

**DESIGN-BUILD DEMONSTRATION PROGRAM  
PROJECT AUTHORIZATION REQUEST**

**SBd-15-PM R14.2/R29.8  
08-0Q7401**

**Cajon Pass Rehabilitation Project**

**Executive Summary**

This project proposes to rehabilitate existing freeway and ramp pavements on Interstate 15 in San Bernardino County. The Department desires to utilize design-build on this project to achieve several important benefits including obtaining bids earlier in order to take advantage of the low bid prices, faster delivery, transfer of risk, and cost certainty. The Department expects to save nineteen months or more through the use of design-build. The Department is requesting authorization to award based on Low Bid. The Department believes that it will achieve value through price competition on this project. This project will utilize one of the ten project slots authorized by Legislation for use of design-build contracting by the Department.

**Background and Importance of Project**

**a. Description and Scope of the project**

It is proposed to repair the existing portland cement concrete pavement (PCCP) by replacing the two outer lanes and asphalt concrete (AC) shoulders with 40-year rigid pavement design and random slab replacement of the inside lanes with rigid pavement. The project also proposes to mill and overlay existing AC ramps and reconstruct ramp termini.

Environmental approval for the project will include preparation of Categorical Exemption pursuant to CEQA and a Categorical Exclusion pursuant to NEPA. The project is within State right of way and preliminary design thus far identified no major environmental issues.

**b. Project Benefits**

The purpose of this project is to restore the structural integrity and ride quality of the mainline and ramp pavements by rehabilitating or replacing existing PCCP and AC pavement on the mainline and exit/entrance ramps, as appropriate. The primary benefit is that less maintenance resources will be required in the future to maintain this section of freeway. Safety will be enhanced due to less need for maintenance staff to be working on the facility, limiting exposure of both maintenance staff and the traveling public.

**c. Regional Significance**

Interstate 15 is a major interstate goods movement corridor, which links to the Los Angeles area. It is a primary link between major economic centers and geographic regions and is classified as a "High Emphasis" and "Gateway" route in the Interregional Road System

(IRRS). It is part of the Federal Surface Transportation Assistance Act National Network for oversized vehicles.

**d. Project status**

**i. Stage of Development**

The project is programmed in the 2012 SHOPP and is currently in the Project Approval and Environmental Document (PA&ED) phase. The project team is assembling needed project documents and working on defining the scope of the project in order to prepare the Request for Proposals.

**ii. Current Schedule**

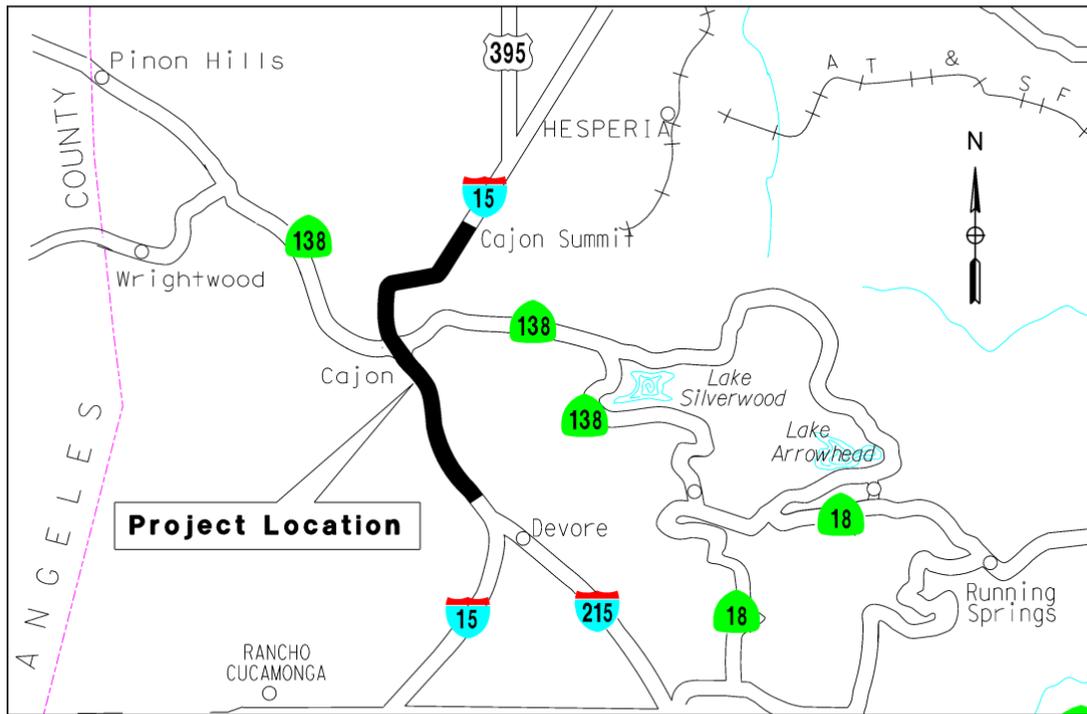
The current project schedule based on the 2012 SHOPP and utilizing design-bid-build is as follows:

Project Approval and Environmental Document (PA/ED)	7/1/2013
Right of Way Certification	8/1/2015
Ready to List	8/1/2015
Award Contract	2/1/2016
Construction Contract Acceptance	8/1/2017

**e. Project Cost Estimate**

Construction Capital	\$129,881,000
Right of Way Capital	<u>\$0</u>
Total Capital	\$129,881,000
PA&ED	\$2,468,000
PS&E	\$14,480,000
Right of Way Support	\$1,646,000
Construction Support	<u>\$24,475,000</u>
Total Support	\$43,069,000
Total Project Cost	\$172,950,000

## f. Vicinity Map



## Justification for Design-Build Authorization

### a. Summary of Analysis and Steps Taken To Date

The Department made a final call for projects in June of 2012 to identify the last two projects in anticipation of fulfilling the program requirements as outlined in the California Transportation Commission's (CTC) Design-Build Program Guidelines. Initial screening criteria were for projects that were fully funded, that had achieved environmental clearance, and with minimal right of way involvement. The nominated projects were then presented to the Department's Design-Build Steering Committee for approval. The projects were compared to the draft CTC guidelines to ensure that they met the proposed criteria and the Steering Committee approved the final projects.

To prepare for the use of design-build, the Department developed templates for the Request for Qualification (RFQ) and Request for Proposal (RFP) documents. The templates were posted for industry review between December 2, 2009 and January 8, 2010. The Department has used these templates on the initial projects and has incorporated lessons learned to improve the templates.

The Project Team will be using the templates to develop the project RFP. Upon CTC authorization, the Project Team will be prepared to release the procurement documents per the proposed implementation schedule contained in this Authorization Request.

**b. Procurement Type Requested (Low Bid)**

The Department is requesting authorization to utilize Low Bid procurement for this project. The Department has utilized its five Best Value slots per the CTC Guidelines, but can still obtain value by utilizing a Low Bid design-build award method. The RFQ process will also allow the Department to evaluate qualifications and prequalify firms for this type of work.

**c. Implementation Schedule**

The following is the proposed schedule for delivery of this project utilizing design-build:

PA/ED	1/2013
Request for Qualifications	11/2012
Request for Proposals	5/2013
R/W Certification	10/2013
Award Contract	11/2013
Construction Contract Acceptance	12/2015

**d. Expected Design-Build Benefits**

Thirty-two states have design-build authority and have used design-build to deliver a large number of projects. There have also been a number of studies that have documented the benefits of design-build over the design-bid-build method of contracting. Based on the results achieved by other state departments of transportation that have utilized the design-build and the available research, the Department anticipates achieving the following benefits by using design-build on this project

**i. Schedule Acceleration** - Under design-build, portions of the design and construction phases are overlapped leading to significant time savings. Improved coordination between the designer and the builder lead to better constructability and improved efficiency. The design-builder is also able to order critical materials earlier and schedule subcontractors more effectively. Finally, the designer is able to design the project to take advantage of the contractor’s strengths (equipment, materials on hand, and expertise). Each of these benefits can lead to significant time savings. It is anticipated that design-build will enable this project to be completed about nineteen months earlier than by design-bid-build.

**ii. Innovation** –The innovation in the design-build process is the early involvement of the contractor that enables engineering considerations to be incorporated into the design phase and enhances the constructability of the engineered project plans. Interjecting contractor knowledge early into design can foster creative engineering and construction solutions as well as possible innovation available in the staging of construction and maintenance of traffic. Design-build projects have the ability to lessen the impact on the traveling public by shortening overall construction schedule while allowing the contractor maximum flexibility.

**iii. Risk Transfer** - The design-build process allows for transfer of risks including cost escalation and schedule delays. The design-build contract is for a firm fixed price and a schedule guarantee for the work. The contractor is responsible for completing the scope of the work in accordance with the schedule. This would include responsibility for the schedule performance of subcontractors after the initial award. The contractor is responsible for any increase in the quantities of commodities, labor, and any other units that evolve as design is advanced.

**iv. Cost Certainty** - Because design-build projects are awarded on a fixed price basis, with limited opportunities for cost growth, the Department will have greater certainty regarding the total project cost at a fairly early stage of the process. Under the design-build delivery methodology, the contractor provides the Department with a fixed price for the construction before detailed design is complete and then is responsible for working with the designer to make sure that price remains fixed.

**v. Other** - Allow early lock-in of lower construction material/labor pricing, since it is anticipated the project will be awarded 26 months earlier by using the design-build process than by using the normal design-bid-build process.

**e. Proposed Project Funding Plan**

This project is currently programmed for \$172,950,000 in the 201.122 Pavement Rehabilitation Program of the 2012 State Highway Operation and Protection Plan (SHOPP) in the 2015/2016 fiscal year. SHOPP funding (\$154,356,000 for construction capital and construction support) for advancing the project to the 2012/2013 fiscal year is being made available through the application of program savings.

**f. Project Considerations**

**i. Project Eligibility**

This project has been programmed for funding in the 2012 SHOPP and is therefore eligible for the Design-Build Demonstration Program pursuant to authorization by the California Transportation Commission.

**ii. State or local project**

This is a State Project on the State Highway System and will fill one of the ten slots allocated to the Department by statute.

**iii. Selection Method (low bid / best value)**

Department is requesting authorization to award based on Low Bid.

**iv. Geographic Location (north/south)**

This project is in San Bernardino County and will be a “South” project as defined by the CTC Guidelines.

**v. Project Size**

With a total cost estimate of over \$172 million, this project falls in the category of projects between \$20 and \$200 million.

**Conclusion/Summary**

The Department desires to utilize the design-build method of contracting for this project to achieve several important benefits including schedule acceleration, risk transfer, and cost certainty. The project meets the eligibility requirements as outlined in the CTC’s Design-Build Guidelines approved in September 2009. It is requested that the CTC authorize the use of design-build method of procurement for this project with a Low Bid award.

**Attachment**

Design-Build Project Selection Tool