

PROJECT CHANGE REQUEST

PROJECT ID: 0412000116

DISTRICT/EA 04/20950 PPNO 0326A PGM Doc. SHOPP PGM Del FY 2015/16 PROG CODE 201.110

Cty Rte PM Description

PROJECT (SCOPE) DESCRIPTION: MRN 1 50.1/50.5 Replace Estero Americano Bridge (Bridge No. 27) near Valley Ford Road.

DOES THIS PROJECT INVOLVE PROPOSITION 1B FUND(S)? NO YES , TYPE(S) (CMIA, Route 99, STIP, SHOPP, etc.) SHOPP

SCOPE, COST & SCHEDULE CHANGES

TYPE OF REQUEST: PGM COST PGM YEAR SCOPE SPLIT / COMBINE OTHER: _____

COMPONENT Change (\$'s in 1,000's)

	EXISTING (PROGRAMMED)		PROPOSED		COST EXPENDED to Date % COMPLETE			COST CHANGE			
	Value	FY	Value	FY	Expended	% Expended	% Complete	Value	Value %	Yrs	Type
PA&ED	\$1,080	2015/16	\$1,290	2015/16	\$1,000	93%	90%	\$210	19%	0	A
PS&E	\$630	2015/16	\$1,810	2015/16	\$0	0%	0%	\$1,180	187%	0	A
R/W SUP	\$270	2015/16	\$270	2015/16	\$0	0%	0%	\$0	0%	0	NA
CON SUP	\$810	2015/16	\$2,200	2015/16	\$0	0%	0%	\$1,390	172%	0	A
R/W CAP	\$1,530	2015/16	\$1,530	2015/16	\$0	0%	0%	\$0	0%	0	NA
CON CAP	\$5,722	2015/16	\$10,156	2015/16	\$0	0%	0%	\$4,434	77%	0	A
Total	\$10,042		\$17,256		\$1,000			\$7,214	72%		

WHAT PHASE IS THE PROJECT IN? PRE-PGM DELIVERY YR PGM DELIVERY YR & PRE VOTE POST VOTE

Cost Change Type	Description	Data Systems Changed	
	Cost Change Request Types	Programmed Budget	Approved Cost
A	Programming Cost Change	CTIPS	AMS Advantage
B	Headquarters Cost Approval		AMS Advantage
C	District Cost Documentation		
NA	No Change Proposed		
	Supplemental Funds Requests		
SFR	Supplemental Funds Request		AMS Advantage If Expenditures < 100%

Cty - Rte - PM - Description

New Project Description: _____
(Only If Revised)

“010” Safety Project? Yes No

Project Performance	EXISTING (PROGRAMMED)		PROPOSED		PERFORMANCE CHANGE	
	EA Value	1 Units	EA Value	1 Units	EA Value	0 Units 0%

(SHOPP PRIMARY PERFORMANCE OUTPUT BY PROGRAM CODE)

1.) WHAT IS THE PROPOSED CHANGE?

1. Scope Change – Increase of the bridge size (height/length)
2. Increase PA&ED Support by \$210k
3. Increase PS&E Support \$1,180k
4. Increase Construction Support by \$1,390k
5. Increase Construction Capital by \$4,434k

2.) COMPLETE THE FOLLOWING REGARDING THE LATEST TWO COST ESTIMATES. (\$'s in 1,000's.)

- | | | |
|---|-----------------------------|----------------------------|
| 1. ESTIMATE DATE: <u>05/14</u> (MM/YY), | Con Capital <u>\$10,156</u> | R/W_Capital <u>\$1,100</u> |
| 2. ESTIMATE DATE: <u>12/13</u> (MM/YY), | Con Capital <u>\$5,722</u> | R/W_Capital <u>\$1,530</u> |

3.) WHAT WAS THE REASON FOR THE CHANGE?

1. The project scope (increase of the bridge height and length) is needed to accommodate current policy on climate change (sea level rise) and 100 year flood event and to make the project self mitigation for the California red-legged frog.

The Estero Americano Bridge is located near the Pacific Ocean in Marin and Sonoma Counties in the environmentally sensitive Estero Americano flood plain; the project is subject to sea level rise. The bridge is structurally deficient and is also subject to recurring overtopping during winter rains events and storm surges. The overtopping occurs because channel capacity under the bridge has been reduced due to silting and vegetation growth in the channel. A PSSR approved in 2006 recommended replacing the bridge with a new structurally adequate bridge (designed to current standards) which addresses the overtopping. The 2006 PSSR scope recommended a 146'- long, 2-spans, pre cast/pre stressed concrete box girder bridge with a soffit elevation 3'- 4" higher than the existing bridge elevation. The overtopping was to be addressed by a combination of elevating the bridge soffit by 3'- 4" and dredging the channel to remove accumulated silt and vegetation to increase the channel capacity under the bridge. The 2006 PSSR was refreshed in 2011 to program the project in 2012 SHOPP.

The 2007 scope did not consider sea level rise or fully evaluated the potential permitting issues/concerns with the dredging of the channel. As environmental regulations and the regulatory permitting scene evolve and as sea level rise becomes a more imminent threat to California's infrastructure, projects sometimes must be reevaluated. As per 2012 Director's Policy on Climate Change, Caltrans is now being required to address sea level rise as part of its projects, which was not the case in 2011 when PSSR refresher was prepared. The updated hydraulic study report, dated September 26, 2014 recommended that the bridge profile be raised by 6' to accommodate sea level rise and the 100 year flood event. The 6' higher profile will also eliminate the need for dredging to increase the channel capacity under the bridge. Raising the new profile by 6' feet will require a 4-span 266-foot long bridge (an 80% increase in length) and the construction of retaining walls at both ends of the bridge. Retaining walls were not needed for the PSSR design but will reduce the overall width of the new roadway and create sufficient space post-construction to recreate the wetland ditches lining the roadway. Recreating the wetland ditches will be a requirement of the USACE and NCRWQCB permits. Furthermore, hydraulic modeling has shown that the roadway immediately to the north of the bridge is subject to overtopping and its elevation has to be raised to accommodate 100-year flood event. The larger bridge size also makes the project self-mitigating for the California red-legged frog (*Rana draytonii*) because the project is likely to improve habitat conditions in the area for the species.

2. **Increase in PA&ED support for additional effort needed for hydraulic modeling, revised APS and public outreach (\$210k)**

The project is requiring a higher level of effort than anticipated for:

- a) Hydraulic modeling to determine the optimum bridge profile and limits to address sea level rise and 100 year flood event.
- b) Revised APS for new design profile and limits.
- c) Public and agency outreach to address local concerns, including consensus on bridge aesthetics (rail type), detours, etc.

3. **The PS&E is under programmed. Increase PS&E for current scope of work (\$1,180k)**

The programmed PS&E budget of \$630K is only 6% (approximately) of current construction capital estimate. This amount is too low to develop a PS&E package for a 4 span bridge (with retaining walls at both end) project in an environmentally sensitive area requiring approval/permits from several agencies including the: California Coastal Commission (CCC) (coastal development permit), California Department of Fish and Wildlife (1602 Lake and Streambed Alteration Agreement), U.S. Army Corps of Engineers (Section 404 Clean Water Act [CWA] permit), the North Coast Regional Water Quality Control Board (Section 401 CWA permit), U.S. Fish and Wildlife Service (USFWS) (biological opinion), and conducting public outreach during the PS&E Phase. A more realistic budget is about 18% (\$1,810k) of the current construction capital cost.

The request PS&E budget also includes \$100k for a separate task order for tree removal ahead of the first construction season. The project requires riparian tree removal prior to construction. The window to remove riparian trees is from September 1st to October 15th and an advance tree removal contract (task order) will be required to avoid missing a large portion, if not the entire, construction season following the award of the contract.

4. **Increase in Construction COS due to anticipated 2 season construction and extensive biological monitoring (\$1,390k)**

The bridge is located in an environmentally sensitive area and will be subject to very restrictive dry season construction window and it is likely that the project will require two construction seasons to complete. Because of the environmentally sensitive nature of the site and high potential for the federally threatened California red-legged frog (*Rana draytonii*) to occur in the project limits, the biological opinion is requiring full-time, daily biological monitoring at the project site through the initial ground-disturbing phases of construction. After that, the intensity of monitoring will be determined through coordination with the USFWS, and daily monitoring should be anticipated throughout the life of the project. Permits from other agencies will require periodic water quality monitoring and assurance that all best management practices are followed. The 2007 construction COS estimate was based on the standard norm (approximately 15% of construction capital) of the 2007 estimate and is not appropriate for the current scope nor does it account for the extended construction duration and additional biological monitoring.

Because of shortage of in-house biologist in the District, biological monitoring will be performed by consultant's task order (TO). The typical consultant hourly rate is higher than in-house staff and the TO will also incur administration and oversight costs.

5. **Increase in Construction Capital due to the increase in bridge size and new retaining walls at the bridge approaches (\$4,434k)**

The increased bridge size (increase in length from 155' to 266' and height from by 3'to 6'), new

retaining walls and additional work to elevate the roadway to the north has increase the construction capital cost by 77% or \$4,434k.

4.) WHEN WAS THE CHANGE DISCOVERED?

The change was discovered in October 2014 when the supplemental PSSR was approved and during the PA&ED phase as environmental concerns were discussed and addressed during PDT meetings.

WHAT HAS BEEN DONE TO MINIMIZE ANY CHANGE?

Headquarters Structures Hydraulics performed detailed hydraulic modeling during PAED to determine the appropriate bridge size and profile necessary to address all permitting concerns and constraints and to fully alleviate flooding at this project location. The bridge design has also been discussed with all the permitting agencies over the course of two field meetings to determine the scope of this project. The project team discussed three bridge alternatives with the agencies, including an in-kind bridge replacement, a 206-foot option, and the 266-foot option. Despite a larger project footprint that will result from a 266-foot bridge over the other options, the agencies preferred the longest bridge possible in this area. The construction of a longer bridge will create more space for wildlife passage beneath the roadway and result in an increase in riparian habitat along the creek corridor. The retaining walls will also inhibit the ability of wildlife, including the California red-legged frog, from accessing the roadway, thereby reducing wildlife mortality. These project changes cannot be minimized now, because the biological opinion from USFWS was based on the 266-foot bridge option. The USFWS considers this project self-mitigating for the frog, because the project is likely to improve habitat conditions in the area for the species.

5.) WHAT CAN BE CONSTRUCTED WITH THE PROGRAMMED FUNDS?

The original 2006 PSSR scope can be constructed with the programmed funds. However, the 2006 scope is not appropriate nor practical as it does not address the sea level rise which is required per Caltrans policy and by the CCC. The 2006 scope also failed to consider the permitting complexities and mitigation needs associated with dredging the creek channel. Given the land use practices in the area, sedimentation in the watershed is an ongoing issue, and dredging would only offer a short-term fix for alleviating flooding at this location. The retaining walls, construction of a longer bridge, and need for the roadway approaches to be raised 6' have substantially increased the cost of this project.

7.) IF THE SCOPE IS REDUCED OR SPLIT, WOULD THE REMOVED WORK NEED TO BE REPROGRAMMED OR ADDED TO ANOTHER PROJECT?

The project scope is to replace a structurally deficient bridge subject to overtopping and the required work cannot be split.

8.) IS A SUPPLEMENTAL SCOPING DOCUMENT NEEDED? IF YES, STATUS?

A Project Report is being prepared to document the change in structure type and/or dimensions.

9.) WAS A VALUE ANALYSIS STUDY CONDUCTED? EXPLAIN THE RESULTS OF THE STUDY OR WHY A STUDY WAS NOT CONDUCTED?

N/A

10.) COST - WHERE WILL THE REQUIRED FUNDS COME FROM?

The required funding will come from SHOPP

11.) PRIOR PCRs – LIST OTHER PCRs PREVIOUSLY APPROVED.

(a) PROJECT CONCURRENCE

12.) (A) (STIP-RIP) WHEN DID THE DISTRICT DISCUSS THIS WITH HEADQUARTERS STIP PROGRAM MANAGER AND THE RTPA OR COUNTY TRANSPORTATION COMMISSIONS STAFF? EXPLAIN THEIR REACTION.

N/A

(B) (STIP-IIP) WHEN DID THE DISTRICT DISCUSS THIS WITH HEADQUARTERS STIP PROGRAM MANAGER? EXPLAIN THEIR REACTION.

N/A

(C) (SHOPP) WHEN DID THE DISTRICT DISCUSS THIS WITH THE HEADQUARTERS PROGRAM MANAGER? EXPLAIN THEIR REACTION.

The PCR was discussed with the District 4 Program Advisor (John Hemiup) and HQ Program Advisor (Takako Fujioka / Michael Johnson). The District program advisor concurs with the PCR. Due to the magnitude of cost increase, HQ program advisor requested the District to indentify where the funding will come from. After discussion, HQ programming recommended that the PCR proceed to HQ PCR committee for approval. Programming also indicated that magnitude of cist increase should not be an issue with programming.

The PCR was emailed to HQ Project Delivery Coordinator (Larry Moore). Larry Moore concurs with this PCR.

13.) LESSONS LEARNED, NEW STRATEGIES (What new information pertaining to this project could be beneficial to others?)

A complete and through hydraulic modeling at the PSSR stage is needed to determine bridge limits/profile. Since the environmental regulations are evolving, PSSRs done more than 5 years ago should have thorough environmental re-evaluation when refreshed for programming.

14.) District Project Manager Signature



Wajaht Nyaz
District Project Manager

1/20/15
Date

(510)286-5119
Phone Number



Doanh Nguyen
Deputy District Director
Program/Project Management

1/28/15
Date

(b) APPROVAL – COMMENTS - CONCERNS

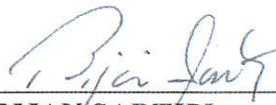
- PD Concurrence
- PD Objections (detail concerns):

15.) Comments - Concerns:

Lawrence T. Moore
HQ Project Delivery Coordinator

Date

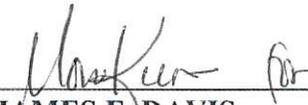
(c) APPROVAL



BIJAN SARTIPI
DISTRICT DIRECTOR

1/29/15
Date

	<u>Approve</u>	<u>Deny</u>	<u>No HQ Action</u>
Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scope	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Split / Combine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Revise & Resubmit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



JAMES E. DAVIS
HQ DIVISION CHIEF
PROJECT MANAGEMENT

3/17/15
Date



RACHEL FALSETTI
HQ DIVISION CHIEF
TRANSPORTATION PROGRAMMING

3/18/15
Date

(d) REQUIRED ATTACHMENTS

- (a) Attach 1 page copy (screenprint) of project workplan/status schedule.
- (b) Attach the current CTIPS project information.
- (c) PCR Data Worksheet, if applicable (for splits/combines).
- (d) For STIP Projects, please attach the latest Project Programming Request (PPR).
- (e) Summary Cost Estimates, if/when needed.

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DISTRICT/EA 04/20950