-EJ-2, which include regular and ongoing coordination with agencies and the community to coordinate construction schedules and to address community concerns. The following mitigation measures and project feature will also be implemented: MM-TR-1, MM-TR-2, and PF-TR-1, which include potential temporary modification of project area intersections to alleviate traffic increases, repair of detour routes, and changeable message signs to alert drivers of bridge closures and detour routes. More information on these measures can be found under Avoidance, Minimization, and Mitigation Measures in Section 2.8 Environmental Justice and Section 2.10 Traffic and Transportation/ Pedestrian and Bicycle Facilities. | | |

**Table S-1: Anticipated Project Impacts**

| Project Impacts for Each Construction Staging Option | Single-Stage Construction | Two-Stage Construction | Three-Stage Construction | Nighttime Bridge Closure |
|---|---|---|---|---|
| | which include potential temporary modification of project area intersections to alleviate traffic increases, repair of detour routes, and changeable message signs to alert drivers of bridge closures and detour routes. | | | |

Source 1: Traffic and Operations Analysis Report (2023).
Source 2: Natural Environment Study (2023).
Source 3: Community Impact Assessment (2024).

The project will require coordination with the public and other agencies. Other agency coordination will include, but not be limited to, consultation with the California Department of Fish and Wildlife (CDFW), the United States Coast Guard, and the California Coastal Commission (CCC). Necessary permits include a Harbor Development Permit (or Harbor Development Permit exemption) with the POLA, which will satisfy the requirements of a Coastal Development Permit with the CCC if the CCC agrees to the merits of the permitting application and decision. A full list of agency coordination and permits is available at the end of Section 1.3 Project Description.

Since the project's scoping period, Caltrans has engaged neighborhood councils, union organizations, chambers of commerce, councils of governments, other project area organizations, and the public to encourage feedback and solicit comments on the proposed project. Caltrans has also formed a Community Advisory Committee (CAC) and a Technical Advisory Committee (TAC) to facilitate feedback from interested stakeholders throughout the life of the project until the open-to-traffic date. The main concern raised by the public and project area organizations is regarding the potential detour route(s) and the impacts related to heavy truck traffic near neighborhoods. Another primary concern is the traffic impacts caused by the different construction staging options proposed on the Vincent Thomas Bridge.

# ATTACHMENT B

# Location Map

# LOCATION MAP


## Vincent Thomas Bridge Deck Replacement Project

LA-47-PM 0.4/2.0 - EA 390201

Attachment B

# ATTACHMENT C

# Typical Cross Sections

NOTE:
1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA,
   SEE R/W RECORD MAPS AT DISTRICT OFFICE.

2. BRIDGE DECK TYPE TO BE DETERMINED FROM THE FOLLOWING OPTIONS:
   A. ORTHOTROPIC STEEL DECK.
   B. PRECAST/PRESTRESSED DECK (PC/PS)
   C. CAST IN PLACE/REINFORCED DECK (CIP/RC)

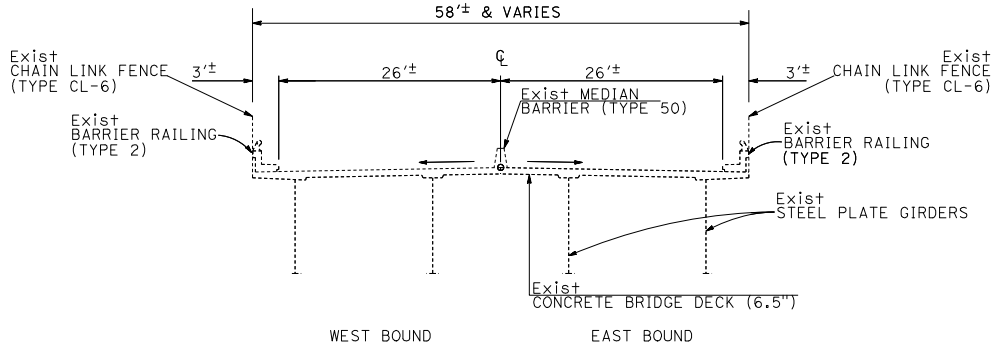
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

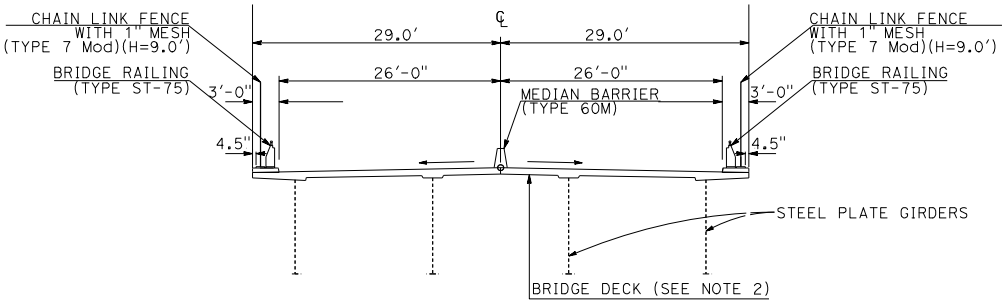
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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.




**EXISTING TYPICAL SECTION - APPROACH SPANS**

Sta 51+52.00 TO Sta 69+42.00
Sta 94+54.50 TO Sta 111+97.50
ROUTE 47




**PROPOSED TYPICAL SECTION - APPROACH SPANS**

Sta 51+52.00 TO Sta 69+42.00
Sta 94+54.50 TO Sta 111+97.50
ROUTE 47

## TYPICAL CROSS SECTION

NO SCALE

**X- 1**

## Attchment C - Typical Cross Sections

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans | DESIGN
FUNCTIONAL SUPERVISOR: MARIO GUTIERREZ
CALCULATED-DESIGNED BY: KENNY DUONG
CHECKED BY: WILFRIDO MORALES
REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 10-JUL-2023 | TIME PLOTTED => 06:44

BORDER LAST REVISED 8/5/2020 | USERNAME => s146431 | DGN FILE => 7390201ca001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT | PROJECT NUMBER & PHASE

NOTE:
1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.

2. BRIDGE DECK TYPE TO BE DETERMINED FROM THE FOLLOWING OPTIONS:
   A. ORTHOTROPIC STEEL DECK,
   B. PRECAST/PRESTRESSED DECK (PC/PS)
   C. CAST IN PLACE/REINFORCED DECK (CIP/RC)

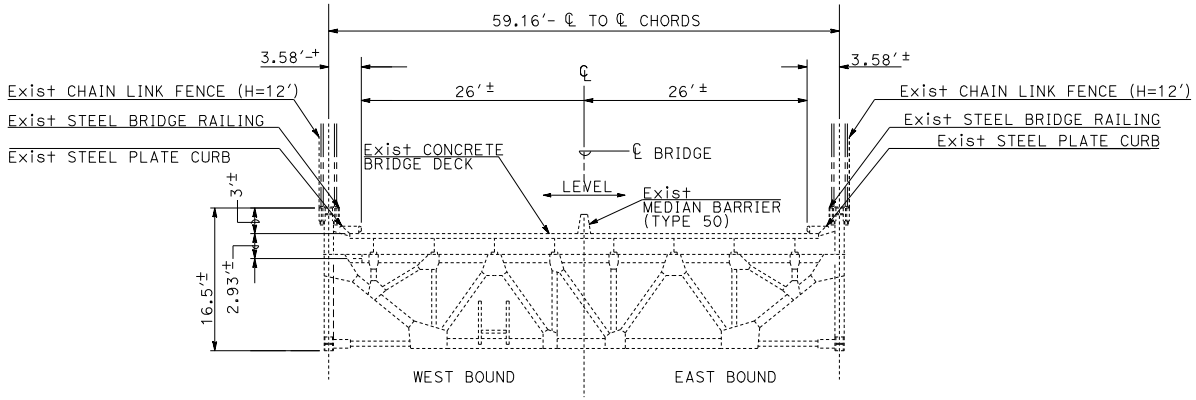
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

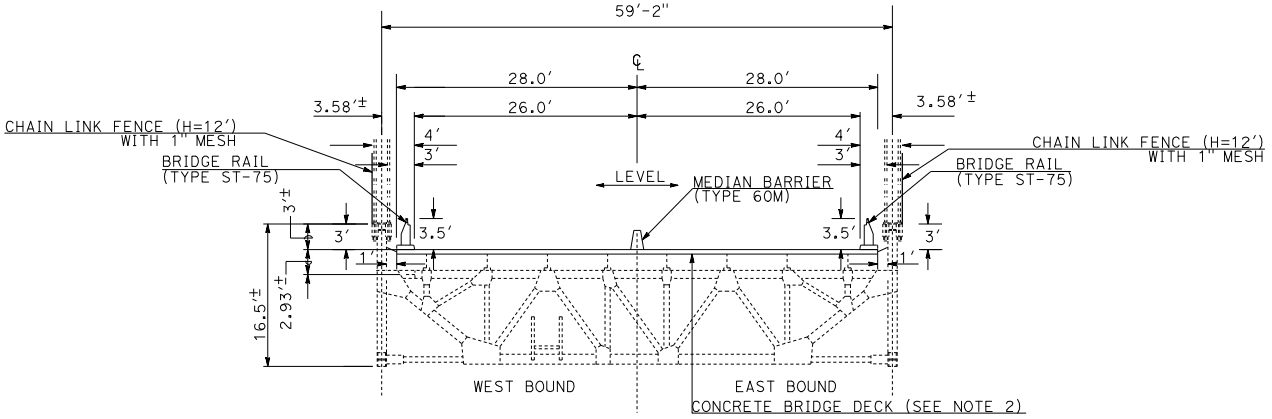
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.




**EXISTING TYPICAL SECTION - SUSPENDED SPANS**

Sta 69+42.00 TO 94+54.50

ROUTE 47




**TYPICAL SECTION - SUSPENDED SPANS**

Sta 69+42.00 TO 94+54.50

ROUTE 47

**TYPICAL CROSS SECTION**

NO SCALE

**X-2**

## Attachment C - Typical Cross Sections

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
FUNCTIONAL SUPERVISOR: MARIO GUTIERREZ
CALCULATED-DESIGNED BY: KENNY DUONG
CHECKED BY: WILFRIDO MORALES
REVISED BY
DATE REVISED

LAST REVISION
DATE PLOTTED => 10-JUL-2023
TIME PLOTTED => 06:51

BORDER LAST REVISED 8/5/2020
USERNAME => s146431
DGN FILE => 7390201ca002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT
PROJECT NUMBER & PHASE

# ATTACHMENT D

# Preliminary Layout Plans

INDEX OF PLANS

STATE OF CALIFORNIA

# DEPARTMENT OF TRANSPORTATION

## PROJECT PLANS FOR CONSTRUCTION ON

# STATE HIGHWAY

## IN LOS ANGELES COUNTY

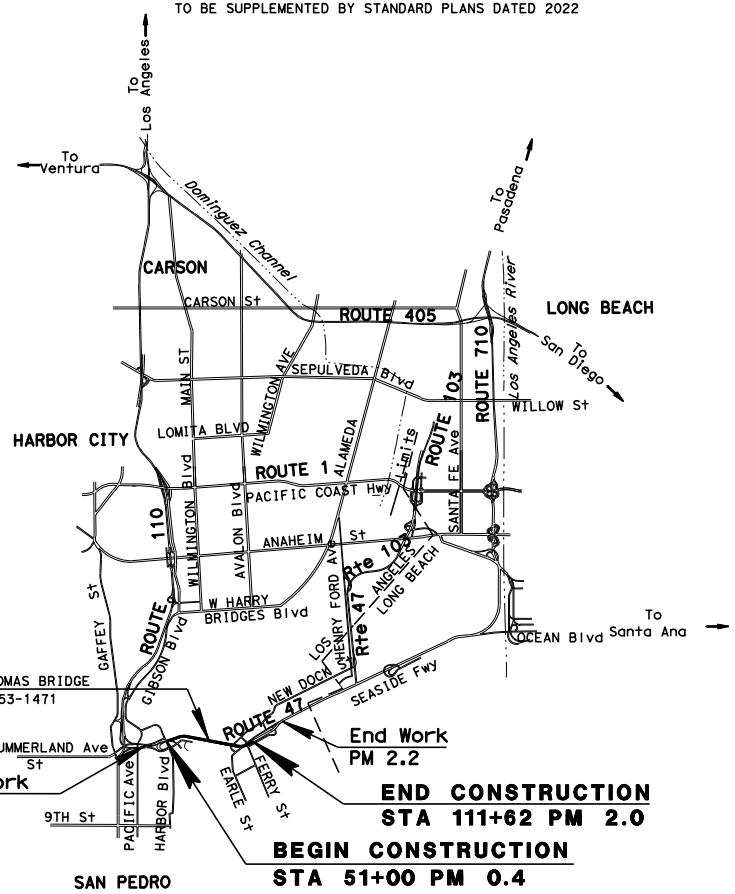
## IN LOS ANGELES

## AT VINCENT THOMAS BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2022

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 47 | R0.4/2.0 | | |


LOCATION MAP




NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

PROJECT ENGINEER
REGISTERED CIVIL ENGINEER
DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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.

| | |
|---|---|
| CONTRACT No. | 07-390204 |
| PROJECT ID | 0722000334 |

PROJECT MANAGER

DESIGN MANAGER
MARIO GUTIERREZ

DATE PLOTTED => 30-AUG-2024
TIME PLOTTED => 10:40

LAST REVISION 00-00-00

BORDER LAST REVISED 9/17/2018 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s146431 DGN FILE => 7390201ab001.dgn | UNIT 1796 | PROJECT NUMBER & PHASE 07220003341

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

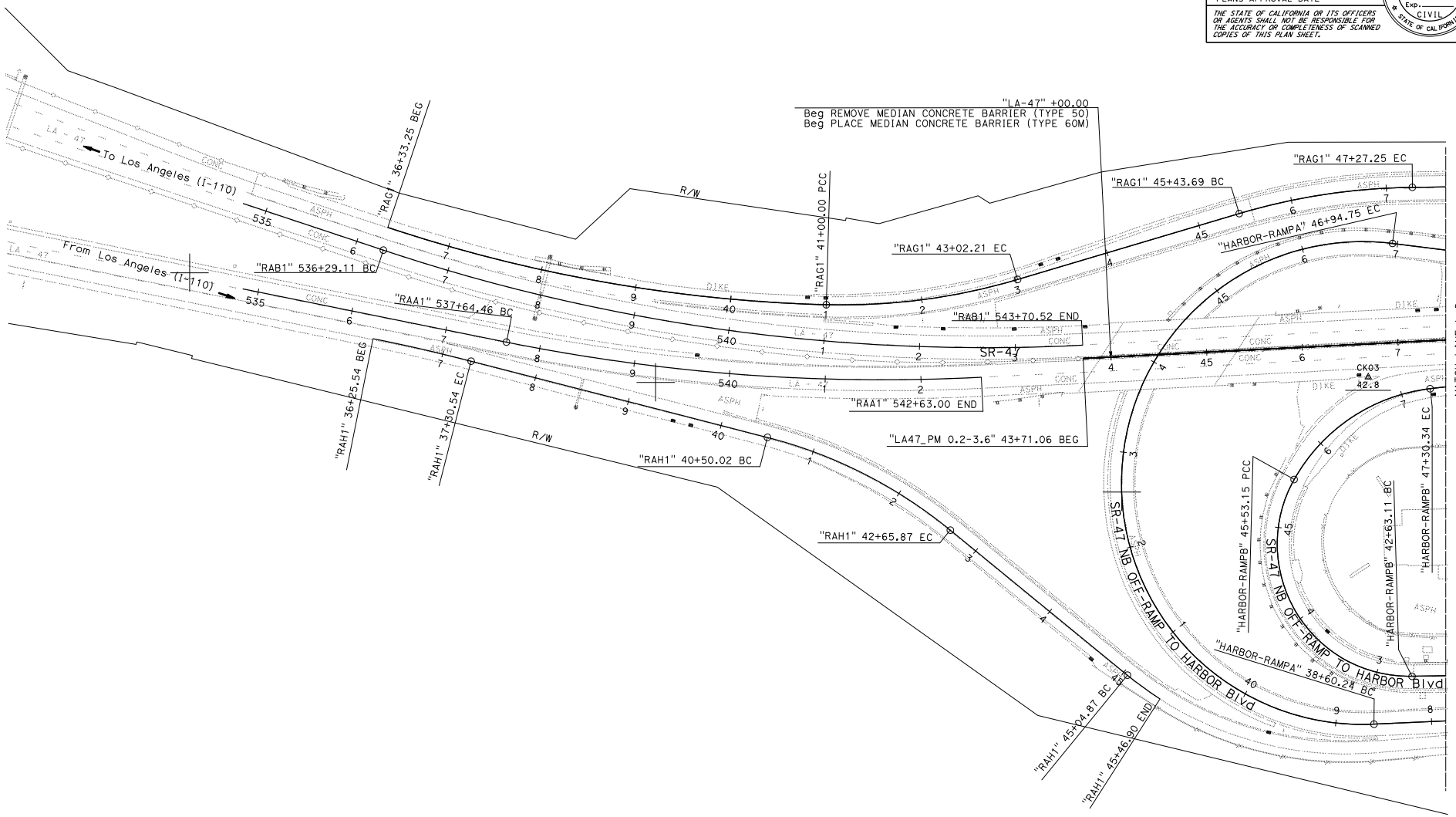
PLANS APPROVAL DATE

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.

NOTE:

1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.
2. BRIDGE DECK TYPE TO BE PRECAST/PRESTRESSED DECK (PC/PS)




## LAYOUT

SCALE: 1" = 50'

L-1

| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | KENNY DUONG | REVISED BY |
|---|---|---|---|---|
| Caltrans DESIGN | | CHECKED BY | WILFRIDO MORALES | DATE REVISED |

LAST REVISION | DATE PLOTTED => 10-SEP-2024 | TIME PLOTTED => 10:32

BORDER LAST REVISED 8/5/2020 | USERNAME => s146431 | DGN FILE => 7390201ea001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT | PROJECT NUMBER & PHASE

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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.

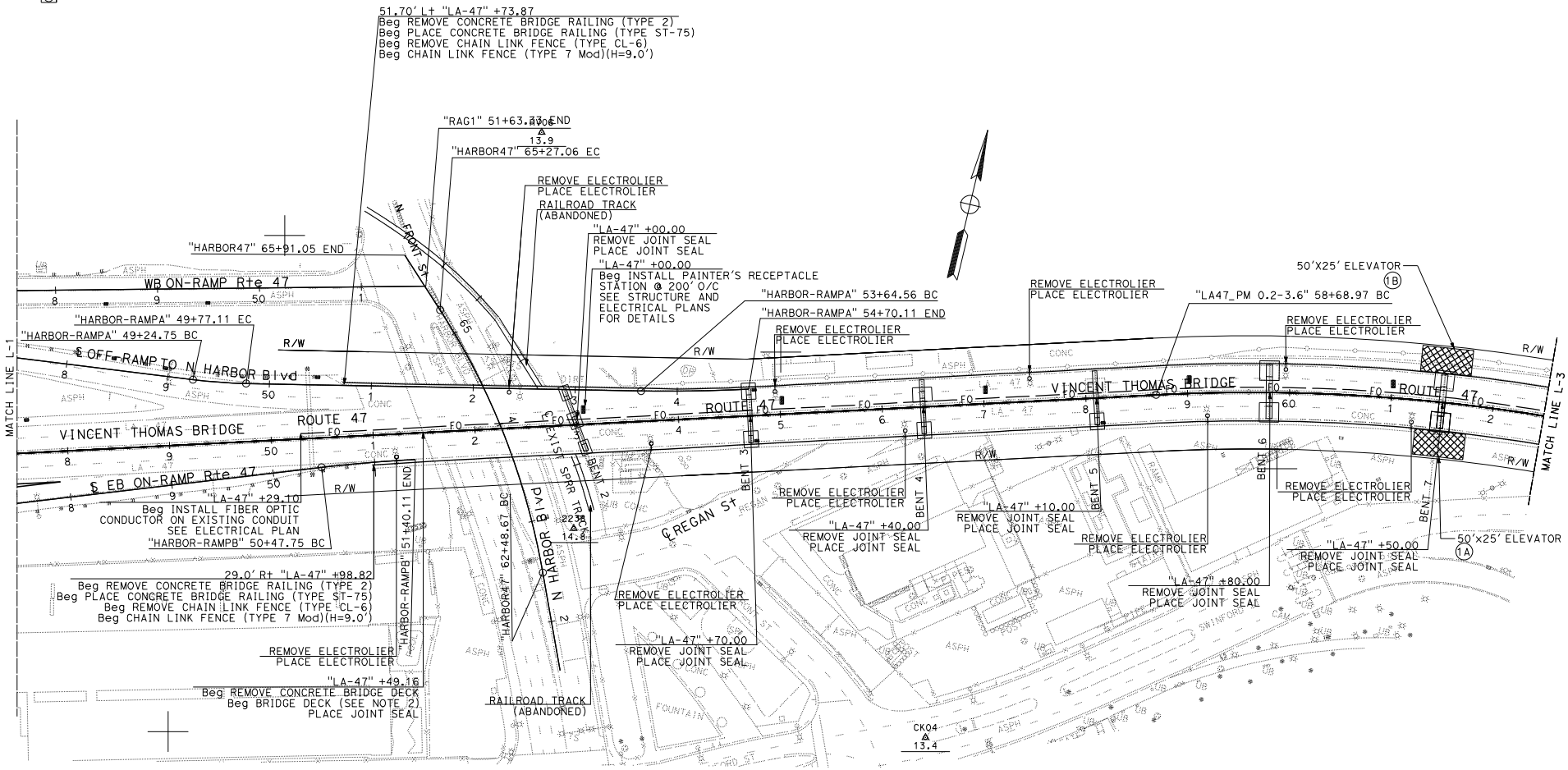
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

NOTE:

1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.
2. BRIDGE DECK TYPE TO BE PRECAST/PRESTRESSED DECK (PC/PS)

SYMBOL:

- ELECTROLIER (TYPE 15)
- BRIDGE LAMP FIXTURES - LOW LIGHT SYSTEM
- PAINTER'S RECEPTACLE STATION @ 200' O/C




# LAYOUT

L-2

| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED |
|---|---|---|---|---|---|
| DESIGN | | KENNY DUONG | WILFRIDO MORALES | | |

LAST REVISION | DATE PLOTTED => 10-SEP-2024 | TIME PLOTTED => 10:39

BORDER LAST REVISED 8/5/2020 | USERNAME => s146431 | DGN FILE => 7390201ea002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT | PROJECT NUMBER & PHASE

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

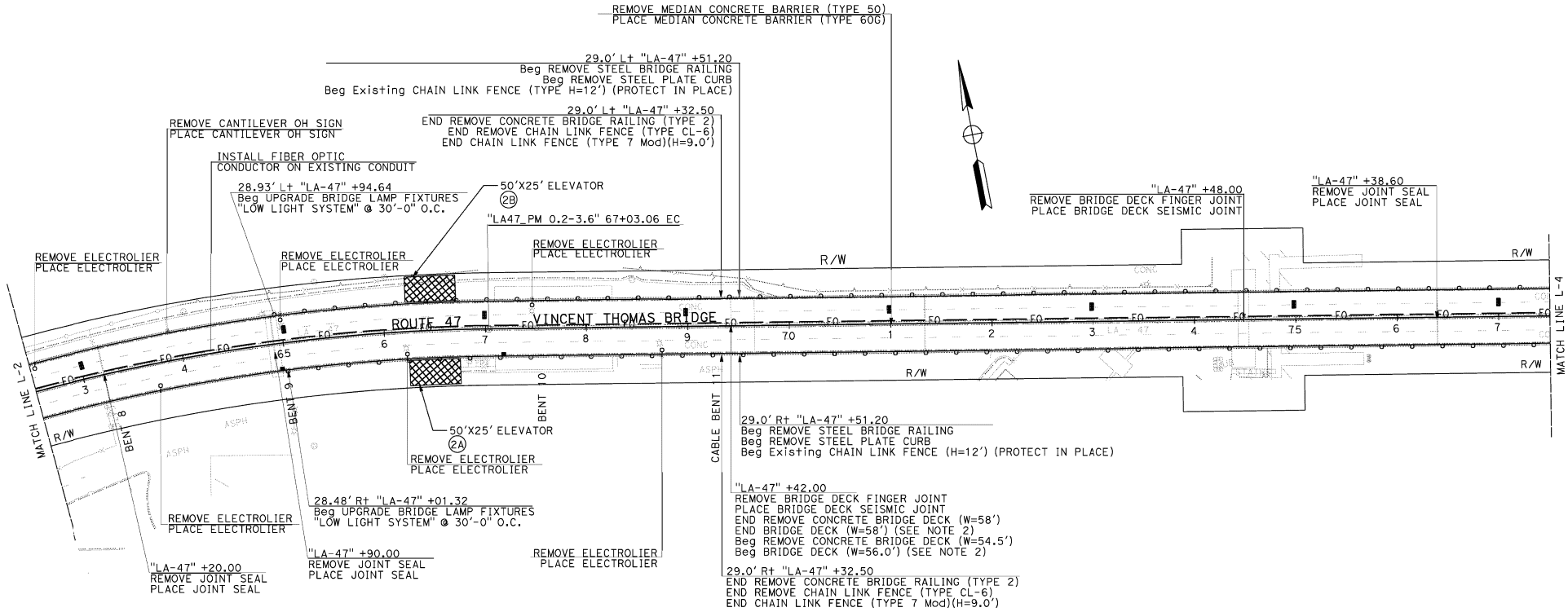
PLANS APPROVAL DATE

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.

**NOTE:**

1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.
2. BRIDGE DECK TYPE TO BE PRECAST/PRESTRESSED DECK (PC/PS)




# LAYOUT

L-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY: KENNY DUONG
CHECKED BY: WILFRIDO MORALES
REVISED BY
DATE REVISED
LAST REVISION
DATE PLOTTED => 10-SEP-2024
TIME PLOTTED => 10:41

BORDER LAST REVISED 8/5/2020 | USERNAME => s146431 | DGN FILE => 7390201ed003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT | PROJECT NUMBER & PHASE

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

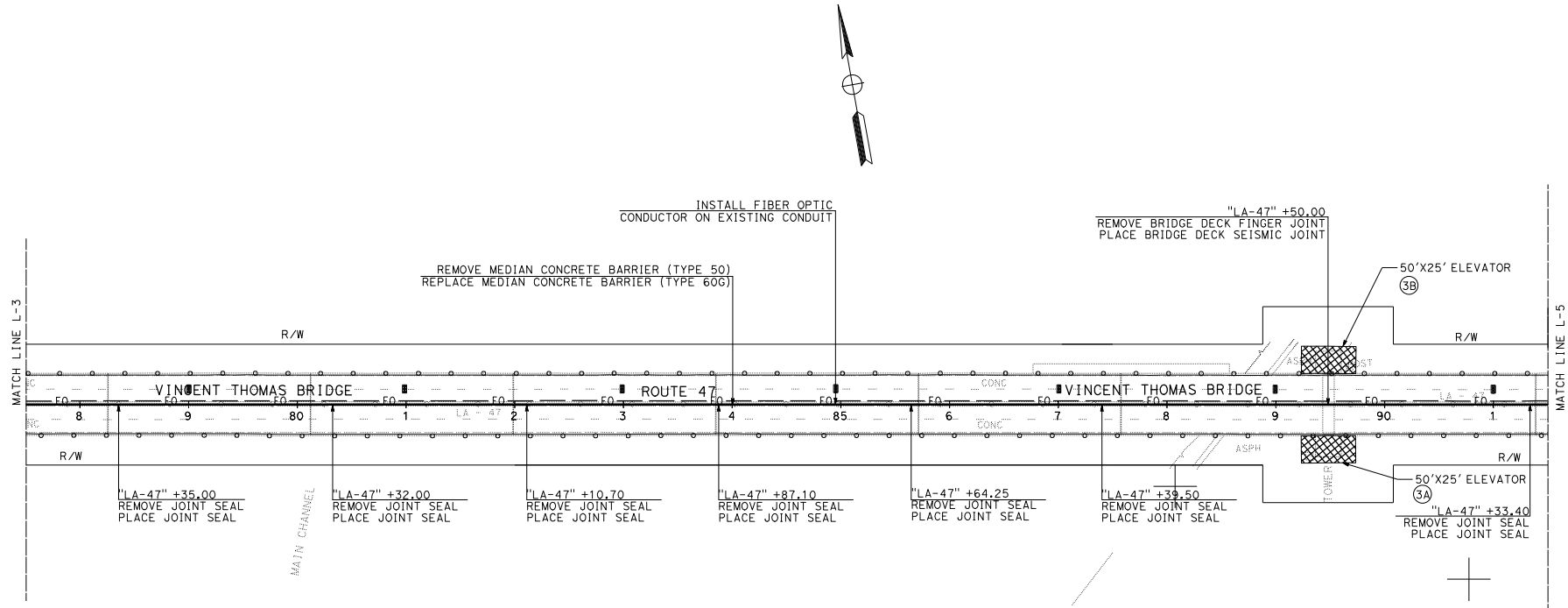
PLANS APPROVAL DATE

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.

NOTE:

1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.
2. BRIDGE DECK TYPE TO BE PRECAST/PRESTRESSED DECK (PC/PS)




## LAYOUT

L-4

| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED |
|---|---|---|---|---|---|
| DESIGN | | KENNY DUONG | WILFRIDO MORALES | | |

LAST REVISION — DATE PLOTTED => 10-SEP-2024, TIME PLOTTED => 10:42

BORDER LAST REVISED 8/5/2020 | USERNAME => s146431, DGN FILE => 7390201ea004.dgn | RELATIVE BORDER SCALE IS IN INCHES (0 1 2 3) | UNIT | PROJECT NUMBER & PHASE

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

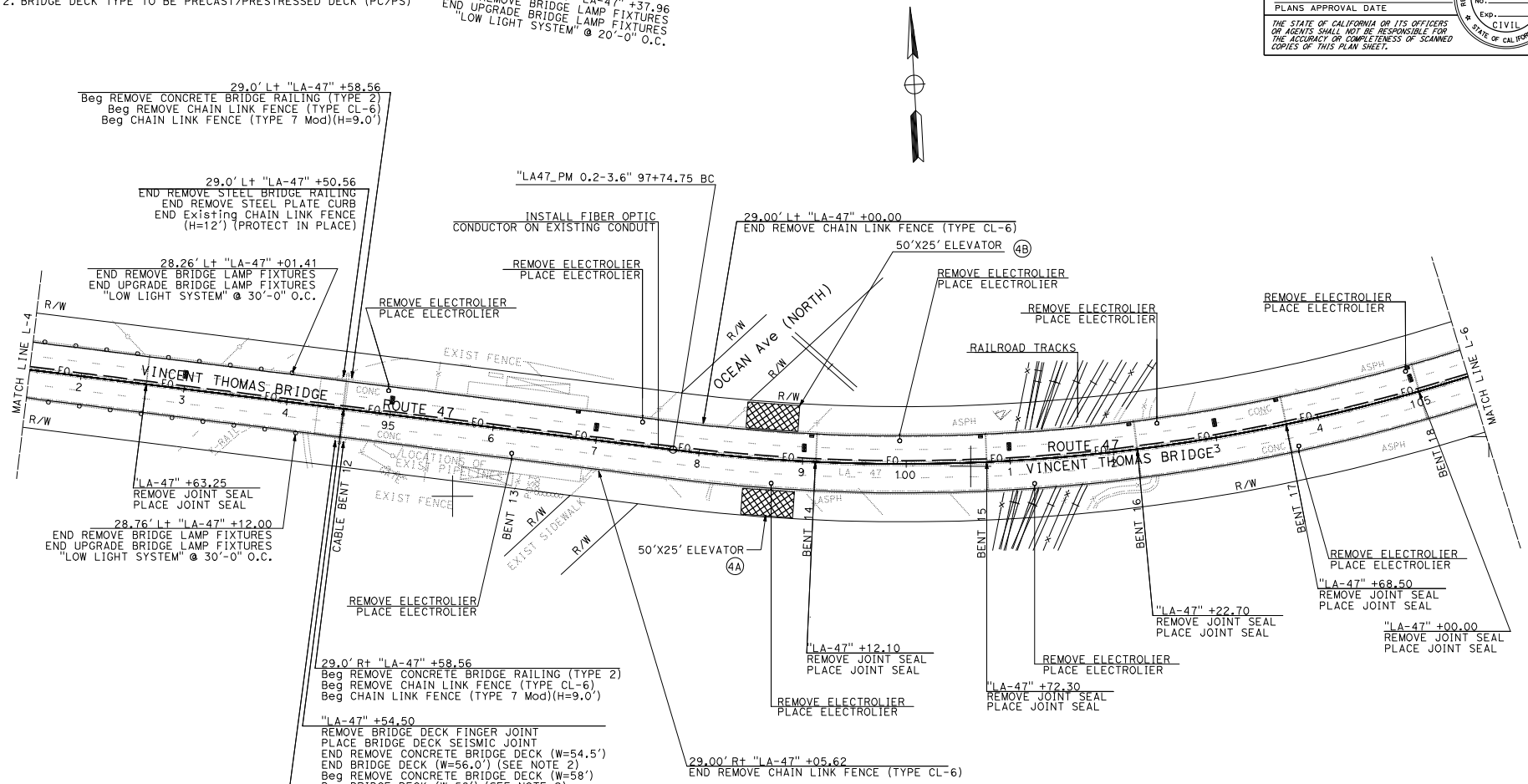
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

NOTE:

1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.
2. BRIDGE DECK TYPE TO BE PRECAST/PRESTRESSED DECK (PC/PS)

28.22' Lt "LA-47" +37.96
END REMOVE BRIDGE LAMP FIXTURES
END UPGRADE BRIDGE LAMP FIXTURES
"LOW LIGHT SYSTEM" @ 20'-0" O.C.




# LAYOUT

L-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DESIGN

FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY: KENNY DUONG — CHECKED BY: WILFRIDO MORALES

REVISED BY — DATE REVISED

LAST REVISION — DATE PLOTTED => 12-SEP-2024 — TIME PLOTTED => 09:36

BORDER LAST REVISED 8/5/2020 | USERNAME => s146431 | DGN FILE => 7390201ea005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT | PROJECT NUMBER & PHASE

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER DATE

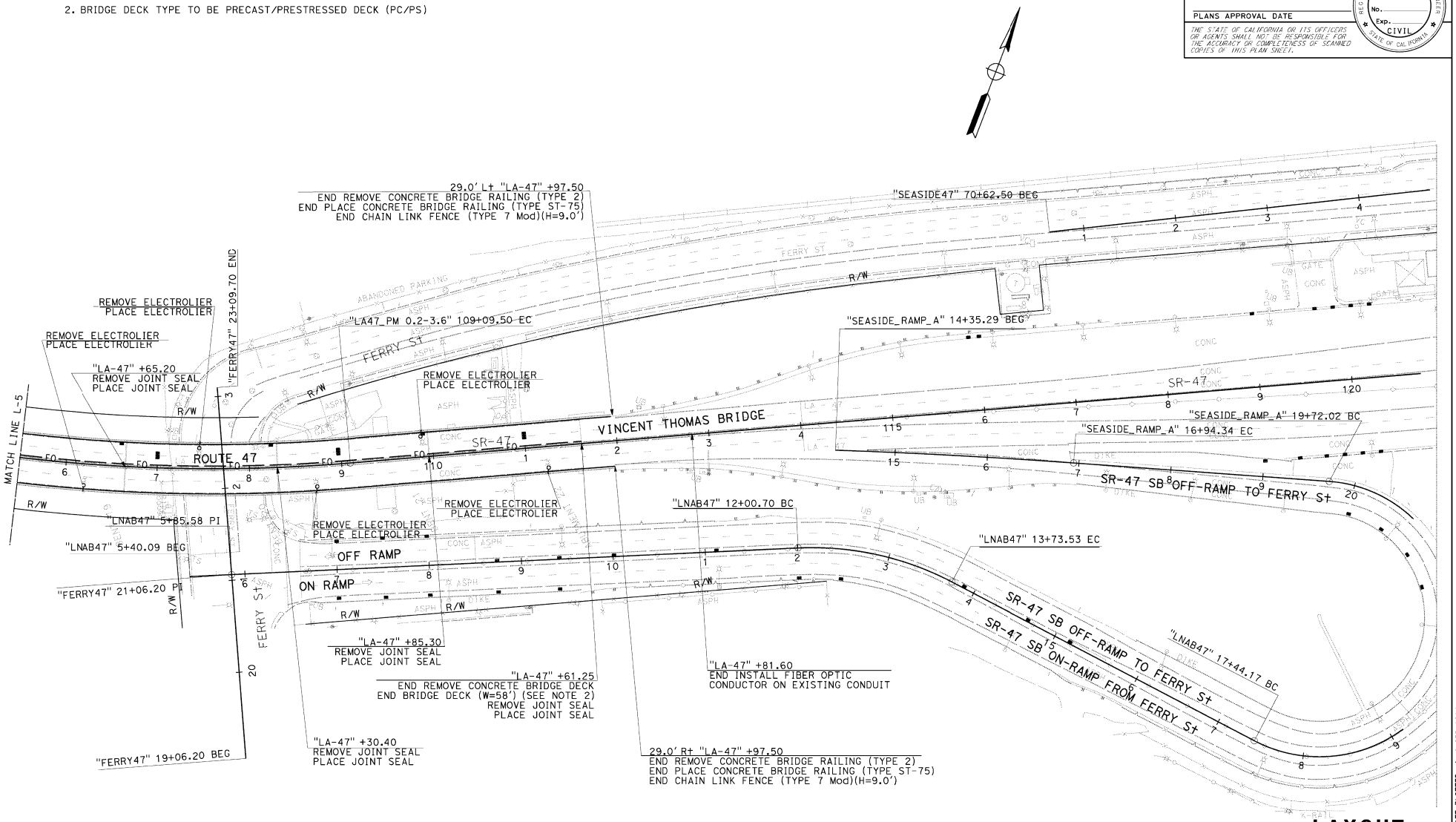
PLANS APPROVAL DATE

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.

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

**NOTE:**

1. FOR COMPLETE R/W AND ACCURATE ACCESS DATA, SEE R/W RECORD MAPS AT DISTRICT OFFICE.
2. BRIDGE DECK TYPE TO BE PRECAST/PRESTRESSED DECK (PC/PS)




**LAYOUT**

**L-6**

| REVISED BY | DATE REVISED |
|---|---|
| KENNY DUONG | |
| WILFRIDO MORALES | |

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

LAST REVISION

DATE PLOTTED => 10-SEP-2024

TIME PLOTTED => 10:47

BORDER LAST REVISED 8/5/2020

USERNAME => s146431

DGN FILE => 7390201ea006.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT

PROJECT NUMBER & PHASE

# ATTACHMENT E

# Cost Estimate of Preferred Alternative

# *39020 - Cost Estimate*

## Project ID: 0722000334

**Type of Estimate :** Project Report
**Program Code :** SHOPP
**Project Limits :** LA-47-PM 0.4/2.0
**Description:** Vincent Thomas Bridge Deck Replacement
**Scope :** Replace Bridge Deck, Replace Seismic Sensors, Replace Bridge Railings and Median Concrete Barrier, Replace Chain Link Fence, Upgrade Lighting System
**Alternative :** Option # 2 Full Closure PC Approach and PC Main Span

| | Current Total Cost | Escalated Cost |
|---|---|---|
| **ROADWAY ITEMS** | $ 154,566,169 | $ 168,285,184 |
| **STRUCTURE ITEMS** | $ 395,770,200 | $ 430,898,051 |
| **SUBTOTAL CONSTRUCTION COST** | $ 550,336,000 | $ 599,183,000 |
| **RIGHT OF WAY** | $ 1,730,000 | $ 1,730,000 |
| **TOTAL CAPITAL OUTLAY COST** | $ 552,066,000 | $ 600,913,000 |
| **PA/ED SUPPORT** | $ 17,140,000 | $ 17,140,000 |
| **PS&E SUPPORT** | $ 29,333,000 | $ 30,360,000 |
| **RIGHT OF WAY SUPPORT** | $ 1,627,000 | $ 1,684,000 |
| **CONSTRUCTION SUPPORT** | $ 43,255,000 | $ 46,336,000 |
| **TOTAL CAPITAL OUTLAY SUPPORT COST*** | $ 91,355,000 | $ 95,520,000 |
| **TOTAL PROJECT COST** | $ 643,421,000 | $ 696,433,000 |

*If Project has been programmed enter* Programmed Amount

| | Month / Year |
|---|---|
| Date of Estimate (Month/Year) | 8 / 2024 |
| Estimated Date of Construction Start (Month/Year) | 1 / 2026 |
| Number of Working Days | 352 Working Days |
| Estimated Mid-Point of Construction (Month/Year) | 10 / 2026 |
| Estimated Construction End (Month/Year) | 7 / 2027 |

***Estimated Project Schedule***

| | |
|---|---|
| *PID Approval* | 10/20/22 |
| *PA/ED Approval* | 10/01/24 |
| *PS&E* | 06/20/25 |
| *RTL* | 07/08/25 |
| *Begin Construction* | 01/26/26 |

Reviewed by Design Manager — Mario Gutierrez, Design Manager — (213) 310-2603 Phone

Approved by Project Manager — Mohammed Chowdhury — Rimma Tebeleva, Project Manager — (213) 269-1791 Phone

# I. ROADWAY ITEMS SUMMARY

| | Section | Cost |
|---|---|---|
| 1 | Earthwork | |
| 2 | Pavement Structural Section | $ 47,000 |
| 3 | Drainage | $ 1,000,000 |
| 4 | Specialty Items | $ 17,300,685 |
| 5 | Environmental | $ 8,684,834 |
| 6 | Traffic Items | $ 22,650,754 |
| 7 | Detours | $ 24,231,500 |
| 8 | Minor Items | $ 4,434,900 |
| 9 | Roadway Mobilization | $ 11,752,500 |
| 10 | Supplemental Work | $ 6,128,497 |
| 11 | State Furnished | $ 3,296,704 |
| 12 | Contingencies | $ 18,283,828 |
| 13 | Overhead | $ 36,754,967 |
| | **TOTAL ROADWAY ITEMS** | **$ 154,566,169** |

| | | | |
|---|---|---|---|
| **Estimate Prepared By :** | Wilfrido Morales, Project Engineer | 10/14/2024 | (213) 266-6239 |
| | Name and Title | Date | Phone |
| **Estimate Reviewed By :** | Mario Gutierrez, Design Manager | 10/14/2024 | (213) 310-2603 |
| | 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 |
|---|---|---|---|---|---|---|---|---|
| 160101 | Clearing & Grubbing | LS | | x | | = | $ | - |
| 170101 | Develop Water Supply | LS | 1 | x | 0.00 | = | $ | - |
| 190101 | Roadway Excavation | CY | | x | | = | $ | - |
| 190103 | Roadway Excavation (Type Y) ADL | CY | | x | | = | $ | - |
| 190105 | Roadway Excavation (Type Z-2) ADL | CY | | x | | = | $ | - |
| 192037 | Structure Excavation (Retaining Wall) | CY | | x | | = | $ | - |
| 193013 | Structure Backfill (Retaining Wall) | CY | | x | | = | $ | - |
| 193031 | Pervious Backfill Material (Retaining Wall) | CY | | x | | = | $ | - |
| 194001 | Ditch Excavation | CY | | x | | = | $ | - |
| 198001 | Impored Borrow | CY | | x | | = | $ | - |
| 198007 | Imported Material (Shoulder Backing) | TON | | x | | = | $ | - |
| XXXXXX | | ls | 1 | x | 0.00 | = | $ | - |

**TOTAL EARTHWORK SECTION ITEMS $ -**

## SECTION 2: PAVEMENT STRUCTURAL SECTION

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 398100 | Remove Asphalt Concrete Dike | LF | | x | | = | $ | - |
| 150860 | Remove Base and Surfacing | CY | | x | | = | $ | - |
| 153103 | Cold Plane Asphalt Concrete Pavement | SQYD | 130 | x | 85.26 | = | $ | 11,084 |
| 1532XX | Remove Concrete (type) | CY | | x | | = | $ | - |
| 250401 | Class 4 Aggregate Subbase | CY | | x | | = | $ | - |
| 260303 | Class 3 Aggregate Base | CY | | x | | = | $ | - |
| 280000 | Lean Concrete Base | CY | | x | | = | $ | - |
| 290201 | Asphalt Treated Permeable Base | CY | | x | | = | $ | - |
| 365001 | Sand Cover | TON | | x | | = | $ | - |
| 374002 | Asphaltic Emulsion (Fog Seal Coat) | TON | | x | | = | $ | - |
| 374492 | Asphaltic Emulsion (Polymer Modified) | TON | | x | | = | $ | - |
| 3750XX | Screenings (Type XX) | TON | | x | | = | $ | - |
| 377501 | Slurry Seal | TON | | x | | = | $ | - |
| 390095 | Replace Asphalt Concrete Surfacing | CY | | x | | = | $ | - |
| 390132 | Hot Mix Asphalt (Type A) | TON | 22 | x | 1,632.52 | = | $ | 35,915 |
| 390136 | Minor Hot Mix Asphalt | TON | | x | | = | $ | - |
| 390137 | Rubberized Hot Mix Asphalt (Gap Graded) | TON | | x | | = | $ | - |
| 393003 | Geosynthetic Pavement Interlayer | SQYD | | x | | = | $ | - |
| 39405X | Shoulder Rumber Strip *(HMA, Type XX Inden* | STA | | x | | = | $ | - |
| 394074 | Place Hot Mix Asphalt Dike | LF | | x | | = | $ | - |
| 394090 | Place Hot Mix Asphalt (Misc. Area) | SQYD | | x | | = | $ | - |
| 397005 | Tack Coat | TON | | x | | = | $ | - |
| 398001 | Remove Asphalt Concrete Pavement | SQYD | | x | | = | $ | - |
| 401000 | Concrete Pavement | CY | | x | | = | $ | - |
| 401050 | Jointed Plain Concrete Pavement | CY | | x | | = | $ | - |
| 401108 | Replace Concrete Pavement (Rapid Strength | CY | | x | | = | $ | - |
| 404092 | Seal Pavement Joint | LF | | x | | = | $ | - |
| 404094 | Seal Longitudinal Isolation Joint | LF | | x | | = | $ | - |
| 413112A | Repair Spalled Joints (Polyester Grout) | SQYD | | x | | = | $ | - |
| 413115 | Seal Existing Concrete Pavement Joint | LF | | x | | = | $ | - |
| 420102 | Groove Existing Concrete Pavement | SQYD | | x | | = | $ | - |
| 420201 | Grind Existing Concrete Pavement | SQYD | | x | | = | $ | - |
| 731502 | Minor Concrete (Stamped Concrete) | SQFT | | x | | = | $ | - |
| 03998X | No.4 Wired Mesh | SQFT | | x | | = | $ | - |

## SECTION 3: DRAINAGE

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 150206 | Abandon Culvert | LF | | x | | = | $ | - |
| 150805 | Remove Culvert | LF | | x | | = | $ | - |
| 150820 | Modify Inlet | EA | | x | | = | $ | - |
| 152430 | Adjust Inlet | LF | | x | | = | $ | - |
| 155003 | Cap Inlet | EA | | x | | = | $ | - |
| 193114 | Sand Backfill | CY | | x | | = | $ | - |
| 510502 | Minor Concrete (Minor Structure) | CY | | x | | = | $ | - |
| 510512 | Minor Concrete (Box Culvert) | CY | | x | | = | $ | - |
| 62XXXX | XXX" APC Pipe | LF | | x | | = | $ | - |
| 64XXXX | XXX" Plastic Pipe | LF | | x | | = | $ | - |
| 65XXXX | XXX" RCP Pipe | LF | | x | | = | $ | - |
| 66XXXX | XXX" CSP Pipe | LF | | x | | = | $ | - |
| 68XXXX | Edge Drain | LF | | x | | = | $ | - |
| 69XXXX | XXX" Pipe Downdrain | LF | | x | | = | $ | - |
| 70XXXX | XXX" Pipe Inlet | LF | | x | | = | $ | - |
| 70XXXX | XXX" Pipe Riser | LF | | x | | = | $ | - |
| 70XXXX | XXX" Flared End Section | EA | | x | | = | $ | - |
| 703233 | Grated Line Drain | LF | | x | | = | $ | - |
| 72XXXX | Rock Slope Protection (Type and Method) | CY | | x | | = | $ | - |
| 721420 | Concrete (Ditch Lining) | CY | | x | | = | $ | - |
| 721430 | Concrete (Channel Lining) | CY | | x | | = | $ | - |
| 729010 | Rock Slope Protection Fabric | SQYD | | x | | = | $ | - |
| 750001 | Miscellaneous Iron and Steel | LB | | x | | = | $ | - |
| XXXXXX | Additional Drainage | LS | 1 | x | 1,000,000.00 | = | $ | 1,000,000 |
| XXXXXX | Some Item | | | x | | = | $ | - |

**TOTAL DRAINAGE ITEMS $ 1,000,000**

## SECTION 4: SPECIALTY ITEMS

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 70012 | Progress Schedule (Critical Path Method) | LS | 1 | x | 957,102 | = | $ | 957,102 |
| 150662 | Remove Metal Beam Guard Railing and Curb | LF | 12,226 | x | 92.86 | = | $ | 1,135,312 |
| 150668 | Remove Terminal Systems | EA | | x | | = | $ | - |
| 153221 | Remove Barrier (Type 50*)* | LF | 6,113 | x | 70.20 | = | $ | 429,106 |
| 153250 | Remove Sound Wall | SQFT | | x | | = | $ | - |
| 190110 | Lead Compliance Plan | LS | 1 | x | 1,203,901 | = | $ | 1,203,901 |
| 49XXXX | CIDH Concrete Piling *(Insert Diameter)* | LF | | x | | = | $ | - |
| 510060 | Structural Concrete (Retaining Wall) | CY | | x | | = | $ | - |
| 510133 | Class 2 Concrete (Retaining Wall) | CY | | x | | = | $ | - |
| 510524 | Minor Concrete (Sound Wall) | CY | | x | | = | $ | - |
| 5110XX | Architectural Treatment *(Insert Type)* | SQFT | | x | | = | $ | - |
| 511048 | Apply Anti-Graffiti Coating | SQFT | 1 | x | 0.00 | = | $ | - |
| 5136XX | Reinforced Concrete Crib Wall *(Insert Type)* | SQFT | | x | | = | $ | - |
| 518002 | Sound Wall (Masonry Block) | SQFT | | x | | = | $ | - |
| 520103 | Bar Reinf. Steel (Retaining Wall) | LB | | x | | = | $ | - |
| 80XXXX | Fence (*Insert Type* ) | LF | | x | 0.00 | = | $ | - |
| 800360 | Chain Link Fence | LF | 12,226 | x | 225.73 | = | $ | 2,759,793 |
| 832001 | Metal Beam Guard Railing | LF | | x | | = | $ | - |
| 832005 | Install Midwest Guardrail System | LF | | x | | = | $ | - |
| 839310 | Double Midwest Guardrail System | LF | | x | | = | $ | - |
| 839521 | Minor Concrete (Curb and Gutter) | LF | | x | | = | $ | - |
| 83954X | Transition Railing *(Insert Type)* | EA | | x | | = | $ | - |
| 8395XX | Alternative In-line Terminal System (MASH) | EA | | x | | = | $ | - |
| 8395XX | Alternative Flared Terminal System | EA | | x | | = | $ | - |
| 8395XX | End Anchor Assembly (*Type SFT* ) | EA | | x | | = | $ | - |
| 839561 | Rail Tensioning Assembly | EA | | x | | = | $ | - |
| 839XXX | Crash Cushion *(Insert Type)* | EA | | x | | = | $ | - |
| 83XXX1 | Concrete Median Barrier *(Type 60MA)* | LF | 6,122 | x | 526.71 | = | $ | 3,224,500 |
| 83XXX2 | Bridge Rail (CA ST-75) | LF | 12,184 | x | 526.71 | = | $ | 6,417,397 |
| 83XXX3 | Concrete Barrier *(ST-70SM (Mod2))* | LF | | x | | = | $ | - |
| 83XXX4 | Concrete Barrier *(ST-70SM (Mod1))* | LF | | x | | = | $ | - |
| 190113 | Asbestos Compliance Plan | LS | 1 | x | 188,110 | = | $ | 188,110 |
| 83XXXX | Install Compression Rail End Treatment | EA | | x | | = | $ | - |
| XXXXXX | Develop Water Supply | LS | 1 | x | 485,463.00 | = | $ | 485,463 |
| | Relocate utility | LS | 1 | | 500,000.00 | | $ | 500,000 |

**TOTAL SPECIALTY ITEMS $ 17,300,685**

## SECTION 5: ENVIRONMENTAL

### 5A - ENVIRONMENTAL MITIGATION

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| XXXXXX | Coastal Development Permit Filing Fee | LS | 1 | x | 20,000.00 | = | $ | 20,000 |
| 071325 | TEMPORARY REINFORCED SILT FENCE | LF | | x | | = | $ | - |
| XXXXXX | Bird Deterrent | LS | 1 | x | 2,802,860.81 | = | $ | 2,802,861 |
| | Remove/handle abestos material | LS | 1 | | 1,000,000.00 | | $ | 1,000,000 |
| | Contractor supply Biologist | LS | 1 | | 1,500,000.00 | | $ | 1,500,000 |
| | | | | | | *Subtotal Environmental* | | *$ 5,322,861* |

### 5B - LANDSCAPE AND IRRIGATION

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 200001 | Highway Planting | LS | | x | | = | $ | - |
| 20XXXX | XXX" (*Insert Type* ) Conduit *(Use for* | LF | | x | | = | $ | - |
| 20XXXX | Extend XXX" *(Insert Type)* Conduit | LF | | x | | = | $ | - |
| 201700 | Imported Topsoil | CY | | x | | = | $ | - |
| 2030XX | Erosion Control (Type __) | SQYD | | x | | = | $ | - |
| 13064x | Fiber Rolls | LF | | x | | = | $ | - |
| 203026 | Move In/ Move Out (Erosion Control) | EA | | x | | = | $ | - |
| 204099 | Plant Establishment Work | LS | | x | | = | $ | - |
| 204101 | Extend Plant Establishment (X Years) | LS | | x | | = | $ | - |
| 208000 | Irrigation System | LS | | x | | = | $ | - |
| 208304 | Water Meter | EA | | x | | = | $ | - |
| 209801 | Maintenance Vehicle Pullout | EA | | x | | = | $ | - |
| XXXXXX | Some Item | | | x | | = | $ | - |
| | | | | | | *Subtotal Landscape and Irrigation* | | *$ -* |

### 5C - NPDES

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 130100 | Job Site Management | LS | 1 | x | 1,305,883.00 | = | $ | 1,305,883 |
| 74017 | Prepare WPCP | LS | 1 | x | 37,590.00 | = | $ | 37,590 |
| 130200 | Prepare SWPPP | LS | | x | | = | $ | - |
| 74023 | Temporary Erosion Control | SQYD | | x | | = | $ | - |
| 130330 | Storm Water Annual Report | EA | | x | | = | $ | - |
| 130640 | Temporary Fiber Roll | LF | 12,500 | x | 8.00 | = | $ | 100,000 |
| 130900 | Temporary Concrete Washout | LS | 1 | x | 75,000.00 | = | $ | 75,000 |
| 130710 | Temporary Construction Entrance | EA | 4 | x | 48,939.97 | = | $ | 195,760 |
| 74035 | Temporary Check Dam | LF | | x | | = | $ | - |
| 74037 | Move In/ Move Out (Temporary Erosion Contı | EA | | x | | = | $ | - |
| 130620 | Temp. Drainage Inlet Protection | EA | 10 | x | 1,000.00 | = | $ | 10,000 |
| 74041 | Street Sweeping | LS | 1 | x | 1,196,811 | = | $ | 1,196,811 |
| 74042 | Temporary Concrete Washout (Portable) | LS | 1 | x | 65,030.00 | = | $ | 65,030 |
| 74018 | Natural Resources Protection Plan | LS | 1 | x | 375,899.00 | = | $ | 375,899 |

**Supplemental Work for NPDES**

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 66595 | Water Pollution Control Maintenance Sharing* | LS | 1 | x | 50,000.00 | = | $ | 50,000 |
| 66596 | Additional Water Pollution Control** | LS | 1 | x | 50,000.00 | = | $ | 50,000 |
| 66597 | Storm Water Sampling and Analysis*** | LS | 1 | x | 50,000.00 | = | $ | 50,000 |
| 66916 | Annual Construction General Permit Fee | LS | 1 | x | 20,000.00 | = | $ | 20,000 |
| | | | | | | *Subtotal NPDES (Without Supplemental Work)* | | *$ 3,361,973* |

*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.

| | |
|---|---|
| **TOTAL ENVIRONMENTAL** | **$ 8,684,834** |

## SECTION 6: TRAFFIC ITEMS

### 6A - Traffic Electrical

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 150760 | Remove Sign Structure | EA | 1 | x | 105,262.00 | = | $ | 105,262 |
| 151581 | Reconstruct Sign Structure | EA | | x | | = | $ | - |
| 152641 | Modify Sign Structure | LS | 1 | x | 1,127,806.00 | = | $ | 1,127,806 |
| 870009 | Maintain Existing Traffic Management System Elements During Construction | LS | 1 | x | 100,000.00 | = | $ | 100,000 |
| 5602XX | Install Sign Structure | LS | 1 | x | 187,968.00 | = | $ | 187,968 |
| 872XXX | Maintain Existing Electrical System | LS | 1 | x | 225,561.00 | = | $ | 225,561 |
| 872130 | Modify Existing Electrical System | LS | | x | | = | $ | - |
| 872134 | Modify Ramp Metering System | LS | 1 | x | 250,000.00 | = | $ | 250,000 |
| 86055X | Lighting & Sign Illumination | LS | 1 | x | 450,000.00 | = | $ | 450,000 |
| 8607XX | Interconnection Facilities | LS | | x | | = | $ | - |
| 8609XX | Traffic Monitoring Stations | LS | | x | | = | $ | - |
| 860XXX | Modify Signals & Lighting | LS | 1 | x | 500,000.00 | = | $ | 500,000 |
| 8611XX | Ramp Metering System (Location X) | LS | | x | | = | $ | - |
| 8611XX | Fiber Optic Testing and Documentation | LS | | x | | = | $ | - |
| 871900 | Install Fiber Optic Conductor on Exist Conduit | LS | 6,200 | x | 50.00 | = | $ | 310,000 |
| XXXXXX | Vandal Resistant Pullbox | EA | | x | | = | $ | - |

*Subtotal Traffic Electrical* *$ 3,256,597*

### 6B - Traffic Signing and Striping

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 120090 | Construction Area Signs | LS | 1 | x | $ 1,202,606 | = | $ | 1,202,606 |
| 150701 | Remove Yellow Painted Traffic Stripe | LF | 12,600 | x | 4.00 | = | $ | 50,400 |
| 150710 | Remove Traffic Stripe | LF | | x | | = | $ | - |
| 150713 | Remove Pavement Marking | SQFT | | x | | = | $ | - |
| 150742 | Remove Roadside Sign | LS | 1 | x | 37,594 | = | $ | 37,594 |
| 152320 | Reset Roadside Sign | LS | | x | | = | $ | - |
| 150761 | Overhead Signage and Structure | LS | | x | 0 | = | $ | - |
| 566011 | Roadside Sign (One Post) | LS | 1 | x | 225,561 | = | $ | 225,561 |
| 566012 | Roadside Sign (Two Post) | EA | | x | | = | $ | - |
| 560XXX | Furnish Sign Panels | LB | 51,000 | x | 17.00 | = | $ | 867,000 |
| 562002 | Barrier Mounted Sign | LS | 1 | x | 150,374 | = | $ | 150,374 |
| 84050X | Thermoplastic Traffic Stripe | LF | 48,480 | x | 5.81 | = | $ | 281,886 |
| 840515 | Thermoplastic Pavement Marking | LS | 1 | x | 15,037 | = | $ | 15,037 |
| 560XXX | Install Sign Panels | SQFT | | x | | = | $ | - |
| 820XXX | Gore Area Striping | EA | | x | | = | $ | - |
| XXXXXX | Modified Changeable message sign | LS | 1 | x | 200,000.00 | = | $ | 200,000 |

*Subtotal Traffic Signing and Striping* *$ 3,030,458*

### 6C - Stage Construction and Traffic Handling

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 120100 | Traffic Control System | LS | 1 | x | ########### | = | $ | 7,565,418 |
| 120103 | Impact Attenuator Vehicle | EA | | x | | = | $ | - |
| xxxxxxx | Contractor's Office | LS | 1 | x | 1,540,000.00 | = | $ | 1,540,000 |
| 12016X | Channelizer | EA | | x | | = | $ | - |
| 128651 | Portable Changeable Message Signs | LS | 1 | x | 822,862 | = | $ | 822,862 |
| 129000 | Temporary Railing (Type K) | LF | 14,400 | x | 40.00 | = | $ | 576,000 |
| 129100 | Temp. Crash Cushion Module | EA | 6 | x | 1,749.00 | = | $ | 10,494 |
| 120204 | Portable Radar Speed Feedback Sign | EA | | x | | = | $ | - |
| 839603A | Temporary Crash Cushion (ADIEM) | EA | | x | | = | $ | - |
| 120101 | Traffic Control Supervisor | LS | 1 | x | 263,460 | = | $ | 263,460 |
| | Temporary elevators | EA | 4 | | 1,315,616 | | $ | 5,262,465 |
| | Public Campaig awareness | LS | $ 1 | | $ 323,000 | | $ | 323,000 |

*Subtotal Stage Construction and Traffic Handling* *$ 16,363,699*

**TOTAL TRAFFIC ITEMS** **$ 22,650,754**

## SECTION 7: DETOURS

Include constructing, maintaining, and removal

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 0713XX | Temporary Fence (Type X) | LF | | x | | = | $ - |
| 07XXXX | Temporary Drainage | LS | | x | | = | $ - |
| 12014x | Temporary Pavement Delineation | LF | 1 | x | | = | $ - |
| 1286XX | Temporary Signals | EA | 1 | x | | = | $ - |
| 12900X | Temporary Railing (Type K) | LF | | x | | = | $ - |
| 190101 | Roadway Excavation | CY | | x | | = | $ - |
| 198001 | Imported Borrow | CY | | x | | = | $ - |
| 198050 | Embankment | CY | | x | | = | $ - |
| 250401 | Class 4 Aggregate Subbase | CY | | x | | = | $ - |
| 260201 | Class 2 Aggregate Base | CY | | x | | = | $ - |
| 39013X | Hot Mix Asphalt (Type A) | TON | 31,022 | x | 240.00 | = | $ 7,445,280 |
| 390137 | RHMA | TON | 23,270 | | 285.00 | | $ 6,631,950 |
| 398200 | Cold Plane | SQYD | 233,057 | x | 12.50 | = | $ 2,913,213 |
| | Remove and Replace JPCP Paving | CY | 3,315 | | 1,400.00 | | $ 4,641,000 |
| XXXX | Signs ,Pavement Delineation | LS | 1 | | 1,000,000.00 | | $ 1,000,000 |
| | SWPPP, BMP's, Sweeping | | 1 | | 400,000.00 | | $ 400,000 |
| 120100 | Traffic Control | LS | 1 | | 1,200,000.00 | | $ 1,200,000 |

**TOTAL DETOURS** **$ 24,231,500**

SUBTOTAL SECTIONS 1-7 $ 73,914,773

## SECTION 8: MINOR ITEMS

**8A - Americans with Disabilities Act Items**
ADA Items 0.2%
**8B - Bike Path Items**
Bike Path Items 0.2%
**8C - Other Minor Items**
Other Minor Items 3.0%

Total of Section 1-7 $ 73,914,773 x 6.0% = $ 4,434,886

**TOTAL MINOR ITEMS** **$ 4,434,900**

## SECTIONS 9: MOBILIZATION

| Item code | | | | | | |
|---|---|---|---|---|---|---|
| 999990 | Total Section 1-8 | $ 78,349,673 | x | 15% | = | $ 11,752,451 |

**TOTAL MOBILIZATION** **$ 11,752,500**

## SECTION 10: SUPPLEMENTAL WORK

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 66015 | Federal Trainee Program | LS | 1 | x | 100,000.00 | = | $ 100,000 |
| 6606x | Traffic Management Plan - Public Informatic | LS | 1 | x | 1,000,000.00 | = | $ 1,000,000 |
| 66090 | Maintain Traffic | LS | 1 | x | 1,000,000.00 | = | $ 1,000,000 |
| 66094 | Value Analysis | LS | 1 | x | 50,000.00 | = | $ 50,000 |
| 66204 | Remove Rock & Debris | LS | | x | | = | $ - |
| 66061A | RR Agreement and Flagging Service | LS | 1 | x | 2,000,000.00 | = | $ 2,000,000 |
| 66670 | Payment Adjustments For Price Index Fluct | LS | 1 | x | 300,000.00 | = | $ 300,000 |
| 66700 | Partnering | LS | 1 | x | 100,000.00 | = | $ 100,000 |
| 66866 | Operation of Existing Traffic Management S | LS | 1 | x | 300,000.00 | = | $ 300,000 |
| 66920 | Dispute Review Board | LS | 1 | x | 126,829.27 | = | $ 126,829 |
| 90205 | Dispute Resolution Board On-Site Meeting | LS | 1 | x | 198,170.73 | = | $ 198,171 |

*Cost of **NPDES** Supplemental Work specified in Section 5C* = $ 170,000

Total Section 1-8 $ 78,349,673 1% = $ 783,497

**TOTAL SUPPLEMENTAL WORK** **$ 6,128,497**

## SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 66063 | Public Information | LS | 1 | x | 73,598 | = | $ | 73,598 |
| 66105 | RE Office | LS | 1 | x | 1,223,106 | = | $ | 1,223,106 |
| 66803 | Padlocks | LS | | x | | = | $ | - |
| 66838 | Reflective Numbers and Edge Sealer | LS | | x | | = | $ | - |
| 66901 | Water Expenses | LS | | x | | = | $ | - |
| 066062A | COZEEP Expenses | LS | 1 | x | 2,000,000 | = | $ | 2,000,000 |
| 06684X | Ramp Meter Controller Assembly | LS | | x | | = | $ | - |
| 06684X | TMS Controller Assembly | LS | | x | | = | $ | - |
| 06684X | Traffic Signal Controller Assembly | LS | | x | | = | $ | - |
| XXXXXX | Railroad Flagging | LS | | x | | = | $ | - |
| | Total Section 1-8 | $ | 78,349,673 | | 0% | = | $ | - |

**TOTAL STATE FURNISHED $ 3,296,704**

## SECTION 12: TIME-RELATED OVERHEAD

Estimated Time-Releated Overhead (TRO) Percentage (0% to 10%) = 10% $36,754,967

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Total of All Contract Items Only | $ | 367,549,673 | (used to calculate TR |
| | | | | | Total Project Cost | $ | 495,297,574 | (used to check if proje |
| 70018 | Time-Related Overhead | LS | 1 | x | 36,754,967.30 | = | $ 36,754,967 | |

**TOTAL TIME-RELATED OVERHEAD $36,754,967**

## SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

| | | | | | | |
|---|---|---|---|---|---|---|
| Total Section 1-11 | $ | 96,230,670 | x | 19% | = | $18,283,828 |

**TOTAL CONTINGENCY $18,283,828**

## II. STRUCTURE ITEMS

| | Bridge 1 | Seismic Sensors | Bridge 3 |
|---|---|---|---|
| DATE OF ESTIMATE | 08/12/24 | 08/12/24 | 08/12/24 |
| Bridge Name | Vincent Thomas | Vincent Thomas | xxxxxxxxxxxxxxxxxx |
| Bridge Number | 53-1471 | 53-1471 | xxxxxxxxxxxxxxxxxx |
| Structure Type | Over Cross Bridge | Over Cross Bridge | Over Cross Bridge |
| Width (Feet) [out to out] | 58.00 LF | 0.00 LF | 0.00 |
| Total Bridge Length (Feet) | 6062.00 LF | 0.00 LF | 0.00 |
| Total Area (Square Feet) | 351596 SQFT | 0 QFT | 0 |
| Structure Depth (Feet) | 0.00 LF | 44.00 nits | 0.00 |
| Footing Type (pile or spread) | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx |
| Cost Per Square Foot | | $0.00 | $0.00 |
| **COST OF EACH STRUCTURE** | **$289,200,000.00** | | **$0.00** |

| | | | |
|---|---|---|---|
| DATE OF ESTIMATE | 00/00/00 | 00/00/00 | 00/00/00 |
| Building Name | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx |
| Bridge Number | 57-XXX | 57-XXX | 57-XXX |
| Structure Type | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx |
| Width (Feet) [out to out] | 100.00 LF | 0.00 LF | 0.00 |
| Total Building Length (Feet) | 150.00 LF | 0.00 LF | 0.00 |
| Total Area (Square Feet) | 15000 SQFT | 0.00 QFT | 0.0 |
| Structure Depth (Feet) | 0.00 LF | 0.00 LF | 0.00 |
| Footing Type (pile or spread) | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx | xxxxxxxxxxxxxxxxxx |
| Cost Per Square Foot | $0.00 | $0.00 | $0.00 |
| **COST OF EACH STRUCTURE** | **$0.00** | **$0.00** | **$0.00** |

| | | |
|---|---|---|
| **TOTAL COST** | | **$289,200,000** |
| **TOTAL COST** | | **$0** |
| **Time-Related Overhead** | 10% | **$0** |
| **STRUCTURES MOBILIZATION** | 15% | **$43,380,000** |
| **STRUCTURES CONTINGENCY*** | 19% | **$63,190,200** |
| **TOTAL COST OF STRUCTURES[1]** | | **$395,770,200.00** |

Estimate Review By: Jinrong Wang
Jinrong Wang - Division of Structures

Date

[1]Structure's Estimate includes Overhead and Mobilization, and it is an average cost estimate between the price provided by the Independent Cost Estimate (ICE) and the Construction Manager (CM) amount.

# III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

| | | | | |
|---|---|---|---|---|
| A) | A1) | Acquisition, including Excess Land Purchases, Damages & Goodwill, | $ | 1,642,510 |
| | A2) | SB-1210 | $ | 0 |
| B) | | Acquisition of Offsite Mitigation | $ | 0 |
| C) | C1) | Utility Relocation (State Share) | $ | |
| | C2) | Potholing (Design Phase) | $ | 0 |
| D) | | Railroad Acquisition | $ | 0 |
| E) | | Clearance / Demolition | $ | 0 |
| F) | | Relocation Assistance (RAP and/or Last Resort Housing Costs) | $ | 0 |
| G) | | Title and Escrow | $ | 0 |
| H) | | Environmental Review | $ | 0 |
| I) | | Condemnation Settlements 0% (Items G & H applied to items A + B) | $ | 0 |
| J) | | Design Appreciation Factor 0% | $ | 0 |
| K) | | Utility Relocation (Construction Cost) | $ | 0 |

| | | |
|---|---|---|
| L) | **TOTAL RIGHT OF WAY ESTIMATE** | **$1,642,510** |

(Excluding Item #8 - Hazardous Waste)

| | | |
|---|---|---|
| M) | **TOTAL R/W ESTIMATE: Escalated** | **$1,699,998** |

| | | | |
|---|---|---|---|
| N) | **Right of Way Support** | **$** | **1,683,000** |

| | | |
|---|---|---|
| Support Cost Estimate Prepared By | Wayne Lee<br>Project Coordinator[1] | 213-269-0509<br>Phone |
| Utility Estimate Prepared By | Wael Alshami<br>Utiliy Coordinator[2] | 805-748-9988<br>Phone |
| R/W Acquistion Estimate Prepared By | Tracie Banks<br>Right of Way Estimator[3] | 213-897-2063<br>Phone |

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

# ATTACHMENT F

# Right of Way Data Sheet

A

State of California
DEPARTMENT OF TRANSPORTATION

# Memorandum

California State Transportation Agency

***Serious Drought!***
***Help Save Water!***

To: Mario Gutierrez, Design Manager
Office of Design
District 7, Los Angeles Office

From: Zoltan Elo, Office Chief
Right of Way Appraisals, and Planning & Management
District 7, Los Angeles Office

**Date: 10/11/2024**
**EA: 39020**
Data Sheet ID NO: ds6574
Project ID # 0722000334

Subject: Current Estimated Right of Way Costs for **Project Report**

We have completed an estimate of the Right of Way costs for the above referenced project based on information received from Wilfrido Morales, PE and the following assumptions and limiting conditions apply:

- The mapping did not provide sufficient detail to determine the limits of the right of way required.
- The transportation facilities have not been sufficiently designed, so our estimator could not determine the damages to any of the remainder parcels affected by the project.
- Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the estimate.

**Right of Way Certificate (RWC) lead time** will require a minimum of 24 months after maps to appraisal **(MA).** Completed Appraisal maps include HMDD, COS, HW Memo, and RE-49. An executed copy of the new freeway agreement if required for the project. When utility relocation is warranted, utility conflict maps will be required. Additionally a minimum of 18 months will be required after receiving the last revision to the appraisal map. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed and present a risk to the RWC project delivery milestone. Due to the passage of Map 21 and the Buy America provision, the Right of Way Certification process will be longer, if Utility Relocation is necessary.

**Current Schedule: PRSM**

| PAED (M 200) | MA (M 224) | RWC (M 410) | RTL (M 460) | CCA (M 600) |
|---|---|---|---|---|
| 10/15/2024 | 1/2/2025 | 6/23/2025 | 7/8/2025 | 7/30/2027 |

TO **Mario Gutierrez**
ATTN **Wilfrido Morales**
SENIOR R/W P&M **Rimma Tebeleva**
ROUTE 47
PM_KM 0.4/2.0
EA 39020
Project ID # 0722000334
ALT

**R/W DATA SHEET**

**ID NO ds6574**

Date of Data Sheet 10/11/2024

Project Description Vincent Thomas Bridge Deck Replacement

This cost estimate is valid for the above scoping report only. This is an estimate only and not an appraisal. It may be based on worse case scenarios.
The estimate is subject to change and revision.
The mapping did not provide sufficient nor adequate detail to determine the limits of thr Right of Way required and effects on the improvements.
The transportation facilities have not been sufficiently designed for our estimator to determine the damages to any of the remainder parcels affected by the project.

**This cost estimate is pursuant to the following responses supplied by Mario Gutierrez to the Data Sheet Request Form.**

| | YES | NO | Not known at this time |
|---|---|---|---|
| **Utilities are depicted on plans** | | x | |
| **Railroads are depicted on plans** | x | | |
| **There are Material and/or Disposal Sites Required** | | x | |
| **Caltrans will do the Right of Way work** | x | | |
| **There will be a Cooperative Agreement** | | | x |
| **This is a reimbursable project** | x | | |
| **There is Hazardous Waste potential** | | x | |

**RW COST ESTIMATE**

| | CURRENT VALUE | ESCALATED VALUE |
|---|---|---|
| **R/ w acq.(incl.contingency G.w-condem.-adm.s'tl.)Permits** | **$1,730,000** | **$1,730,000** |
| **Clearance** | | |
| **RAP (cont rate.)** | | |
| **Escrow costs (cont rate.)** | | |
| **Utility relocation costs** | | |
| **Estimate of Reimbursed Appraisal Fee** | | |
| **Total estimated cost** | **$1,730,000** | **$1,730,000** |

Escalation Rate Rw .07
Escalation Rate Utilities .08
Cert.date 6/23/25

Data Sheet ID NO: ds6574
ROUTE 47
PM_KM 0.4/2.0
EA 39020
ALT 0722000334

# Parcel Count and Py Info

| PARCEL TYPES | DUAL APPR. |
|---|---|
| A | |
| B | |
| C | 6 |
| D | |
| F | |

| RIGHTS NEEDED | |
|---|---|
| FEE | |
| EASE | |
| TCE | 6 |

| TAKES | |
|---|---|
| FULL | 0 |
| PART | 6 |
| TOTAL | 6 |

| DISPLACEMENT OF UNITS | |
|---|---|
| SFR | |
| BUS | |
| MULTI | |

| PARCELS WITH RAP |
|---|
| |

| POTENTIAL CLEARANCE PARCELS |
|---|
| |

| POTENTIAL CONDEMNATION PARCELS |
|---|
| |

| POTENTIAL EXCESS PARCELS |
|---|
| |

| UTILITY IMPACTS | |
|---|---|
| u4-1 | |
| u4-2 | |
| u4-3 | |
| u4-4 | |
| u5-7 | |
| u5-8 | |
| u5-9 | |

## Estimate Of Right Of Way Support Hours

| Activity Codes | Function | Hours |
|---|---|---|
| 225 & 245 | Appraisals | |
| 225 & 245 | Acquisitions | 10,361 |
| 200 | Utilities | |
| 185.20.40 | Utility Potholing | |
| 205 | Railroads | |
| 225 & 245 | Condemnation | |
| 225 & 245 | Clearance | |
| 225 & 245 | Relocation | |
| 220 & 300 | RW Engineering | 2,590 |
| | Total | **12,951** |

## UTILITY INFORMATION

1

Are utility easements required? ____
Are Utility agreements required? ____

Total Cu Ent Cost ____
Const. Completion Date 7/30/2027
Utility Escalation Rate 8%
Total Escalated Cost ____

Data Sheet ID NO: ds6574
ROUTE 47
PM_KM 0.4/2.0
EA 39020
ALT 0722000334

# RR INFORMATION

Are RR affected YES

Describe the RR facilities affected, and ownership: PHL Primary Track Operator but fee is owned by L.A. City
(i.e. RR name, RR spurs, branch lines, at grade crossings?)

Will construction work be performed in RR right of way? Y/N If yes, describe:

What types of agreements are anticipated to be required from the RR?

Will Temporary Construction Easement (TCE) rights be required for the project construction? If yes, explain.

| | |
|---|---|
| **Phase 4 costs: RR** Flagging related to construction activity. This cost is a phase 4 construction contract cost. Though noted on the RW datasheet, the estimated flagging cost is not a RW cost, and not a part of the RW Capital. This estimate is provided so it can be added to the engineer's estimate for construction – RR flagging estimate is based on the number of days flagging is needed for construction activity. | |
| **Phase 9 costs:** Purchase of rights for construction, agreements, Preliminary Engineering Contracts, RR re-arrangement costs. This figure is included in the RW Capital estimate total. | |

**DATE**

**Right of Way Estimate prepared by** Victor Lee — 10/4/24

**Estimate prepared by** Victor Lee — 10/4/24

**Utilities Estimate prepared by** Victor Lee — 10/4/24

I have personally reviewed this R/W Data Sheet and all supporting information I certify that the probable highest and best use estimated values and assumptions are reasonable and proper subject to the limiting conditions set forth and I find this Data Sheet complete and current.

**This Data Sheet is not to be signed by Chief unless accompanied by final scoping report(PR,PSR,PSSR) for review and/or signature.**

**CHIEF** Wayne D. Lee — 10/11/24

# ATTACHMENT G

# Storm Water Data Report (SWDR)

Dist-County-Route: 07-LA-47
Post Mile Limits: 0.4/2.0
Project Type: Bridge Rehabilitation
Project ID (EA): 0722000334 (390200)

Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Los Angeles – Region 4

| | | | |
|---|---|---|---|
| 1. | Does the project disturb 5 or more acres of soil? | Yes ☐ | No ☒ |
| 2. | Does the project disturb 1 or more acres of soil and not qualify for the Rainfall Erosivity Waiver? | Yes ☐ | No ☒ |
| 3. | Is the project required to implement Treatment BMPs? | Yes ☐ | No ☒ |
| 4. | Does the project impact existing Treatment BMPs? | Yes ☐ | No ☒ |

**If the answer to any of the preceding questions is "Yes", prepare a Long Form – Stormwater Data Report.**
Unless otherwise agreed upon by the District/Regional Design Stormwater Coordinator.

Applicable Caltrans Permit Post Construction Treatment Requirement: 2012 ☐ 2022 ☒
Total Disturbed Soil Area: 0.0 acre New Impervious Surface: 0.0 acre
Estimated Const. Start Date: 11/4/2025 Estimated Const. Completion Date: 07/30/2027

Risk Level: RL 1 ☐ RL 2 ☐ RL 3 ☐ Not Applicable ☒
Is (M)WELO applicable? Yes ☐ No ☒

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

10/8/2024
Mario Gutierrez, *Registered Project Engineer* *Date*

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

10/09/2024
*[Stamp Required at PS&E only]* Shao-Chiang Liu, *District/Regional Design SW Coordinator or Designee* *Date*

## 1. Project Description

- This project proposes to remove and replace the existing CIP lightweight bridge deck at the approach and suspension spans with a new pre-cast concrete deck at Vincent Thomas Bridge (Bridge Number 53-1471). The columns and abutments will be intact.
- Remove the existing metal railing and steel plate curb at suspended spans and replace it with CA ST-75 Bridge Rail.
- Remove the existing 12' height chain link fence at suspended spans and replace it with 12' height chain link fence.
- Remove the existing Type 2 barrier and 6' chain link at approach spans and replace it with CA ST-75 bridge railing with a 6' chain link fence (Mounted on ST-75 railing curb).
- Remove the existing median concrete barrier Type 50 and replace it with Type 60M.
- Remove and replace 18 joint seals at approach spans, 11 joint seals at suspension spans.
- Remove 4 finger joints at suspension spans and replace with seismic joints.
- Remove existing 26 seismic sensors and replace with 44 ungraded seismic sensors.
- Removed and replace 29 barrier-mounted electroliers at approach spans.
- Upgrade 160 light fixtures of "low light system" along the suspended spans.
- Install 30 painter's receptacle on the sub-structure of the bridge for maintenance paint crew.
- Install and upgrade signs (2 OH signs and approximately 26 barrier and /or pole-mounted roadside signs), and pavement marking per current standard.
- Remove and re-install an OH sign truss across the main line (East approach span).
- Removed and replace cantilever OH sign (West approach span).
- Install 8 temporary elevators at ground level under the bridge before construction phase and dismantle 8 temporary elevators after construction phase. (No excavation anticipated).
- Install a "Quick Deck" system along and under the bridge's sub-structure.
- Repair of local roads, under Early Work Packages (EWP).
- Construction will be entirely within the State's right of way. Therefore, no additional right of way will be needed.
- This project is not a new facility or major reconstruction. There will be no change in line /grade or hydraulic capacity. The project will not create new slopes or modify existing slopes. In addition, construction site BMPs will be implemented during construction. All construction activities, including the contractor's staging areas, will be done on paved areas. Therefore, this project does not have the potential to create water quality impacts.
- This project's limits fall within Los Angeles County. This project is in an urban MS4 area.
- There is no soil being disturbed. The Disturbed Soil Area (DSA) = 0 acre.
- Replaced Impervious Surface (RIS) = 0 acres
- New Net Impervious Surface (NNI) = 0 acre
- New Impervious Surface (NIS) = NNI + RIS = 0 + 0 = 0 acre
- Post Construction Treatment Area (PCTA) = NIS + ATA = 0 + 0 = 0 acre.
- The total cost of this project is $648,251,000.

- Additional information will be provided during the PS&E phase.

## 2. Site Data and Stormwater Quality Design Issues

- This project limits are within the Hydrological Unit Dominguez Channel and Hydrological Sub-Area number #411.02, 411.03, 411.04.
- The 2022-2022 303 (d) listed receiving waterbody within the project is Los Angeles/ Long Beach Inner Harbor. Pollutant of concern are as follows: Benthic Community Effects, Benzo(a) Pyrene, Chrysene (C1-C4), Dichlorodiphenyl- Trichloroethane (DDT), Polychlorinated Biphenyls (PCBs), and Metal (CU, Zn), Toxicity.
- There are no drinking water reservoirs or recharge facilities within the project limits.
- This project fall within Los Angeles County, in urban MS4 area.
- This project does not require 401 certification.
- The project limits are in the Dominguez channel watershed. The Total Maximum Daily Loads (TMDLs) are as follow:

# 1 Dominguez Channel

| Pollutant(s) | Effective Date | LA RWQB Resolution No. | Categorical Implementation Requirements[1] [2] |
|---|---|---|---|
| *Title: Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL* | | | |
| Toxic pollutants (dichlorodiphenyl-trichloroethane (DDT), polycyclic aromatic hydrocarbons (PAHs), total polychlorinated biphenyls (PCBs), metals (Cu, Pb, Zn)) | 03/23/2012 | R11-008 | Targeted pollutants are to be monitored in the water column in the channel and harbors as well as the sediment in the harbors. The TMDL requires the dischargers of the Los Angeles River and the San Gabriel River to monitor water quality at the mouth of each river. Caltrans shall implement control measures and/or treatment BMPs to prevent the discharge of sediments which may contain toxic pollutants as listed in the TMDL. Possible treatment options include the interception and infiltration of runoff which will allow water to percolate into soil. |

1 Refer to §4 of the PPDG to determine the specific impervious threshold for stormwater Treatment BMP requirements.

2 General TMDL Requirements can be found in Attachment IV of the NPDES Statewide Storm Water Permit.

- Additional information will be provided during the PS&E phase.

## 3. Construction Site BMPs

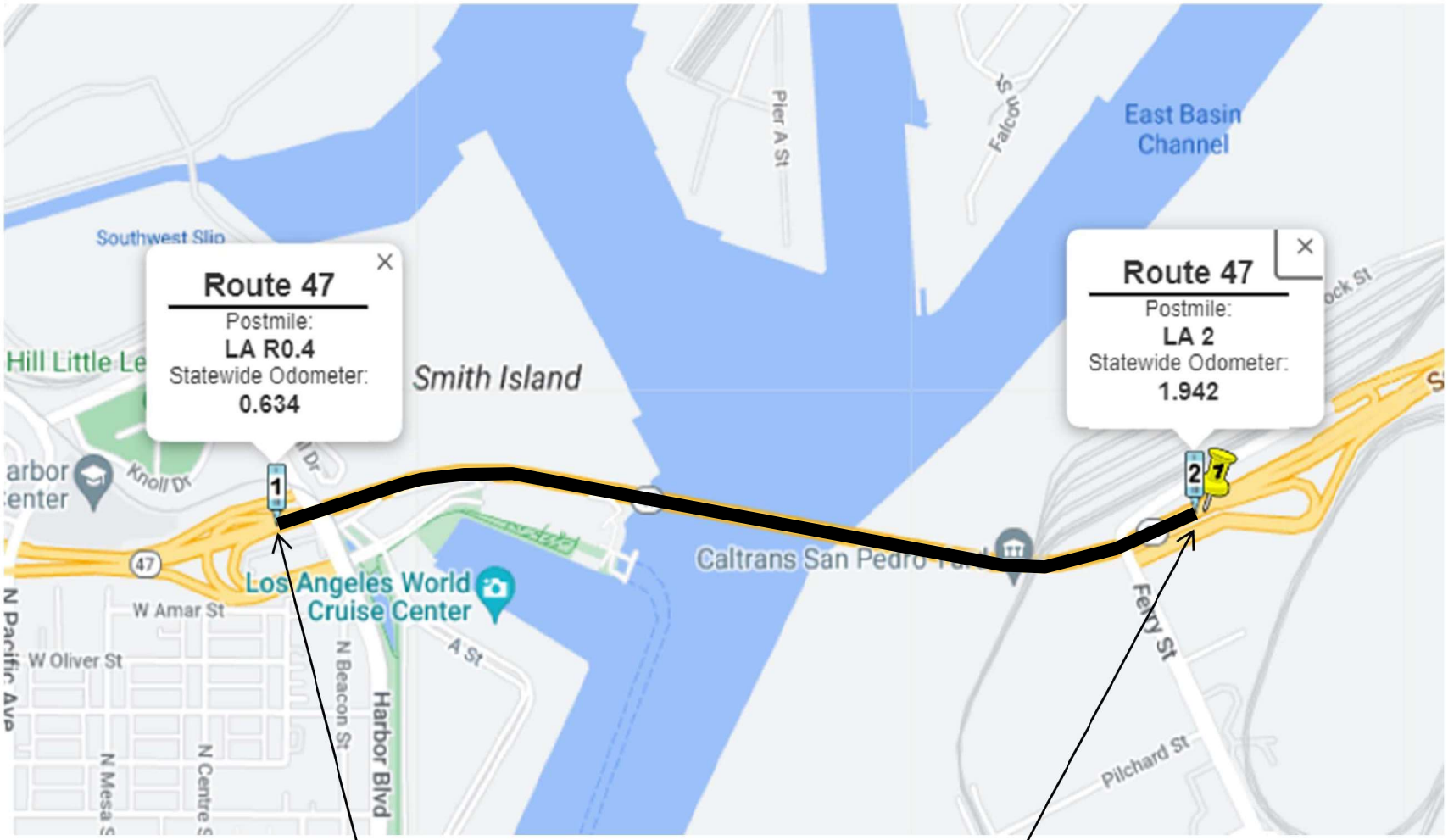
- This project requires Water Pollution Control Program (WPCP) since the total Disturbed Soil Area (DSA) created by the project is less than 1 acre.
- The following BMPs are included in the lump sum bid item for Job Site Management:
    - Vehicle and Equipment Fueling and Maintenance

  - Paving, Sealing, Saw Cutting, Grooving, and Grinding Activities
  - Material Delivery and Storage
  - Water Conservation Practices
  - Material Use
  - Spill Prevention and Control
  - Hazardous Waste Management
  - Sanitary and Septic Waste
  - Solid Waste Management
  - Illegal Connection and Illegal Discharge Detection Reporting
  - Street Sweeping
- The following cost items will be required for the implementation of Construction Site BMP strategies:
  - Supplemental Work Items
    - Water Pollution Maintenance Sharing
    - Additional Water Pollution Control
  - Bid Items
    - Job Site Management
    - Temporary Drainage Inlet Protection
    - Temporary Concrete Washout
    - Water Pollution Control Program
- Project specific BMP measures will be specified and quantified during the PS&E phases.
- Temporary construction site BMPs cost has been estimated at $2,957,792 accordance with the guidelines of Appendix F, 2023 PPDG.
- Additional information will be provided during the PS&E phase.
- On October 13, 2023 Arthur Hedayati, District 7 Construction Stormwater Coordinator, concurred to the temporary construction site BMP strategy used (at PA/ED phase) for the scope of work for this project.

## Required Attachments[1]

- Vicinity Map
- Evaluation Documentation Form
- SWDR Summary Spreadsheets

[1] Additional attachments may be required as applicable or directed by the District/Regional Design Stormwater Coordinator. (e.g., BMP line item estimate, SW, DPP, and CS Checklists).




BEGIN PROJECT
PM 0.4

END PROJECT
PM 2.0

# VICINITY MAP

LA 47 - VINCENT THOMAS BRIDGE
(BR #53-1471) EA 390200 (0722000334)

# Evaluation Documentation Form

| No. | Criteria | Yes ✓ | No ✓ | Supplemental Information for Evaluation |
|---|---|---|---|---|
| 1. | Begin Project evaluation regarding requirement for implementation of Treatment BMPs | ✓ | | Continue to 2. |
| 2. | Is the scope of the Project to install Treatment BMPs (e.g., Alternative Compliance or TMDL requirement)? | | ✓ | If **Yes**, go to 8.<br>If **No**, continue to 3. |
| 3. | Is there a direct or indirect discharge to surface waters? | ✓ | | If **Yes**, continue to 4.<br>If **No**, go to 9. |
| 4. | As defined in the WQAR or ED, does the project:<br>a. discharge to Areas of Special Biological Significance (ASBS), or<br>b. discharge to a TMDL watershed where Caltrans is named stakeholder, or<br>c. have other pollution control requirements for surface waters within the project limits (e.g. STGA)? | | ✓ | If **Yes to any**, contact the District/Regional Design Stormwater Coordinator or District/Regional NPDES Coordinator to discuss the Department's obligations, go to 8 or 5.<br>SL *(Dist./Reg. Coordinator initials)*<br>If **No** to all, continue to 5. |
| | | ✓ | | |
| | | ✓ | | |
| 5. | Are any existing Treatment BMPs partially or completely removed?<br>(ATA Condition 1, Section 4.3.1) | | ✓ | If **Yes**, go to 8 **AND** continue to 6.<br>If **No**, continue to 6. |
| 6. | Is this a Routine Maintenance Project? | | ✓ | If **Yes**, go to 9.<br>If **No**, continue to 7. |
| 7. | Does the project result in an increase of 10,000 ft² or more (or 5,000 ft² for "non-highway facilities projects") of new impervious surface (NIS)? | | ✓ | If **Yes**, go to 8.<br>If **No**, go to 9. |
| 8. | Project is required to implement Treatment BMPs.<br>____ | Complete Checklist T-1, Part 1. | | |
| 9. | Project is not required to implement Treatment BMPs.<br>SL *(Dist./Reg. Design SW Coord. Initials)*<br>MG *(Project Engineer Initials)*<br>*10/7/2024* *(Date)* | Document for Project Files by completing this form and attaching it to the SWDR. | | |

SWDR Summary Spreadsheet

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SWDR Signed Date | District | EA/Project ID | County | Route | Beg_PM | End_PM | Project Description | Project Phase | Long SWDR | Risk Level | DSA (ac) | TMDL Waterbody | Biofiltration Strips and Swales | Detention | Infiltration Devices | GSRD | TST | MedFilter | DPPIA | SA | Other BMP | Est. Const_Start | Est. Const_Comp | Net New Impervious area (NNI) | Replaced Impervious Surface (RIS) | Additional Treatment Area (ATA) | Post Const Treatment Area (ac) | Treated Impervious Area (ac) | Treated Impervious Area Balance (ac) | Treated Pervious Area (ac) | Stabilized Area (ac) | MWELO | RSA | SW Comment |
| TBD | 7 | 390200/0722000334 | LA | 47 | 0.40 | 2.00 | Bridge Rehabilitation | PAED | No | WPCP | 0.00 | Yes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11/4/2025 | 7/30/2027 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | No | No | |

# ATTACHMENT H

# Risk Register

## EA-07-390200, EFIS ID: 0722000334

**Route & Post Mile:** LA 47 PM 0.4/2.0

**Project Description:** Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471)

| Milestones | | | | | Duration | | | |
|---|---|---|---|---|---|---|---|---|
| PID | PA&ED | PS&E | RTL | CCA | Con Working Days: 352 | Base Con Cap Est: | $507,274,349 | PM: Rimma Tebeleva |
| (M010) | (M200) | (M380) | (M460) | (M600) | Plant Est Days: 0 | Base Contingency: | $81,185,700 | DM: Mario Gutierrez |
| 11/29/22 | 10/01/24 | 06/20/25 | 07/08/25 | 07/30/27 | Total Con Days: 352 | Base Total Construction Capital Est: | $588,460,049 | RM: May Fung |

**Scope Summary:** The project proposes to replace the existing 1961-year-built CIP lightweight concrete on the cable suspension span and east/west approach spans of the bridge. Items will also include replacing appurtenances such as barrier rails, seismic joints, chainlink fences, joint seals, and seismic instrumentation.

| Risk Identification | | | | | | | Risk Impact Assessment | | | | | | | | | Response Strategy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Contingency (@70th Percentile): | | | 17% | | Risk Impact on Working Days* (@70th Percentile): | | | 1257 | | | | | |
| Risk No. | Status | Type | Category | Risk Title | Risk Statement | Risk Details with Current Status/Assumptions | Probability of Occurrence | Low ($) | Most Likely ($) | High ($) | Cost Impact | Low | Most Likely | High | Time Impact | Rationale | Strategy | Response Actions | Risk Owner | Updated |
| 1 | Active | Threat | STR | Structure Scope Change | As a result of changes made to the project scope during its development, additional work may be required, which would lead to increased project costs and duration. | Loading analysis may indicate weaknesses in members other than the deck and support systems, such as suspenders, gusset plates, and bearing plates. The replacement of the safety fence may result in the strengthening of some members. The girders may need to be strengthened, as a result of the railing of the bridge after the deck replacement, Even if the weight increase is negligible, the existing structure modification will create other potential risks, such as a longer design period, longer procurement for the new girder, and longer construction time to replace the deck, The final scope of the project is subject to the results of various analyses, such as structural, seismic, and wind tunnel analysis, which will be performed during the subsequent phase. | 20% | $50,000,000 | $150,000,000 | $350,000,000 | $33,333,333 | 100 | 130 | 160 | 26 | Further structural analysis is to be performed during the PS&E phase. By firmly establishing an acceptable scope, the cost of the project will be more reliable. | Mitigate | Work with all functional units and stakeholders to refine the project scope as early as possible in the PS&E phase. | Project Manager & Project Engineer | August 29, 2024 |
| 2 | Active | Threat | DGN | Prices & Economic Conditions | As a result of changes in the demand and supply of materials during subsequent phases of the project, equipment costs, labor rates, and construction material prices increase may occur, which would lead to increased project costs. | There may be challenges in acquiring the specific construction materials such as, lightweight concrete, reinforcing steel for the corrosive environment, and precast deck. In addition, the project is subject to compliance with Buy America 2.0 requirements. | 65% | $10,000,000 | $20,000,000 | $30,000,000 | $13,000,000 | 14 | 20 | 26 | 13 | Construction materials/ equipment not readily available during construction may lead to delays and incur TROV claims costs. | Mitigate | In the PS&E Phase, monitor the most recent bid submittals information to determine whether cost adjustments are needed to create final estimate. | Project Engineer | August 29, 2024 |
| 3 | Active | Threat | CON | Modification of Traffic Handling Plans | Because of the project construction may cause temporary disruption to the local residents and temporary congestion during construction, modifications to the original proposed stage construction may be necessary, which would lead to increased project costs and schedule delays. | The traffic handling plans may be requested to be modified by the Port of Los Angeles and/or the Port of Long Beach or others entities including the public, which may increase costs and the duration of the project beyond the designated time. It may be necessary to alter the traffic handling plan as per the requests from external stakeholders or to obtain approvals after certain stages have been completed. | 30% | $15,000,000 | $35,000,000 | $50,000,000 | $10,250,000 | 126 | 210 | 294 | 63 | Full traffic closure should help minimize the impacts of this risk. | Mitigate | During the PS&E phase, the PDT team will work and collaborate with external agencies and stakeholders, as well as the Construction Manager (CM) to find a viable solution and maximize productivity. | Project Manager, Construction Engineer, Project Engineer, and Traffic Engineer | August 29, 2024 |
| 4 | Active | Threat | ROW | Temporary Easements and Right of Entry | Due to the limited time available to acquire necessary property rights (easement, right of entry, etc.) for the project, consequential damages may be incurred, leading to increased project costs and schedule delays. | Early Work Packages (EWPs) such as Shield installation, Temporary Elevators (8) Installation/Dismantling (adjacent to the bridge structure) will require access (24/7 access) through the Port of Los Angeles (POLA) internal road system and over the railroad at grade crossings. EWP activities may disrupt or displace tenants currently occupying the areas under or near the bridge. Because the R/W Cert date (7/1/25) is less than a year away, there may not be enough time to secure all the needed property rights outside of the State R/W and easement areas. If litigation is involved, the project schedule may be delayed, and there may be potential consequential damages for tenants' relocation. | 80% | $6,000,000 | $8,000,000 | $10,000,000 | $6,400,000 | 240 | 360 | 540 | 296 | Identify all right of way acquisition impacts and take appropriate action. | Mitigate | Review possible utility conflicts and conduct field investigation to identify any impacted parcels, roads, or other real property early in the PS&E phase. Once identified, contact property owners and resolve issues and acquire needed property rights. The Department must identify all parcels, roads, or other real property under the bridge and the contractor must include a parcels, roads, or other real property protection plan in both the bridge removal and deck replacement plans. | Project Engineer and ROW Agent | August 29, 2024 |
| 5 | Active | Threat | DGN | Early Work Package (EWPs) Delays | If the approval any of the Early Work Package (EWP) associated with structural elements of the project take longer than expected, it may impact the project schedule. | Performing early work packages during preconstruction can help to shorten the project schedule. This can have an impact on TRO, overhead, material, and labor escalation costs. However, there may be unforeseen delays from manufacturers that need to be taken into account. It may also be necessary to allocate time for performing mockups to evaluate selected bridge elements. Currently, the project has ten (10) Early Work Packages. They include:<br><br>1. Elevators and Offices<br>2. Shielding and Access<br>3. Precast Panel Fabrication<br>4. Deck Support System<br>5. Seismic Joints<br>6. Bridge Railings<br>7. Detour Routes Repaving<br>8. Lateral Bracing Suspension Span<br>9. Lateral Bracing Approaches<br>10. Cable Band & Bolt Tightening | 50% | $6,000,000 | $12,000,000 | $18,000,000 | $6,000,000 | 45 | 75 | 100 | 37 | Delays in early work packages may push the construction work window. | Mitigate | Work with pertaining stakeholders and manufacturers to mitigate delays. | Project Engineer & Project manager | August 29, 2024 |
| 6 | Active | Threat | CON | Differing Site Conditions (Structural) | As a result of differences between design data and actual field conditions, design modifications may be required, which would lead to increased project costs and duration. | During the construction of past projects in the area of the Vincent Thomas Bridge (VTB), it was observed that the field conditions at the bridge varied from what was mentioned in the historical contract documents/as-built plans. While removing or replacing bridge components, unforeseen conditions were encountered. The condition of the stringers which support the deck will be particularly important. Additionally, there are no plans to drill for seismic arrays on the ground at this time. If drilling is proposed later, it will increase the potential of field conditions that may differ significantly from either the contract documents or the job site examination. | 50% | $5,000,000 | $7,500,000 | $10,000,000 | $3,750,000 | 50 | 100 | 150 | 50 | Adequately characterizing the project site will reduce cost uncertainty. | Mitigate | Minimize contractor surprises by thoroughly characterizing the site. In addition, CMGC delivery mitigates the issue. Require field visits to clarify assumptions/field conditions Maintaining good communication during the construction is the key to reducing the impact of such risk. | Project Engineer | August 29, 2024 |

*Risk impact on construction schedule is estimated using Monte Carlo simulation without consideration of overlapping/concurrent activities.

| EA-07-390200, EFIS ID: 0722000334 | Milestones | | | | | Duration | Base Con Cap Est: | $507,274,349 | PM: Rimma Tebeleva |
|---|---|---|---|---|---|---|---|---|---|
| Route & Post Mile: LA 47 PM 0.4/2.0 | PID | PA&ED | PS&E | RTL | CCA | Con Working Days: 352 | Base Contingency: | $81,185,700 | DM: Mario Gutierrez |
| | (M010) | (M200) | (M380) | (M460) | (M600) | Plant Est Days: 0 | Base Total Construction Capital Est: | $588,460,049 | RM: May Fung |
| Project Description: Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471) | 11/29/22 | 10/01/24 | 06/20/25 | 07/08/25 | 07/30/27 | Total Con Days: 352 | | | |

**Scope Summary:** The project proposes to replace the existing 1961-year-built CIP lightweight concrete on the cable suspension span and east/west approach spans of the bridge. Items will also include replacing appurtenances such as barrier rails, seismic joints, chainlink fences, joint seals, and seismic instrumentation.

| Risk Identification | | | | | | | Risk Impact Assessment | | | | | | | | | Response Strategy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Contingency (@70th Percentile): | | | 17% | | Risk Impact on Working Days* (@70th Percentile): | | | 1257 | | | | | |
| Risk No. | Status | Type | Category | Risk Title | Risk Statement | Risk Details with Current Status/Assumptions | Probability of Occurrence | Low ($) | Most Likely ($) | High ($) | Cost Impact | Low | Most Likely | High | Time Impact | Rationale | Strategy | Response Actions | Risk Owner | Updated |
| 7 | Active | Threat | DGN | Quality, Constructability & Safety Review | As a result of challenging project site (i.e., steep hillside, over open water), or missing crucial project information (Plans, Specs, Quantities, or Construction Details) uncovered during construction, additional items that were unintentionally overlooked or omitted during project design may be added, which would lead to contract change orders, potential claims, and schedule delays during construction. | The proposed work involves working within limited working space and unusual field condition that is high above over the Los Angeles Harbor. Further, since the project is above the ocean channel, maritime guidelines, air quality requirement, and other mitigations may be triggered, More detailed information will be available in the PS&E phase. | 25% | $5,000,000 | $7,000,000 | $10,000,000 | $1,791,667 | 30 | 40 | 50 | 10 | By following the Quality Management System (QMS) process, the cost and schedule impacts on the project can be minimized. | Mitigate | Monitor design progress to conform to the QMS process and ensure complete submittals are provided for review. In addition, the CMGC process (which allows the Contractor to access the project site before bidding) will help to develop necessary mitigation in the PS&E phase. | Project Engineer | August 29, 2024 |
| 8 | Active | Threat | ROW | Agreements | As a result of work that impacts local agencies and utilities, agreements addressing additional project requirements and constraints may be needed, which would lead to increased project costs and duration. | Various agreements will be developed in the subsequent phase. The project team will need to verify if the deck replacement impacts any utilities since the utility may be attached to the girders below. The track owner is the Port of Los Angeles, with UPRR and others as tenants. Agreements may be required with the City of Los Angeles, Long Beach and Carson to construct the proposed project. | 50% | $2,000,000 | $3,000,000 | $4,000,000 | $1,500,000 | 21 | 28 | 35 | 14 | Coordination of the Department's effort, along with cooperation from utility companies, is necessary to start relocation promptly. | Mitigate | Identify all utilities and local agencies impacted, contact companies and stakeholders, and monitor progress. | Project Manager, Design and Utility Engineers | August 29, 2024 |
| 9 | Active | Threat | CON | Labor Productivity | As a result of work progress or production rate is not as anticipated, additional costs may be incurred, which would lead to increased project costs and schedule delays. | If the proposed work is not progressing as initially carried in the Estimate, additional labor costs may be incurred to improve productivity and maintain the schedule. | 50% | $1,500,000 | $2,500,000 | $5,000,000 | $1,375,000 | 38 | 63 | 125 | 35 | Depending on the types of work, adding extra work crew to help may be feasible. | Transfer | If necessary, CMGC will evaluate opportunities to accelerate the work progress using overtime or add an additional labor force to improve the production rate. | CMGC | August 29, 2024 |
| 10 | Active | Threat | STR | Unanticipated Painting of Steel Members | As a result of bracing installation, unanticipated painting work may be required, which would lead to increased project costs and schedule delays. | Bracing will be required to be installed on both the Approaches and Suspension Spans. If the existing stringers are retained on the Suspension Span while the deck is being replaced, there is a possibility that substantial re-painting of the stringers and other steel members (that have not been included in the cost nor the schedule of the project) may be needed after the bridge deck replacement. | 50% | $500,000 | $2,500,000 | $5,000,000 | $1,291,667 | 15 | 63 | 125 | 33 | Some re-painting may be required on other bridge components due to incidental damage caused by construction activities. | Mitigate | Protective measures will be developed in the PS&E phase to protect the existing bridge components in place and minimize incidental damage. | Project Engineer | August 29, 2024 |
| 11 | Active | Threat | DGN | FHWA and CTC Approvals | As a result of securing proper approvals from external agencies, additional delays and concessions may occur, which would lead to increased project costs and schedule delays. | The Early Works Packages have been scheduled with the anticipated approval of CTC and FHWA. If the approvals could not be obtained in anticipated time-frame, both the project's schedule and cost will be impacted. | 50% | $100,000 | $2,500,000 | $5,000,000 | $1,258,333 | 15 | 63 | 125 | 33 | Consensus and approval from external agencies will usually take some time. | Transfer | Coordinate with the agencies as early as possible in the PS&E phase and allow adequate time for the approval process and plan for uncertainty. | Project Engineer and Project Manager | August 29, 2024 |
| 12 | Active | Threat | STR | Relocation of Safe Span Access Platform System | As a result of the proposed structural work, unanticipated work that was not part of the project design may be triggered during construction, which would lead to increased project costs and schedule delays. | Due to the installation of the bracing on the Suspension Span, the suspender hangers of the Safe span access platform system may need to be temporarily relocated, which could potentially impact the project schedule and costs. | 50% | $100,000 | $2,500,000 | $5,000,000 | $1,258,333 | 15 | 63 | 125 | 33 | Some bridge members (hangers, platform) may need to be relocated temporary to perform other work. | Transfer | CMGC will evaluate various construction operations during the design phase in detail and plan the work accordingly. | CMGC | August 29, 2024 |
| 13 | Active | Threat | STR | Unanticipated Bridge Behavior | As a result of unanticipated design changes or construction procedure changes needed to maintain the structural integrity of the existing structure, additional retrofit work may be required, which would lead to increased project costs and schedule delays. | Changes in design or construction procedures due to unanticipated bridge behavior and maintaining stability, could result in longer schedule and higher project costs. Additional work may lead to inefficient construction sequence, and longer construction durations. | 25% | $3,000,000 | $5,000,000 | $7,000,000 | $1,250,000 | 75 | 125 | 175 | 31 | How the proposed bridge deck replacement activities will affect the structural integrity of the bridge during construction is unknown at this time. | Accept | CMGC will evaluate the condition during construction and develop the appropriate options/solutions to address the situation accordingly. | Caltrans/CMGC | August 29, 2024 |
| 14 | Active | Threat | STR | Tightening of Cable Bands and Bolts Replacement | As a result of the bridge deck replacement, unplanned work/additional work such as cable bands tightening and bolts replacement may be triggered which would lead to increase project costs and extended project duration. | The current phases assumes 100% of bolts will be tightened and 10% bolts and cable bands will be replaced. The bolts and cable bands have not been checked and tightened since their initial installation. Industry recommended to test and tighten the cable bands every 25 yrs. Unknown amount of cable band slippage could occur. If bolts are not easily to remove and/or tighten, additional work to jack out the bolts may be necessary. Testing is on-going and bolt tensile testing are being performed currently at random locations. | 50% | $ - | $2,500,000 | $5,000,000 | $1,250,000 | 0 | 63 | 125 | 31 | Bolt replacement and cable tightening, if necessary, will be done during the Pre-construction phase. | Mitigate | Perform field investigation and evaluate the test results during the design phase to produce a more reliable estimate. | Project Engineer | August 29, 2024 |
| 15 | Active | Threat | STR | Stringer Replacement | As a result of changes made to the project scope during its development, additional work may be required, which would lead to increased project costs and duration. | The current scope of work does not propose to replace the existing stringers. The current estimate does not include stringer replacement or repairs. However, if the existing condition of the stringers is worse than expected, there is a possibility that additional repairs or replacement may increase the initial estimates. | 50% | $ - | $2,500,000 | $5,000,000 | $1,250,000 | 0 | 63 | 125 | 31 | Some existing stringer members may need to be replaced. | Mitigate | Perform field investigation during the design phase to produce a more reliable estimate. | Project Engineer | August 29, 2024 |

*Risk impact on construction schedule is estimated using Monte Carlo simulation without consideration of overlapping/concurrent activities.

| EA-07-390200, EFIS ID: 0722000334 | Milestones | | | | | Duration | Base Con Cap Est: | $507,274,349 | PM: Rimma Tebeleva |
|---|---|---|---|---|---|---|---|---|---|
| Route & Post Mile: LA 47 PM 0.4/2.0 | PID | PA&ED | PS&E | RTL | CCA | Con Working Days: 352 | Base Contingency: | $81,185,700 | DM: Mario Gutierrez |
| Project Description: Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471) | (M010) | (M200) | (M380) | (M460) | (M600) | Plant Est Days: 0 | Base Total Construction Capital Est: | $588,460,049 | RM: May Fung |
| | 11/29/22 | 10/01/24 | 06/20/25 | 07/08/25 | 07/30/27 | Total Con Days: 352 | | | |

**Scope Summary:** The project proposes to replace the existing 1961-year-built CIP lightweight concrete on the cable suspension span and east/west approach spans of the bridge. Items will also include replacing appurtenances such as barrier rails, seismic joints, chainlink fences, joint seals, and seismic instrumentation.

| Risk Identification | | | | | | | Risk Impact Assessment | | | | | | | | | Response Strategy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Contingency (@70th Percentile): | | | 17% | | Risk Impact on Working Days* (@70th Percentile): | | | 1257 | | | | | |
| Risk No. | Status | Type | Category | Risk Title | Risk Statement | Risk Details with Current Status/Assumptions | Probability of Occurrence | Low ($) | Most Likely ($) | High ($) | Cost Impact | Low | Most Likely | High | Time Impact | Rationale | Strategy | Response Actions | Risk Owner | Updated |
| 16 | Active | Threat | DGN | **Design Delays (Structure)** | As a result of the time needed to secure the concurrence of stakeholders, get design approvals and permits, and complete the technical work and review process, an extended and lengthy design process may occur, which would lead to schedule delays and increased project costs. | Precast panel has been selected as the preferred alternative for bridge deck replacement. Before reaching a final solution, the number of design iterations needed will vary; the project may take longer than anticipated to deliver. | 30% | $3,000,000 | $4,000,000 | $5,000,000 | $1,200,000 | 21 | 43 | 65 | 13 | As more information becomes available, this risk diminishes. | Mitigate | Perform field investigation and in-depth analysis during the following phases to minimize this risk | Project Manager & Project Engineer | August 29, 2024 |
| 17 | Active | Threat | STR | **Temporary Shielding Instability** | If the Wind Tunnel Analysis results require additional significant retrofit work to strengthen the bridge components that were not part of the original scope, additional costs may be incurred, which would lead to increased project costs and extended project duration. | The wind tunnel analysis will be performed in the subsequent phase. Depending on the wind tunnel analysis results, additional retrofit or strengthening work may be needed, such as redesigning protective shielding which may affect construction access of the project. | 10% | $5,000,000 | $10,000,000 | $20,000,000 | $1,083,333 | 30 | 50 | 100 | 6 | Wind tunnel analysis results are currently unknown. Potential test results may only allow a limited length or height of shielding. | Mitigate | The project engineer will evaluate the test results and develop a stabilized procedure to address the condition accordingly. | Project Engineer | August 29, 2024 |
| 18 | Active | Threat | STR | **Wind Tunnel Analysis Results** | If the Wind Tunnel Analysis results require additional significant retrofit work to strengthen the bridge components that were not part of the original scope, additional costs may be incurred, which would lead to increased project costs and extended project duration. | The wind tunnel analysis will be performed in the subsequent phase. Depending on the wind tunnel analysis results, additional retrofit or strengthening work may be needed, such as wind fairings on the outside of the bridge, median barrier strengthening, and redesign of protective shielding. | 20% | $1,000,000 | $5,000,000 | $10,000,000 | $1,033,333 | 25 | 125 | 250 | 26 | Wind tunnel analysis results are currently unknown. Potential test results may trigger additional strengthening work. | Mitigate | The project engineer will evaluate the test results and determine what other work is required during the design phase. | Project Manager & Project Engineer | August 29, 2024 |
| 19 | Active | Threat | TRF | **Interference with Other Projects** | As a result of the construction of this project within the limits and time frame of other projects under construction, difficulties in coordinating traffic and work activities between the projects may occur, which would lead to increased project costs and duration. | There are locally-sponsored and Caltrans projects scheduled during the same time frame. The Port of Los Angeles recently received a $20 Million federal grant for a critical road-rail grade separation project at Terminal Island. Also, the bridge paint schedule may affect the project timeline or cause delays. The projects in the vicinity are:<br><br>EA 0W670 ( Rte 103 Pavement Restoration)<br>EA 32160 (PCH Pavement Rehab)<br>EA 34660 (SR 213 Pavement Rehab)<br>EA 34750 (LA 405 Pavement Rehab)<br>EA 36250 (TMS upgrades)<br>EA 32250 (SR 47 Union Pacific OH Bridge Deck Replacement)<br>EA 31650 (SR 47 Front St/Harbor Blvd Interchange Reconfiguration) - POLA<br>SR 47 Navy Way Intersection Improvement Project - POLA<br>Alameda St Widening Project - City of LA<br>Anaheim St Widening Project - City of LA | 15% | $5,000,000 | $7,000,000 | $8,000,000 | $1,025,000 | 50 | 100 | 150 | 15 | Coordination efforts with all necessary parties will help minimize the impacts of this risk. TRO may cost up to $10,000/day. | Mitigate | Coordinate with permitting agencies to identify local and/ or other Caltrans projects within the same project limit and adjust the construction schedule to avoid conflicts. | Construction Engineer, Project Engineer and Traffic Engineer (DTM) | August 29, 2024 |
| 20 | Active | Threat | TRF | **Temporary Traffic/Bridge Closures Approval Delays (EWPs Activities)** | If temporary traffic or bridge closures are not granted by the local or external agencies in a timely manner, Early Work Packages (EWPs) activities may not be progressing on time, which would lead to an increase in project costs and schedule delays. | Early Work Package activities will be required to meet the project schedule. Some EWP works activities will require bridge closure or half of the bridge closure at night and weekends. If these closures are not granted in a timely manner, the completion schedule will be impacted. Project duration may extend and additional costs may be incurred. | 25% | $1,000,000 | $3,000,000 | $10,000,000 | $958,333 | 25 | 75 | 250 | 24 | Early planning should mitigate the impact of this risk. | Mitigate | Coordinate with permitting agencies ahead of time to obtain the needed temporary traffic closures for different EWPs. | Caltrans/CMGC | August 29, 2024 |
| 21 | Active | Threat | DGN | **Missing Items (Assets) Within the Project Limits** | As a result of unanticipated items (assets) within the project limits, a requirement to perform work on these items (assets) may occur, which would lead to increased project costs and schedule delays. | Unforeseen issues may arise that affect the components of the electrolier, bridge travelers, and seismic sensing systems that are attached to the deck or barriers. All five bridge travelers may need to be fully functional to access the deck for temporary support and forming works. However, only three bridge travelers at the mid-span and both side-spans are suitable for the described work, The bridge travelers at the approach span are not operational at the moment and may be too small for construction work. Additionally, the coated members may need repainting after the deck removal. More information will be available in the PS&E phase. | 10% | $5,000,000 | $7,000,000 | $10,000,000 | $716,667 | 30 | 40 | 50 | 4 | Identifying all items of work improves the reliability of the cost estimate. | Mitigate | Work with all functional units to comprehensively identify work items. Include funds in the cost estimate to cover this additional expense. During construction, technicians should be available to maintain and check travelers daily to ensure that they are prepared when necessary for work. | Project Manager | August 29, 2024 |
| 22 | Active | Threat | STR | **Construction Methods (Pre-Cast Panels Cracked due to Stud Pockets)** | As a result of unexpected outcomes resulting from planned construction means or methods deployed during construction, changes in construction methods may occur, which would lead to increased project costs and schedule delays. | With the installation of the precast panels (especially the thinner deck on the Suspension Span), cracking might occur due to stud pockets during the lifting and placement of the panels with a robust lifting frame. Depending on how many of these panels would crack, this would result in the precast panel being re-casted and re-installed and could potentially impact the construction schedule and project cost. | 20% | $2,500,000 | $3,500,000 | $5,000,000 | $716,667 | 63 | 88 | 125 | 18 | Pre-cast panel may crack due to unknown reasons (temperature, lifting). Mock-up (testing) panels should help to mitigate the impact of this risk. | Transfer | CMGC will work with Construction Engineer, EOR, & Precast Manufacturer to develop means to mitigate potential of panel cracking. | Caltrans/CMGC | August 29, 2024 |

*Risk impact on construction schedule is estimated using Monte Carlo simulation without consideration of overlapping/concurrent activities.

| EA-07-390200, EFIS ID: 0722000334 | Milestones | | | | | Duration | Base Con Cap Est: | $507,274,349 | PM: Rimma Tebeleva |
|---|---|---|---|---|---|---|---|---|---|
| Route & Post Mile: LA 47 PM 0.4/2.0 | PID | PA&ED | PS&E | RTL | CCA | Con Working Days: 352 | Base Contingency: | $81,185,700 | DM: Mario Gutierrez |
| Project Description: Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471) | (M010) | (M200) | (M380) | (M460) | (M600) | Plant Est Days: 0 | Base Total Construction Capital Est: | $588,460,049 | RM: May Fung |
| | 11/29/22 | 10/01/24 | 06/20/25 | 07/08/25 | 07/30/27 | Total Con Days: 352 | | | |

**Scope Summary:** The project proposes to replace the existing 1961-year-built CIP lightweight concrete on the cable suspension span and east/west approach spans of the bridge. Items will also include replacing appurtenances such as barrier rails, seismic joints, chainlink fences, joint seals, and seismic instrumentation.

| Risk Identification | | | | | | | Risk Impact Assessment | | | | | | | | | Response Strategy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Contingency (@70th Percentile): | | | 17% | | Risk Impact on Working Days* (@70th Percentile): | | | 1257 | | | | | |
| Risk No. | Status | Type | Category | Risk Title | Risk Statement | Risk Details with Current Status/Assumptions | Probability of Occurrence | Low ($) | Most Likely ($) | High ($) | Cost Impact | Low | Most Likely | High | Time Impact | Rationale | Strategy | Response Actions | Risk Owner | Updated |
| 23 | Active | Threat | DGN | Upgrade Bridge Chain Link Fences | Because of the possibility of a significant increase in the wind-exposed area (the bridge's sensitivity to dynamic forces) due to replacing the existing (2" mesh) chain link fence with a smaller (1" mesh) chain link fence, additional retrofit work may be triggered, which would lead to project cost increases and schedule delays. | If the existing two-inch (2") mesh fence is required to be replaced by a one-inch (1") mesh chain link fence, there is a possibility that the wind-exposed area may significantly increase due to wind from the denser one-inch mesh area and the current attachment method of connecting points on the suspending cables which are not designed for lateral loads. | 25% | $2,000,000 | $2,500,000 | $3,000,000 | $625,000 | 21 | 25 | 32 | 6 | Wind Tunnel testing and analysis. Time should not be on the critical path. | Mitigate | If mitigation is not possible, then we should accept the situation. Acceptance in this case means that the existing fence will remain as is. | Project Engineer | August 29, 2024 |
| 24 | Active | Threat | ROW | Right-of-Way Needs | Because detailed Right of Way (R/W) requirements are not yet fully established, the effort needed to secure adequate rights for design and construction is unknown, which would lead to increased project costs and schedule delays. | Although most bridge work is within the Department's Right-of-Way, further evaluation during the subsequent phases of the project may discover the need for temporary construction easements at nearby locations for staging equipment, temporary supports, working space, and work materials for potential long traffic closures. It may take up to two months to obtain the entry rights for constructing the temporary elevators. The cost of permits for the Right of Entry with the Port of LA is unknown at this time. No TCEs known at this time. | 30% | $1,000,000 | $2,000,000 | $3,000,000 | $800,000 | 240 | 360 | 540 | 111 | Identify all right of way acquisition impacts and take appropriate action. | Mitigate | Review possible utility conflicts and conduct field investigation to identify any impacted parcels, roads, or other real property easily in the PS&E phase. Once identified, contact property owners and resolve issues and acquire needed property rights. The Department must identify all parcels, roads, or other real property under the bridge and the contractor must include a parcels, roads, or other real property protection plan in both the bridge removal and deck replacement plans. | Project Engineer | August 29, 2024 |
| 25 | Active | Threat | DGN | Stormwater Requirements | As a result of changes to stormwater requirements, Best Management Practices (BMP) design changes may occur, which would lead to increased costs and schedule delays. | NPDES Stormwater Permit requirements must be met. the 2022 NPDES No. CAS000003 Statewide Stormwater Permit has been adopted and is in effect as of January 2023. The project may need to comply with additional new stormwater treatment requirements. Although, no permanent BMPs are scheduled to be installed construction may require water collection from deck removal activities. | 20% | $2,000,000 | $3,000,000 | $4,000,000 | $800,000 | 14 | 28 | 42 | 6 | Stormwater requirements must be incorporated. | Mitigate | Ensure that all legislative requirements for stormwater are met. | Hydraulics/Stormwater Engineer | August 29, 2024 |
| 26 | Active | Threat | TRF | Traffic Systems & Handling | As a result of other projects under construction during the same time frame, traffic and congestion pattern may differ from the traffic analysis result, revision to traffic management and handling along detour routes may be needed, which may lead to increased project costs and schedule delays. | Unforeseen changes and delay of projects in conflict may have an impact on planned traffic management and detours. The proposed construction strategy at the current phase to replace the bridge deck is a one-stage full closure. This alternative will be evaluated based on its impact on local and port traffic. The impacts of other proposed and on-going projects in the vicinity may also need to be considered. The current Traffic Management Plan (TMP) is presently being updated.<br>EA 0W670 ( Rte 103 Pavement Restoration)<br>EA 32160 (PCH Pavement Rehab)<br>EA 34660 (SR 213 Pavement Rehab)<br>EA 34790 (LA 405 Pavement Rehab)<br>EA 36250 (TMS upgrades)<br>EA 32250 (SR 47 Union Pacific OH Bridge Deck Replacement)<br>EA 31850 (SR 47 Front St/Harbor Blvd Interchange Reconfiguration) - POLA<br>SR 47 Navy Way Intersection Improvement Project - POLA | 25% | $1,500,000 | $2,000,000 | $2,500,000 | $500,000 | 20 | 30 | 40 | 8 | As early as possible (not waiting until the PS&E stage), obtain concurrence from the Port of Long Beach, Port of Los Angeles, and City of Long Beach for the viable construction strategies. | Mitigate | Develop traffic handling plan that includes preliminary detour/alternate routes. Also coordinate such staging with local entities (the City and the Ports). Any major closure strategies that will significantly impact local traffic (e.g., closure hours, detours, traffic handling plans, etc.) will need to be coordinated with Caltrans and the local agencies during project development and in the PS&E and the construction phase. | Construction, Design Engineer and DTM | August 29, 2024 |
| 27 | Active | Threat | CON | Special Craft Workers Availability | As a result of limited availability of special craft workers, additional labor costs may be incurred to retain specialty craft personnel, which would lead to increased project costs. | Concerns that at the time of construction that availability of craft persons are challenging due to a strong construction market. Plausible due to 2028 Olympics push and State/FHWA push for added bridge maintenance work, etc. Special craft personnel may not be available to perform work on this project as needed. There may be a need to pay over and above the premium wages that initially carried in the Estimate. | 40% | $200,000 | $1,000,000 | $3,000,000 | $480,000 | 5 | 25 | 75 | 12 | Special Craft Workers Availability - Unknown | Transfer | Account for additional costs in retaining labor forces. | CMGC | August 29, 2024 |
| 28 | Active | Threat | CON | Traffic Incidents near Construction Site | As a result of incidents that may occur within the project limits, impacts to construction activities may occur, which would lead to increased project costs and schedule delays. | Due to non-standard lane width and necessary detours (in the project vicinity) required during construction, there is a possibility that traffic incidents may occur more frequently during the project construction. Traffic and/or other incidents may occur during construction near or at project site that prevent materials, equipment and workers from getting to the job site. | 20% | $1,000,000 | $2,000,000 | $3,000,000 | $400,000 | 0 | 0 | 0 | 0 | Unexpected incidents are unpredictable and unavoidable. Proper traffic handling and detours in the vicinity of the construction site would minimize the occurrence of traffic incidents. | Transfer | Protective barriers and traffic detours will be developed in the PS&E phase to mitigate traffic disruptions and maintain access for essential and emergency vehicles. | CMGC | August 29, 2024 |
| 29 | Active | Threat | TRF | Insurance Incidents Overage | As a result of the number of incidents occurring more than the quantity carried in the estimate, an increase in insurance coverage may be necessary, leading to increased project costs and schedule delays. | How many incidents will occur within the project area during construction is unforeseeable. If the number of incidents exceeds the quantity included in the insurance coverage of the original Estimate, additional costs may be incurred. | 20% | $1,000,000 | $2,000,000 | $3,000,000 | $400,000 | 0 | 0 | 0 | 0 | Insurance Incidents occurrence(s) - Unknown | Transfer | Carry an Insurance Incidents risk coverage based on risks identified for specific work activities. | CMGC | August 29, 2024 |

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| EA-07-390200, EFIS ID: 0722000334 | Milestones | | | | | Duration | Base Con Cap Est: | $507,274,349 | PM: Rimma Tebeleva |
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| Project Description: Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471) | 11/29/22 | 10/01/24 | 06/20/25 | 07/08/25 | 07/30/27 | Total Con Days: 352 | | | |

**Scope Summary:** The project proposes to replace the existing 1961-year-built CIP lightweight concrete on the cable suspension span and east/west approach spans of the bridge. Items will also include replacing appurtenances such as barrier rails, seismic joints, chainlink fences, joint seals, and seismic instrumentation.

| Risk Identification | | | | | | | Risk Impact Assessment | | | | | | | | | Response Strategy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Contingency (@70th Percentile): | | | 17% | | Risk Impact on Working Days* (@70th Percentile): | | | 1257 | | | | | |
| Risk No. | Status | Type | Category | Risk Title | Risk Statement | Risk Details with Current Status/Assumptions | Probability of Occurrence | Low ($) | Most Likely ($) | High ($) | Cost Impact | Low | Most Likely | High | Time Impact | Rationale | Strategy | Response Actions | Risk Owner | Updated |
| 30 | Active | Threat | ENV | Permits and Approvals | As a result of securing proper permits and approvals, additional delays and concessions may occur, which would lead to increased project costs and schedule delays. | According to the MINI-PEAR, a part of the project may fall within the dual jurisdictional zone between the Port of Los Angeles and the Port of Long Beach. Therefore, during the PS&E phases, it will be necessary to coordinate with and potentially obtain coastal approval from the Port of Los Angeles and possibly the Port of Long Beach. Additionally, approval and coordination may be required from the US Coast Guard, CA Department of Fish and Wildlife, CA State Lands Commission, Region Water Quality Control Board, and US Army Corps of Engineers. Moreover, the work zone is in the vicinity of Catalina Ferry, Inland Express, Ports America, and the Coastal Commission. It is essential to note that the Port of LA takes approximately two months to acquire a permit for entry. If there is any encounter with hazardous materials, a DTSC permit may be required. | 10% | $1,000,000 | $2,000,000 | $3,000,000 | $200,000 | 21 | 40 | 59 | 4 | There may be significant delays in obtaining the permits and approvals. | Mitigate | Schedule adequate time for the permit approval process and allow for uncertainty. | Project Engineer & Environmental Planner | August 29, 2024 |
| 31 | Active | Threat | ENV | Environmental Impact & Clearance | The document prepared for the project will be an EIR/EA. Any scope change could incur additional environmental studies and/or recirculation of the EIR/EA which would have a significant impact on the project schedule. | If additional cultural impacts or biological and other impacts are incurred due to a change in scope, delays may occur. Because this is a historical bridge, the stakeholders and/or the community may recommend that we consider the installation of a preferred architectural enhanced barrier rail and measures to offset traffic, AQ, and other community impacts, Architect approved assuming barrier type 50. If another barrier is chosen schedule may be impacted, Due to time constraints for environmental studies and requiring new SHPO approval the fence and median barrier may not be changed. | 10% | $1,000,000 | $2,000,000 | $3,000,000 | $200,000 | 40 | 80 | 100 | 8 | Vincent Thomas suspension bridge is historical and the removal of, or changes to, these structures may lead to cultural impacts, full closure impacts, traffic studies, and community impacts. | Mitigate | Conduct all necessary studies for environmental compliance and facilitate ongoing coordination between Design and Environmental to minimize the impacts of any scope changes. | Environmental Planner & Project Engineer | August 29, 2024 |
| 32 | Active | Threat | CON | Right of Way Railroad Needs | Because work will affect the existing POLB and POLA railroad below the Vincent Thomas Bridge, a railroad agreement addressing additional project requirements and constraints may be needed, which would lead to increased costs and duration. | The RW Data Sheet (dated: 12/28/23)) includes an estimated cost of $200,000 for flagging operations, oversight, and investigations for POLB and POLA railroads. Although flagging is a construction cost, additional resources may be required to reach construction and maintenance agreements. It is necessary to produce and provide containment plans that will be placed above the railroads to track owners. Submittal for the design of a protecting shield type may be necessary. The permit process may take around 4 to 6 months, followed by the flagging agreement process. Approval from the PHL board may also be required. | 10% | $830,000 | $1,880,000 | $2,930,000 | $188,000 | 240 | 360 | 540 | 37 | Identify all railroad impacts and take appropriate action. | Mitigate | Review possible utility conflicts and conduct field investigation to identify any impacted railroads early in the PS&E phase. Once identified, contact utility companies and monitor progress. The Department must identify all railroads under the bridge and the contractor must include a railroad protection plan in both the bridge removal and deck replacement plans. | Project Engineer and Railroad Coordinator | August 29, 2024 |
| 33 | Active | Threat | ENV | Nesting Birds & Protected Species | Due to nesting falcons on the bridge and if avoidance of nesting season cannot be achieved, additional time will be required to build temporary nests and relocate existing nests. This may potentially delay the project schedule. | The project is anticipated to encounter nesting or attempted nesting by Peregrine Falcons from October 1 to January 1. The bridge is generally suitable for nesting birds. In 2013, on retrofit project EA 07-3X604 the main span work had to be delayed due to nesting raptors. Based on the previous experiences, no work shall be allowed within 250' in both directions of the nest. To prevent future nestings, a Bird Nesting Deterrent Program will be considered during the design phase. | 20% | $800,000 | $900,000 | $1,000,000 | $180,000 | 90 | 100 | 120 | 20 | Avoiding bird nesting seasons will minimize the impact of this risk, and installing nesting deterrence will discourage birds from nesting near the project site. | Mitigate | Perform a bird's nest survey of the area during PS&E. If existing, include the breeding season in the project schedule. Exclusionary devices may be installed on the bridge to prevent bird nesting. Any nests/eggs found on the bridge before construction will be moved to an off-site hatchery and/or artificially constructed nests nearby | Environmental Planner (Biologists) | August 29, 2024 |
| 34 | Active | Threat | CON | Ordering Materials (Structural) | As a result of taking significant time to approve, order, and deliver project materials, there may be construction costs and schedule delays. | The lead time for procuring precast deck or other bridge deck components may take up to one year. Continue coordination throughout the design phase with the CMGC to confirm the lead time required to procure the materials. | 10% | $1,200,000 | $1,700,000 | $2,100,000 | $168,333 | 42 | 56 | 70 | 6 | Procuring materials after RTL may delay the project completion date. | Mitigate | Construction Manager may order the materials and perform an early release package before the RTL date. Specifically, the steel plates can be ordered early. In addition, the production of the deck can be staggered to ensure a constant supply of materials to the field. Potentially get other fabricators involved. | Project Manager, Construction Engineer & Design Manager | August 29, 2024 |
| 35 | Active | Threat | CON | Unknown Condition of Steel Stringers | If the stringers on the main span are in worse condition than initially planned or investigated, then it will affect the placing of the new deck and cause delays and additional costs for unforeseen repairs and corrections. | As-built or bridge conditions may not reflect design assumptions and plans at the time of construction. The bridge was completed in 1963 and had a seismic retrofit in 2000. Deck shear connectors were found to be corroded or cracked and some had to be replaced in the retrofit project, EA 290704. Also, The stringers have been there since 1963. The top flanges could be corroded by the water through the cracks in the deck. Some shear plates/connections were replaced in Project 07-1Y710 in approximately 2011. Based on the field experience, there is a great potential that many shear studs were broken in the last 10 years. | 30% | $250,000 | $500,000 | $1,000,000 | $162,500 | 7 | 14 | 21 | 4 | Adequately characterizing the project site will reduce cost uncertainty. | Mitigate | Minimize contractor surprises by thoroughly characterizing the site. Seek assistance and collaboration from CMGC. Also, perform field visits to survey existing conditions. | Project Engineer | August 29, 2024 |
| 36 | Active | Threat | CON | Crew Downtime | As a result of equipment break-down or crew downtime more than expected, additional costs may be incurred, which would lead to increased project costs and schedule delays. | If equipment break-down or crew downtime more than initially carried in the Estimate, additional costs may be incurred to maintain the schedule and minimize delays. | 25% | $200,000 | $500,000 | $1,000,000 | $133,333 | 5 | 13 | 25 | 3 | Equipment break-down and downtime is unknown at this time. | Transfer | Account for additional time and costs to catch up work and maintain work progress. | CMGC | August 29, 2024 |

*Risk impact on construction schedule is estimated using Monte Carlo simulation without consideration of overlapping/concurrent activities.

| EA-07-390200, EFIS ID: 0722000334 | Milestones | | | | | Duration | Base Con Cap Est: | $507,274,349 | PM: Rimma Tebeleva |
|---|---|---|---|---|---|---|---|---|---|
| Route & Post Mile: LA 47 PM 0.4/2.0 | PID | PA&ED | PS&E | RTL | CCA | Con Working Days: 352 | Base Contingency: | $81,185,700 | DM: Mario Gutierrez |
| | (M010) | (M200) | (M380) | (M460) | (M600) | Plant Est Days: 0 | Base Total Construction Capital Est: | $588,460,049 | RM: May Fung |
| Project Description: Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471) | 11/29/22 | 10/01/24 | 06/20/25 | 07/08/25 | 07/30/27 | Total Con Days: 352 | | | |

**Scope Summary:** The project proposes to replace the existing 1961-year-built CIP lightweight concrete on the cable suspension span and east/west approach spans of the bridge. Items will also include replacing appurtenances such as barrier rails, seismic joints, chainlink fences, joint seals, and seismic instrumentation.

| Risk Identification | | | | | | | Risk Impact Assessment | | | | | | | | | Response Strategy | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Contingency (@70th Percentile): | | | 17% | | Risk Impact on Working Days* (@70th Percentile): | | | 1257 | | | | | |
| Risk No. | Status | Type | Category | Risk Title | Risk Statement | Risk Details with Current Status/Assumptions | Probability of Occurrence | Low ($) | Most Likely ($) | High ($) | Cost Impact | Low | Most Likely | High | Time Impact | Rationale | Strategy | Response Actions | Risk Owner | Updated |
| 37 | Active | Threat | TRF | Lane Closure / Opening Late Penalties | As a result of lane closures needed during construction, the re-opening of the closure to the public may be delayed, which would lead to additional costs. | The route is heavily used for imports and trucking deliveries. For projects with a specific time frame of closure, the set up and re-opening may be delayed due to different constraints that may occur. If the project is subject to possible penalties due to late openings, additional cost (penalties) may be incurred. | 25% | $200,000 | $500,000 | $1,000,000 | $133,333 | 5 | 13 | 25 | 3 | Due to the complexity of various construction activities, some delays is expected. | Transfer | Account for additional costs in the estimates if the project is subject to late traffic opening penalty. | CMGC | August 29, 2024 |
| 38 | Active | Threat | TRF | Traffic Congestion Resulting from Construction Staging Option | As a result of the selected construction staging option, there may be an increase in traffic congestion, which would lead to project cost and schedule impacts. | The proposed construction strategy at the current phase to replace the bridge deck is a one-stage full closure, which the public and external stakeholders prefer. This preferred strategy may still create congestion, impact intersection performances, average speeds, and travel speeds greater than the traffic operational analysis indicates. | 25% | $250,000 | $500,000 | $750,000 | $125,000 | 0 | 0 | 0 | 0 | Assumptions and parameters used for traffic analysis may not match future traffic including port demands. | Mitigate | Collaborate with stakeholders to mitigate potential traffic congestion events/items. | Traffic Engineers (Corridor Managers),(DTMs),( Designers), and ITS) | August 29, 2024 |
| 39 | Active | Threat | ENV | Unanticipated Hazardous Materials | As a result of unanticipated hazardous materials discovered during the Construction Phase, additional hazardous mitigation planning may occur, which would lead to design schedule delays and project cost increases. | There may be hazardous materials from the disposal of electronic seismic sensors, the removal of heavy metal-based paints, and bridge work containing asbestos. Based on the age of the bridge, we most likely have older layers of paint that were applied in the sixties and have Lead. We will also need to prevent contaminated debris from falling into the channel. | 10% | $500,000 | $1,000,000 | $1,500,000 | $100,000 | 21 | 35 | 49 | 4 | Effective handling of hazardous waste on-site reduces the cost of disposal. | Mitigate | Develop plans to handle as much hazardous waste on-site and minimize disposal costs.<br>The CMGC team may consult with the VTB maintenance crew/paint crew to identify possible hazardous material and its location. VTB Paint crew may be able to tell if bridge paint contains lead. | Hazardous Waste Engineer | August 29, 2024 |
| 40 | Active | Threat | CON | Protection of and or Damage to Adjacent Properties | Because of the construction of this project, unintentional damages to adjacent properties may occur, which may lead to additional costs to the project. | There is a low risk that damages to the adjacent properties may occur. Protections are usually advised but in some circumstances, it may occur and may lead to additional costs to the project. | 25% | $200,000 | $300,000 | $500,000 | $79,167 | 0 | 0 | 0 | 0 | This is a low risk but it is a risk as the project is located near the Port of Long Beach. | Transfer | In the PS&E Phase, the PDT and CMGC will work together to devise a plan to protect and avoid any damages to the adjacent properties. | CMGC | August 29, 2024 |
| 41 | Active | Threat | CON | Ordering Materials (Electrical) | As a result of taking significant time to approve, order, and deliver project items, there may be a delay in constructing the deck thereby impacting the construction costs and schedule. | The project proposes to replace 29 special design electroliers and 160 low-light system. The lead time for procuring the project-required components may take more time than anticipated. Also, another item to consider is the warranty periods if items were procured early in the project phases. | 25% | $100,000 | $200,000 | $300,000 | $50,000 | 60 | 75 | 90 | 19 | During the early stages of a project, identifying and procuring necessary items can be time-consuming due to the need to consider multiple options. | Mitigate | If items are delayed, consider using the CMGC or multiple manufacturers. Also, maintain collaboration and communication with all stakeholders. | Project Engineer and Project Manager | August 29, 2024 |
| 42 | Active | Threat | CON | Vandalism and Theft | As a result of less transit due to construction closure, vandalism of existing facilities and construction materials theft may increase, and unexpected repairs may be required, which may increase costs and cause schedule delays. | Existing traffic provides additional surveillance or acts as a deterrent for those seeking to remove materials. The presence of vehicle traffic currently makes theft more difficult due to the possibility of being seen. | 25% | $100,000 | $200,000 | $300,000 | $50,000 | 5 | 7 | 9 | 2 | The existing fence provides a deterring barrier for those willing to trespass. During the transitional period as fencing is installed paired with less vehicle traffic it may be vulnerable to those interested in trespassing. | Mitigate | Collaborate with existing partners to provide surveillance during construction. | Project Manager & Resident Engineer | August 29, 2024 |
| 43 | Active | Threat | ROW | Utility Identification and Relocation Needs | If unforeseen utilities are discovered in the structure, they may have to be protected in place or relocated. This may result in additional costs and time to complete the project. | The R/W Data Sheet (dated 12/28/23) indicates that the existing utilities on the catwalk under the bridge are not expected to be affected. The fiber optic lines on the below deck catwalk through the suspended main spans and other conduits on the bridge, including power and twisted pair/coaxial cables, are visible and easily accessible for field investigation by the Contractor before construction. It is anticipated that most of the utilities may not need relocation but will need to be protected in place. | 20% | $100,000 | $200,000 | $300,000 | $40,000 | 14 | 20 | 26 | 4 | Identify all utilities to be relocated or protected and take appropriate action. | Mitigate | Review possible utility conflicts and conduct field investigation to identify any impacted utilities early in the PS&E phase. Once identified, contact utility companies and monitor progress. The Department must identify all utilities on the bridge and the contractor must include a utility protection plan in both the bridge removal and deck replacement plans. | Project Engineer and Utilities Engineer | August 29, 2024 |
| 44 | Active | Threat | SUP | Caltrans Staffing & Resources | As a result of hiring new staff and staff retirements, the availability of in-house personnel (or staff augmentation consultants) with the proper experience to complete all required tasks may be limited, which would lead to increased project costs and duration. | Caltrans staff may not be available to perform work on this project as needed, negatively impacting the project support costs and schedule. Also, there may be staff issues related to teleworking, retirements, and new hires. If there is a need to rely on consultants that, are significantly more expensive, the support cost will increase. | 15% | $50,000 | $100,000 | $150,000 | $15,000 | 20 | 40 | 60 | 6 | Staffing and productivity are the main contributors to Support Costs. Since this is a Support Cost risk, it isn't captured in the project risk contingency calculations. | Mitigate | In the PS&E Phase, evaluate the Construction Phase resource requirements and make adjustments as needed. | Project Manager | August 29, 2024 |
| | Retired | Threat | DGN | Median Barrier on Orthotropic Deck | The typical Barrier Type 60MA is designed for concrete bridge decks. If an orthotropic deck is chosen, there is a risk of corrosion to the deck and additional testing, which may impact the schedule. | Using a type 60 MA with an orthotropic deck may bring risk to steel deck corrosion due to concrete cracking behavior that could invite unwanted water impossible to keep out.<br>Orthotropic deck has been eliminated as an alternative. Other types of barriers are being considered. | | | | | | | | | | | | | | August 29, 2024 |

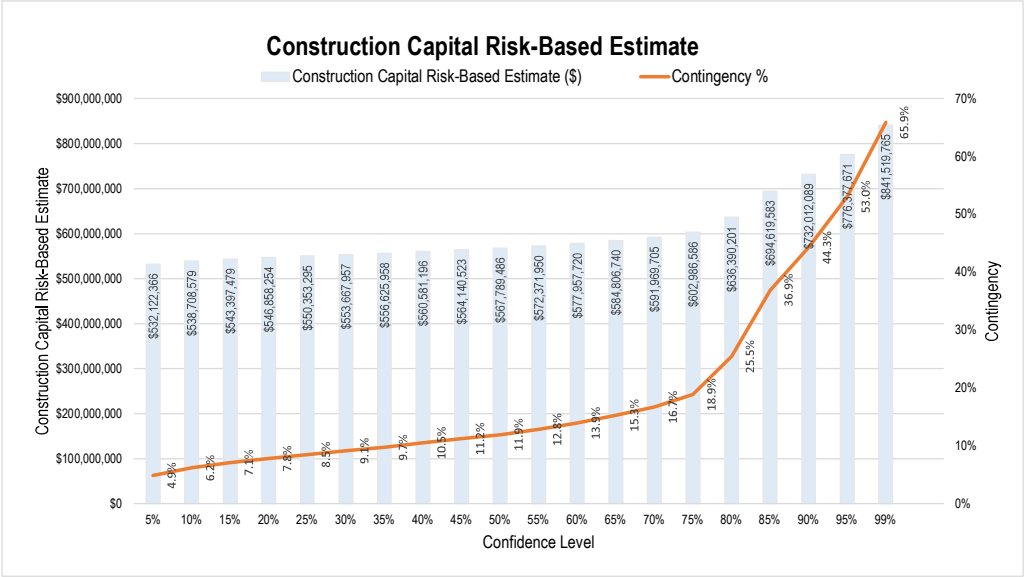
*Risk impact on construction schedule is estimated using Monte Carlo simulation without consideration of overlapping/concurrent activities.

**EA - 07-390200**
**Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471)**

**Construction Capital Cost $ 588,460,049**

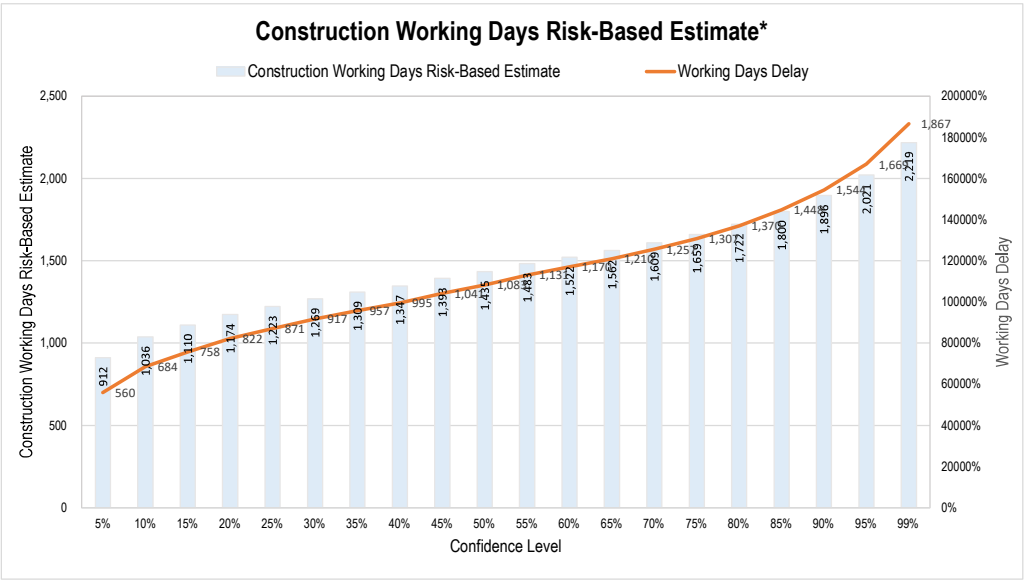
**Base Construction Capital Cost (w/o Contingency) $ 507,274,349**
**Base No. of Working Days 352**

| Confidence Level | Construction Capital Risk-Based Estimate ($) | Contingency % | Contingency ($) |
|---|---|---|---|
| 1% | $ 523,835,820 | 3.3% | $ 16,561,471 |
| 5% | $ 532,122,366 | 4.9% | $ 24,848,017 |
| 10% | $ 538,708,579 | 6.2% | $ 31,434,230 |
| 15% | $ 543,397,479 | 7.1% | $ 36,123,130 |
| 20% | $ 546,858,254 | 7.8% | $ 39,583,905 |
| 25% | $ 550,353,295 | 8.5% | $ 43,078,946 |
| 30% | $ 553,667,957 | 9.1% | $ 46,393,608 |
| 35% | $ 556,625,958 | 9.7% | $ 49,351,609 |
| 40% | $ 560,581,196 | 10.5% | $ 53,306,847 |
| 45% | $ 564,140,523 | 11.2% | $ 56,866,174 |
| 50% | $ 567,789,486 | 11.9% | $ 60,515,137 |
| 55% | $ 572,371,950 | 12.8% | $ 65,097,601 |
| 60% | $ 577,957,720 | 13.9% | $ 70,683,371 |
| 65% | $ 584,806,740 | 15.3% | $ 77,532,391 |
| 70% | $ 591,969,705 | 16.7% | $ 84,695,356 |
| 75% | $ 602,986,586 | 18.9% | $ 95,712,237 |
| 80% | $ 636,390,201 | 25.5% | $ 129,115,852 |
| 85% | $ 694,619,583 | 36.9% | $ 187,345,234 |
| 90% | $ 732,012,089 | 44.3% | $ 224,737,740 |
| 95% | $ 776,377,671 | 53.0% | $ 269,103,322 |
| 99% | $ 841,519,765 | 65.9% | $ 334,245,416 |




Construction Capital Risk Based estimate is based on the project cost estimate as well as the PDT's input on the risk register.

| Confidence Level | Construction Working Days Risk-Based Estimate | % Change in Working Days | Working Days Delay |
|---|---|---|---|
| 1% | 755 | 114.5% | 403 |
| 5% | 912 | 159.0% | 560 |
| 10% | 1,036 | 194.5% | 684 |
| 15% | 1,110 | 215.3% | 758 |
| 20% | 1,174 | 233.4% | 822 |
| 25% | 1,223 | 247.4% | 871 |
| 30% | 1,269 | 260.5% | 917 |
| 35% | 1,309 | 272.0% | 957 |
| 40% | 1,347 | 282.5% | 995 |
| 45% | 1,393 | 295.9% | 1041 |
| 50% | 1,435 | 307.6% | 1083 |
| 55% | 1,483 | 321.3% | 1131 |
| 60% | 1,522 | 332.5% | 1170 |
| 65% | 1,562 | 343.7% | 1210 |
| 70% | 1,609 | 357.0% | 1257 |
| 75% | 1,659 | 371.4% | 1307 |
| 80% | 1,722 | 389.3% | 1370 |
| 85% | 1,800 | 411.3% | 1448 |
| 90% | 1,896 | 438.7% | 1544 |
| 95% | 2,021 | 474.2% | 1669 |
| 99% | 2,219 | 530.3% | 1867 |

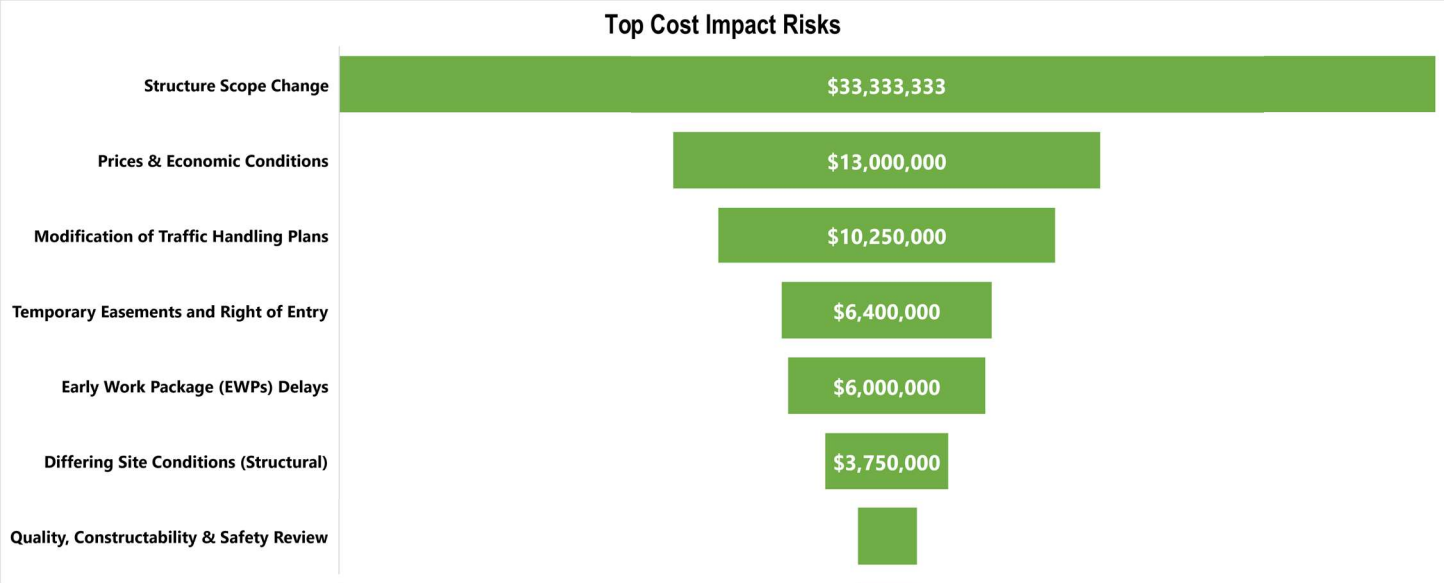


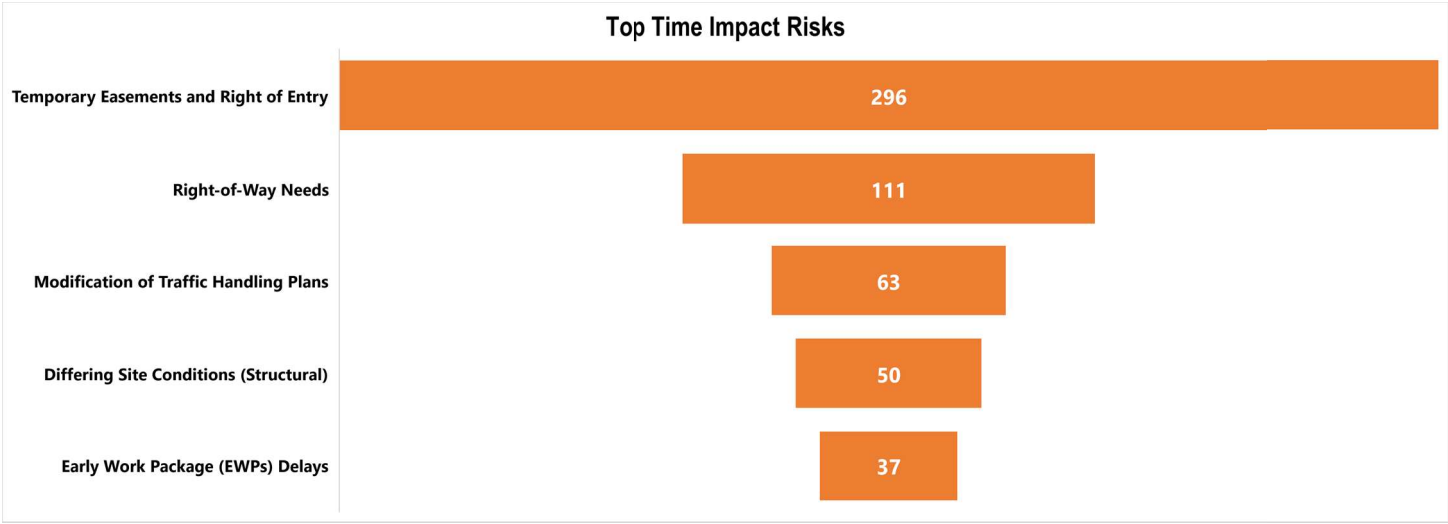

*Risk impact on construction schedule is estimated using Monte Carlo simulation without consideration of overlapping/concurrent activities.

EA - 07-390200
Vincent Thomas Bridge Deck Replacement (Bridge No. 53-1471)

Construction Capital Cost $ 588,460,049

Base Construction Capital Cost (w/o Contingency) $ 507,274,349
Base No. of Working Days 352



# ATTACHMENT I

# SHOPP - Performance Measures

## SHOPP Project - Accomplishment - Performance Measures - Benefits

**District:** 07 **Tool ID:** 23488 **Project ID:** 0722000334 **EA:** 39020 **Co-Rte-PM:** LA-047-R0.4/2.0 (Primary Location)

View/Print PIR (Performance) Report

Multi-Objective Worksheet

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 | A03 | Bridge Rail (201.112) | Bridge Rail Replacement and Upgrade | Linear Feet | 18306.000 | 18306.000 | | | | 18306.000 | | | | | | | |
| 2 | A04 | Bridge Rehabilitation (201.110, .111, .113, .322) | Bridge and Tunnel Health | Square Feet | 352044.000 | | | 352044.000 | | 352044.000 | | | | | | | Additionally, R&R 18 at approach and 11 joint seals at suspension spans. Remove 4 finger joints and replace with seismic joints. |
| 3 | A06 | Number of Bridges | No Performance Objective in the SHSMP | Each | 1.000 | | | | | | | | | | | | |
| 4 | E01 | Median Barrier (201.010, .015) | No Performance Objective in the SHSMP | Linear Feet | 9153.000 | | | 9153.000 | | 9153.000 | | | | | | | |
| 5 | E23 | Collisions Reduced (201.015) | Collision Severity Reduction | Fatal/Serious Injury Collisions | 9.000 | | | 9.000 | | 9.000 | | | | | | | Based upon the new methodology-8/14/23 |
| 6 | E55 | Proactive Safety Vehicles | Proactive Safety | Annual Fatal & Serious Injury Collisions | 0.530 | | | 0.530 | | 0.530 | | | | | | | Based upon the new methodology-8/14/23 |
| 7 | H32 | Is any Location Within the Project Limits Ped/Bike Accessible? | No Performance Objective in the SHSMP | Yes/No | No | | | | | | | | | | | | |
| 8 | H55 | Justification for Bicycle and Pedestrian Infrastructure Not Applicable | Bike/Ped Prohib | 1,2,3 | | | | | | | | | | | | | |

(Last Saved - 02/28/24 @ 4:04 PM by Mara Chaudhari)

### 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 201.116 | Bridge - Formula Program | Primary | Bridge | 1.0 | Bridge(s) | Square Feet | 0.0 | 0.0 | 352,044.0 | 352,044.0 | 352,044.0 | 0.0 | 352,044.0 | 0.0 | 0.0 | 352,044.0 |

| Bridge/Tunnel Number | Pre-Health | Post-Health | Area |
|---|---|---|---|
| 53 1471 | Poor | Good | 352044 |

**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 abandonec/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

# Transportation Management Plan Data Sheet

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

County/Route/PM LA-47; PM 0.4/2.0 EA 390200 Alternative No. See Project Notes
E-FIS 0722000334 Project Phase: PAED
Project Limit At Vincent Thomas Bridge
Project Description Replace Entire Bridge Deck and Seismic Sensors

| | | |
|---|---|---|
| 1) Public Information | | |
| ☐ | a. Brochures and Mailers | |
| ☑ | b. Press Release | |
| ☑ | c. Paid Advertising | $ 150,000 |
| ☐ | d. Public Information Center/Kiosk | |
| ☑ | e. Public Meeting/Speakers Bureau | |
| ☑ | f. Telephone Hotline | |
| ☑ | g. Internet | |
| ☐ | h. Others: | |
| | **Sub-Total (1)** | **$ 150,000** |
| 2) Motorists Information Strategies | | |
| ☑ | a. Changeable Message Signs (Fixed) | See notes |
| ☑ | b. Changeable Message Signs (Portable) | $ 690,000 |
| ☐ | c. Ground Mounted Signs | |
| ☐ | d. Highway Advisory Radio | |
| ☑ | e. Caltrans Highway Information Network (CHIN) | |
| ☐ | f. Others: | |
| | **Sub-Total (2)** | **$ 690,000** |
| 3) Incident Management | | |
| ☑ | a. Construction Zone Enhanced Enforcement Program (COZEEP) | $ 340,000 |
| ☑ | b. Freeway Service Patrol (FSP) | $ 962,000 |
| ☑ | c. Traffic Management Team (TMT) | |
| ☐ | d. Helicopter Surveillance | |
| ☑ | e. Traffic Surveillance Stations (Loop Detector and CCTV) | See notes |
| ☐ | f. Others: | |
| | **Sub-Total (3)** | **$ 1,302,000** |

4) Construction Strategies

| | | |
|---|---|---|
| ☑ | a. Lane Closure Charts | |
| ☐ | b. Reversible Lanes | |
| ☑ | c. Total Mainline Freeway Closure | |
| ☑ | d. Extended Weekend Closure | |
| ☐ | e. Contra Flow | |
| ☐ | f. Truck Traffic Restrictions | |
| ☑ | g. Reduced Speed Zone | See notes |
| ☐ | h. Connector and Ramp Closures | |
| ☑ | i. Incentive and Disincentive | See notes |
| ☐ | j. Moveable Barrier | |
| ☐ | k. Others: _____ | |

**Sub-Total (4)** $ -

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: _____ | |

**Sub-Total (5)** $ -

6) Alternative Route Strategies

| | | |
|---|---|---|
| ☐ | a. Add Capacity to Freeway Connector/Ramps | |
| ☑ | b. Street Improvement (widening, traffic signal, etc.) | See notes |
| ☑ | c. Traffic Control Officers | $ 340,000 |
| ☐ | d. Parking Restrictions | |
| ☐ | e. Others: _____ | |

**Sub-Total (6)** $ 340,000

7) Other Strategies

| | | |
|---|---|---|
| ☑ | a. Application of New Technology | See notes |
| ☐ | b. Others: _____ | |

**Sub-Total (7)** $ -

**TOTAL ESTIMATED COST OF TMP ELEMENTS:** $ 2,482,000

Project Notes:

General notes.

* This TMP is updated for PAED phase based on Two-Stage Construction (Scenarios 4-5) Alternative of the Draft PR (as of 02/11/2024).
** Closure duration: 25 months.
** Strategy: Closure of half of the bridge and having 2 traffic lanes, one operating in each direction during daytime with full closure of the bridge during nighttime and weekends.
* Construction shall notify Office of Media / Public Affairs a minimum of one month prior to the start of construction to initiate the Public Awareness Campaign (PAC). Similarly, Media Affairs shall be notified a minimum of one month prior to each change in the construction phase. Note that during the PS&E phase, there may be a need for Construction to notify Office of Media / Public Affairs sooner than 1 month to allow sufficient time to disseminate advanced notifications to the Port of Long Beach (PoLB), Port of Los Angeles (PoLA), local cities and other entities.
* Any changes in the scope of the project (including traffic handling) will require a re-evaluation of the TMP cost and strategies.
* The number of traffic lanes will be maintained throughout the construction duration, except as allowed in the lane requirement charts of the Maintaining Traffic Specifications.
* The engineer should identify and coordinate with other projects (both Caltrans and local cities) that will be in construction at the same time with this project to avoid conflicts in planned lane closures.
* Any strategies that involve long-term closures (than 55-hour extended weekend closures) will require inputs and concurrence from Office of Mobility Program.
* Similarly, traffic circulation and safety along the local streets along detour/alternates routes will require inputs and concurrence from Office of Mobility Program and Traffic Safety.

Notes for Specific TMP Elements.

(1) Public Information: was provided by Public Information Officer - Media Relations on 02/01/2024.

(2a) CMS: Utilize existing CMS to provide notification to public traffic in advance of and during closures to encourage voluntary diversion from the construction zone and to notify the public of the closures.

(2b) Propose PCMS to be utilized 24/7 during 25 months of closure.

(3a) COZEEP was provided by Construction Traffic Advisor on 02/05/2024.

(3b) Propose FSP to assist with disable vehicles during the weekdays when there are only 2 lanes open to traffic (one in each direction). Because the current FSP contract for Los Angeles area does not include Route 47, it is required that a Cooperative Agreement will be prepared between Caltrans and MTA, to be prepared by Office of PPM and Design during the PS&E phase. Office of DTM will assist with providing inputs.

(3c) Deploy TMT as needed during closures to assist with traffic queueing monitor and record traffic delay. Note that the TMT is only additional to the Contractor's responsibility to provide "End of Queue Monitoring and Warning" as shown in SSP section 12-4.02C(10).

(3e) Propose to install temporary Traffic Surveillance Stations during lane closure where the permanent ones are disabled due to work related to roadway excavation. Estimate cost will be calculated in the

PS&E phase by Office of ITS.

(4a) Lane closure charts will include closures for mainline freeway and ramps leading to the construction zone as shown in the Maintaining Traffic Specifications during the PS&E phase.

(4d) Extended Weekend Closure (EWC) of 55-hour is needed to provide more work space for construction. During PS&E phase, EWC strategies will be developed in details along with Motorist Information Plans showing detour/alternates routes for public traffic.

(4g) See Maintaining Traffic Specifications section 12-4.02C(12) Construction Work Zone Speed Limit Reduction. The cost will be included in other section of the BEES and proposed by office of Design during the PS&E phase.

(4i) Incentive/Disincentive should be considered for this project to encourage the Contractor to complete the project quicker, resulting in a shorter closure duration. This requires a Cooperative Agreement to be prepared by Office of Design during the PS&E phase. Note that the Incentive/Disincentive clause should be considered carefully to avoid unnecessary and costly reimbursement to the Contractor. It should only be considered after accurate number of working days for each construction staging have been calculated with acceptable production rates of the work items.

(6b) Proposed Street Improvement which includes:

* Install new/temporary traffic signal.
* Local street improvement (pavement, striping, etc.)
* Roadway widening to accommodate big truck turning at intersections.

Estimate cost for this item will be calculated during the PS&E phase by Office of Traffic Design, ITS, and Design. A Coop Agreement may be needed between Caltrans and local cities and the Ports to secure fundings.

(6c) Proposed Traffic Control Officers (TCO) to manage traffic at intersections on local streets that are not under CHP jurisdictions. The TCO hourly rate is similar to that of CHP in COZEEP. A detailed calculation will be done during the PS&E phase. For PAED phase, it is estimated to be similar to COZEEP estimate, thus the dollar amount is the same as Item 3a.

(7a) Better construction methods are encouraged utilizing the latest technology and available advanced equipment in order to shorten duration of construction, which in turn shorten closure duration and return the entire bridge surface for use by public traffic. The cost will be calculated during the PS&E phase.

TMP cost for BEES.

The TMP costs to be included in the BEES under State Furnished Materials and Expenses section are shown below in the same order as the TMP elements:

| | |
|---|---|
| 066063 - Traffic Management Plan - Public Information | $ 150,000 |
| 066578 - Portable Changeable Message Signs | $ 690,000 |
| 066062 - COZEEP Contract | $ 340,000 |
| 066065 - Tow Truck Service Patrol | $ 962,000 |
| 066074 - Traffic Control | $ 340,000 |

Note:

(a) The BEES code 066578 for Portable Changeable Message Sign was based on the TMP Guidelines. The Design Engineer may select to program another Item Code in BEES for this

PCMS estimate. The purpose is that funding for PCMS proposed in this TMP is included in the project cost estimates. If Design decides to include this amount in the Traffic Control or PMCS in another section of BEES, then a note needs be included in Notes to the RE records to indicate that the total amount includes PCMS-TMP cost.

(b) Item Traffic Control (066074) is used for Traffic Control Officer.

PREPARED BY Duke Huynh DATE 03/06/2024

Duke M. Huynh,
Transportation Engineer

APPROVAL RECOMMENDED BY Julio C. Valdez DATE 03/06/2024

Julio Valdez,
Acting Senior Transportation Engineer

APPROVED BY DATE 03/07/2024

Kenneth Young,
District Traffic Manager,
Division of Traffic Operations

# [REQUEST FOR DISTRICT DIRECTOR APPROVAL] Project Report for EA 07-39020

Final Audit Report 2024-10-25

| | |
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