

Project Study Report - Project Development Support (PSR-PDS)

To

Request Approval to Proceed with Formal Studies for Long Lead SHOPP Project

On Route 154

Between PM 22.9

And PM 23.2

APPROVAL RECOMMENDED:



Lisa Lowerison, PROJECT MANAGER

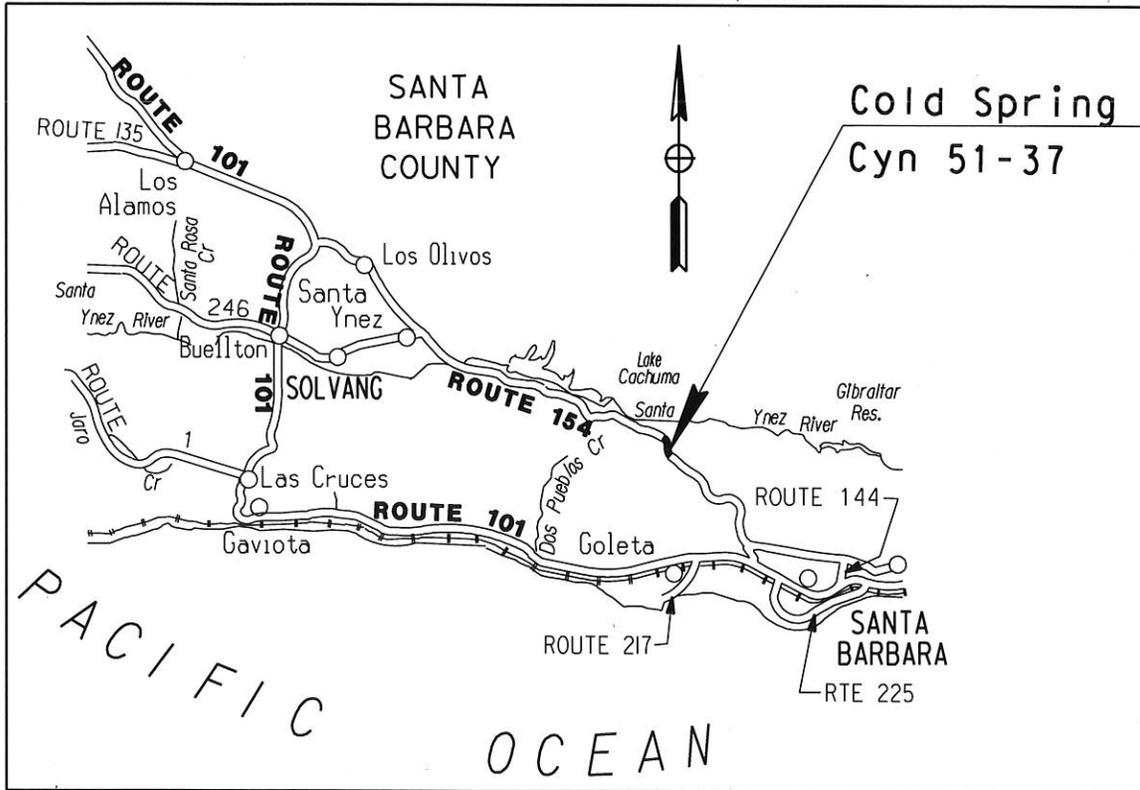
APPROVED:



Timothy M. Gubbins, DISTRICT 05 DIRECTOR

6/29/15
DATE

Vicinity Map



This Project Study Report – Project Development Support (PSR-PDS) 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.

Marcia F. Vierra
REGISTERED CIVIL ENGINEER

5/19/15
DATE



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1. INTRODUCTION

Project Description:

Paint the steel superstructure after spot removal of the existing coating at various locations and install inspection access system below the bridge for Cold Spring Canyon Bridge 51-0037 located in Santa Barbara County. No exceptions to design standards are anticipated.

Project Limits	05-SB-154-PM 22.9/23.2
Number of Build Alternatives	3
Current Capital Outlay Support Estimate for PA&ED	\$940,000
Current Capital Outlay Construction Cost Range	\$8,900,000 to \$13,300,000
Current Capital Outlay Right-of-Way Cost Range	\$6,000 to \$9,000
Funding Source	20.10.201.110 Bridge Rehabilitation
Type of Facility	2-lane conventional highway
Number of Structures	1
SHOPP Project Output	1
Anticipated Environmental Determination or Document	Mitigated Negative Declaration (MND)/ Finding of No Significant Impact (FONSI)
Legal Description	In Santa Barbara County at Cold Spring Canyon Bridge
Project Development Category	4-B

The right-of-way, and construction components of the project are preliminary estimates and are not suitable for programming purposes. Either a Project Report or a Supplemental Project Initiation Document (PID) following the format of a Project Study Report will serve as the programming document for the remaining components of the project. A Project Report will serve as approval of the “selected” alternative.

It is requested that this project be programmed as a long lead project because it won't be deliverable in a 4-year SHOPP cycle. Currently, the Project Approval and Environmental Document (PA&ED) phase is anticipated to take 3 years. This project is anticipated to require a FONSI environmental document for National Environmental Policy Act (NEPA) compliance. Average PID to PA&ED milestone deliveries have historically been 4 years for a FONSI. Some of the higher level risks include possible public controversy due to visual impacts and additional consultation if the proposed work is considered an adverse effect on the structure that is on the National Register of Historic Places. The Plans, Specification and Estimate (PS&E) portion of the project is anticipated to take approximately 1.5 years. Together, these timelines take over 4 years without time included for the above mentioned risks.

2. BACKGROUND

Background:

The Cold Spring Canyon Bridge is located between post miles 22.95 and 23.19 on State Route 154 (San Marcos Pass Road) in Santa Barbara County. The structure has an approximate steel paint area of 232,122 square feet. The bridge was last painted in 1963 when it was built. The coating system is over 50 years old and has reached the end of its service life. Cold Spring Canyon Bridge has had Fracture Critical (FC) inspections conducted on a 24 month cycle for its known FC members (other than the arch.) Once it was confirmed through engineering calculations that during certain loadings segments of the arch ribs go into tension, those were added May 4, 2011 to the FC Inspection Plan for this bridge.

3. PURPOSE AND NEED

Purpose: Remove the existing 50 year old coating system and repaint to prevent further corrosion and provide a protective coating to the steel. In addition to bridge paint, an inspection access system will be installed at various location to allow inspectors to access element of the bridge otherwise difficult to reach.

Need: The Bridge Inspection Records Information System (BIRIS) identified the need to spot prep and full paint the entire bridge and install catwalks (inspection access system) at various locations for inspection access to FC features on the structure. The paint coating system is over 50 years old and has reached the end of its service life.

4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

This project is not traffic related and involves painting and construction under the bridge deck.

5. DEFICIENCIES

In 2009 Bridge Inspection Report for the Cold Spring Canyon Bridge identified the need to perform painting maintenance. The bridge has not received complete painting maintenance since being constructed over 50 years ago. In 2012, the Office of Structure Maintenance and Investigations additionally identified the need to improve worker access to the structural elements for inspections. The current inventory of equipment is unable to reach most of the arch rib to perform all areas requiring a FC inspection. The reach of a bucket arm on an Under Bridge Inspection Truck (UBIT) or Snooper vehicle is only long enough to place inspectors at the bottom of the arch for part of the span width.

6. CORRIDOR AND SYSTEM COORDINATION

State Route 154 in Santa Barbara County is 32.2 miles in length. Most of State Route 154 is a 2-lane conventional highway with 2 and 4-lane expressway sections. State Route 154 is a rural scenic highway that provides a connection between the South Coast and the Santa Ynez Valley. It extends from State Route 101 south junction (Santa

Coast and the Santa Ynez Valley. It extends from State Route 101 south junction (Santa Barbara) through the San Marcos Pass to State Route 101 north junction (Zaca Station.) The Cold Spring Canyon Bridge is located where State Route 154 is a two-lane conventional highway. The proposed improvements will not preclude any plans to improve, nor hinder the operation of the facility. There are no alternative routes within the project vicinity.

The Caltrans Route Concept Report for State Route 154 in Santa Barbara calls for a minimum of two through lanes. It is designated as a minor arterial, California Scenic Highway, Federal Aid Primary Routed and is on the freeway-expressway system. The Route Concept includes widening of the route where operational accidents or route gap problems exist.

7. ALTERNATIVES

There are three alternatives being considered for enhanced safety for workers:

- 1) Painting Maintenance and Construct Fixed Platforms (Catwalks)
- 2) Painting Maintenance and Construct Permanent Attachment Assemblies for enhancement to climbing crews and/or for connecting temporary scaffolding.
- 3) Painting Maintenance and Construct Traveler System.

All three alternatives have an identical Painting Maintenance component that includes painting the steel superstructure after spot removal of the existing coating by blast cleaning, prior to all areas receiving a full coat of paint. After removing the existing paint system, inspection platforms or attachment assemblies will be installed. All surface cleaning and paint operations will be performed using 100% full containment. All wash water and paint debris will be 100% contained and disposed of in accordance with all local, state and federal environmental regulations.

Alternative 1 - The fixed platform alternative would construct catwalks 200' long near the two ends of the center 676' of the bridge span. This would leave a gap of 276' in the center of the bridge span that can be easily inspected with an Under Bridge Inspection Truck (UBIT). The catwalks would be built to the inside of the arch ribs to minimize visual impact. Inspectors would access the proposed catwalks via a UBIT near the top of the arch ribs. The catwalk system provides access not only to the FC inspectors but also for Area Bridge Maintenance Engineers who perform routine biennial bridge inspection on this structure, is less disruptive to the traveling public, and allows immediate access for any unscheduled inspection needs including any immediate testing or repair requirements.

Alternative 2 - The proposed anchor system to enable climbing operations with the installation of attachments for hooks and/or cabling near the inside of each arch rib for the same length as the proposed catwalks. This alternative would require ongoing Service Contracts for periodic FC inspections through climbing services by others. During these FC climbing inspections, extensive lane closures would be necessary. This alternative may not be found to be the most cost effective when additional life cycle analysis is completed that includes on-going operational expenses.

Alternative 3 - Construct a Traveler System for Mobile Platforms. After evaluating proposed structural connections to the existing historic bridge, the Traveler Mobile Platform System was determined to be a nonviable alternative. The initial installation was also considered to be considerably more expensive to install than is currently available for the project.

Design Standards Risk Assessment – There are no nonstandard features associated with the alternatives proposed with this project.

8. RIGHT-OF-WAY

No R/W parcels are required. Permits to Enter may be required for general wildlife and botanic surveys.

Utilities: Utility facilities near the proposed project area include: 1) Verizon communication and fiber optic lines and 2) Southern California Edison lines. There is no utility involvement proposed however the construction contractor must be cognizant of potential conflicts with construction equipment access.

Railroad: There is no railroad involvement.

9. STAKEHOLDER INVOLVEMENT

It is anticipated that there will be substantial public controversy regarding the proposed project based upon a high degree of public controversy to a recently constructed pedestrian barrier that was focused on visual impacts and modifications to an historic structure. Therefore early public coordination will be performed during PA&ED in order to help identify public and agency concerns that otherwise would not be raised until much later during the public comment period for the Draft Environmental Document (DED).

10. ENVIRONMENTAL DETERMINATION/DOCUMENT

Environmental Planning anticipates preparing and Initial Study under California Environmental Quality Act and an Environmental Assessment under NEPA. This determination is based on the assumption that technical studies during PA&ED don't reveal impacts to environmental resources that cannot be mitigated belows the level of significance. It does not take into consideration construction methods that could expand the anticipated impacts. Cold Spring Canyon Bridge is eligible for the National Register of Historic Places and is a scenic resource. The primary studies will included Section 106 procedures for cultural resources. Biological surveys for protected species, and a Visual Impact Assessment. Permits to Enter could be required for the surveys; Design will request the permits no later than November 1 to allow sufficient time for them to be approved. Potential disposal, staging, and borrow sites will need to be identified in the PA&ED phase for complete environmental review.

Barring any unmitigative impacts, the final environmental document would likely be a combined Mitigated Negative Declaration / Finding of No Significant Impact.

However, because of the high degree of public controversy to the suicide barrier, there could be considerable controversy on this project and the potential exists for impacts that cannot be fully mitigated, which would necessitate preparation of an EIR. Therefore, Environmental recommends conducting early public coordination during PA&ED in order to help identify public and agency concerns that otherwise would not be raised until the public comment period for the DED. Assuming a Begin Environmental (M020) of September 1, 2015, approval of the MND/FONSI is scheduled for May 2018. No permits are anticipated.

11. FUNDING

Funding is to be from Bridge Rehabilitation SHOPP funds. It has been determined that this project is eligible for Federal-aid funding.

Capital Outlay Project Estimate

	Current Range of Estimate		Escalated SHOPP Funds	
	Construction	Right-of-Way	Construction	Right-of-Way
Alternative 1	\$8.9 - \$13.3 million	\$6K to \$9K	\$19 M	\$12 K
Alternative 2	\$8.0 - \$12.0 million	\$6K to \$9K	\$17 M	\$12 K
Alternative 3	rejected	rejected	rejected	rejected

The level of detail available to develop these capital outlay project estimates is only accurate to within the above ranges and is useful for long-range planning purposes only. The capital outlay project estimates should not be used to program or commit State-programmed capital outlay funds.

Capital Outlay Support Estimate

The escalated capital outlay support estimate for programming PA&ED in the 2016 SHOPP for this project: \$1,100,000. The escalated capital outlay support estimate for programming R/W in the 2016 SHOPP for this project: \$20,000.

12. SCHEDULE

Milestone Name	Milestone No.	Date
Program Project	M015	7/1/2016
Begin Environmental	M020	9/1/2016
Circulate DPR and DED Internally in District	M060	8/17/2018
Circulate DED Externally	M120	10/1/2018
Approve FED	M160	6/28/2019
PA&ED	M200	7/15/2019

The anticipated funding fiscal year for construction is 2020/2021.

The following are tasks and milestones to be tracked for this project:

Task Name	Task No.	Start	Finish
Environmental Study Request	160.3	7/1/2016	9/1/2016
Base Maps and Plans Sheets for PA&ED Development	160.45	7/1/2016	6/13/2019
Draft Environmental Document	165.25	9/1/2017	7/31/2018
DED Circulation	175.05	8/17/2018	10/1/2018
Project Preferred Alternative	175.2	11/5/2018	1/31/2019
Final Environmental Document	180.1	2/1/2019	6/28/2019

13. RISKS

There are several moderate probability items that could have a significant impact on delivery schedule. Of primary concern is that impact may trigger the need to prepare an Environmental Impact Report. There are concerns that the State Historic Preservation Office might not concur with the determination regarding cultural studies. There is a concern that Section 106 studies may take longer than expected. There is a concern regarding possible impact to protected species which would require species consultation not currently scheduled. There is a concern that possible impacts may not be able to be mitigated.

14. FHWA COORDINATION

This project is considered to be an Assigned Project in accordance with the current FHWA and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

15. PROJECT REVIEWS

Field Review		Date	<i>n/a*</i>
District Program Advisor	<i>Kelly McKinley</i>	Date	<i>April 30, 2015</i>
Headquarters SHOPP Program Advisor	<i>Diana Cambell</i>	Date	<i>May 4, 2015</i>
District Maintenance	<i>Sarah Von Schwind</i>	Date	
District Traffic Safety Engineer	<i>Scott Morris</i>	Date	<i>May 7, 2015</i>
Headquarters Project Delivery Coordinator	<i>Paul Gennaro</i>	Date	<i>May 19, 2015</i>
Project Manager	<i>Lisa Lowerison</i>	Date	<i>May 6, 2015</i>
FHWA		Date	<i>n/a</i>
Constructability Review	<i>Berkeley Lindt</i>	Date	<i>May 6, 2015</i>
Other		Date	

*Field Review cannot be conducted on site as the proposed work is located on the underside of deck, suspended above the canyon.

16. PROJECT PERSONNEL

Lisa Lowerison	Project Manager	(805) 542-4764
John Fouche	Design Manager	(805) 549-3330
Marcia Vierra	Project Engineer	(805) 549-3508
Jason Wilkinson	Environmental Manager	(805) 542-4663
Marshall Garcia	Right of Way D05 Project Coordinator	(805) 549-3471

17. ATTACHMENTS (Number of Pages)

- A. Title Sheet (1)
- B. Advance Planning Study (3)
- C. Preliminary Environmental Analysis Report (PEAR) (4)
- D. R/W Data Sheet (3)
- E. Storm Water Data Report-signed cover sheet (1)
- F. Bridge Inspection Report (2)
- G. Transportation Management Plan (1)
- H. Risk Register (1)
- I. Distribution List (1)