

**CMGC**  
**NOMINATION FACT SHEET**  
**10-MPA-140-42.0/42.7 (PM)**  
**Project 10-0P920**  
**Ferguson Slide Permanent Restoration Project**

**Project Description**

Restore two-lane access on State Route 140 in Mariposa County through the Ferguson slide by constructing a 2-lane highway on new alignment or on the existing alignment currently under slide material.

Mariposa 140 is an important all-weather transportation link for Yosemite National Park. On April 29, 2006, a rockslide occurred at Ferguson Ridge in Mariposa County. The Department worked to establish one-way traffic along SR 140 but the prehistoric Ferguson slide became active and buried the entire route on May 25, 2006 resulting in the closure of State Route 140 at that location.

Four and a half months following the rock slide, two temporary bridges were installed at the site allowing up to 28-foot vehicles to access SR 140 to Yosemite National Park. Temporary Access was built and open traffic on August 18, 2006 at a cost of approximately \$6 million. It became apparent to the community and the Department that the temporary bridges were so restrictive that the local economy was greatly impacted due to the reduction of larger vehicles being able to travel to and from Yosemite National Park. An interim project was quickly developed ahead of a permanent solution. At a cost of about \$10 million two new temporary bridges to allow for larger vehicles to travel to and from the park were constructed. The new temporary bridges opened to traffic in June 2008 and have been in operation since.

A Permanent Restoration Project Team was formed in 2008 to work towards developing a project that will restore full access through the canyon.

**Project Location Map**



## **Project Proposal**

The project proposes to build one of 2 Build Alternatives under study.

- R Alt. Construct rockshed structure through slide material following the same alignment (\$52M)
- T3 Alt. Construct a tunnel under the slide material (\$226M)

The project is currently targeting to achieve PAED by Fall 2013. Early acquisition of the mitigation parcel for the limestone salamander is currently being pursued ahead of the final environmental clearance in order to meet AB 1973's sunset date of January 2016. AB 1973 stipulates that the project must be in construction by January 2016.

## **Schedule**

- Draft Environmental Document (DED) and Supplemental Draft Project Report (DPR) 11/15/2010 (Achieved)
- Re-Circulate DED and Supplemental (DPR) Summer 2013 (Target)
- Project Approval and Environmental Document (PAED) Fall 2013 (Target)
- Ready to List (RTL) Summer 2015 (Target)
- Begin Construction January 2016 (Target)

**Status:** All technical documents required for the Project Approval and Environmental Document Phase have been completed. AB1973 was passed by the Legislature and signed by the Governor Summer 2012. This Legislation will allow an incidental take on a State Protected Species, specifically the Limestone Salamander. During the first release of the DED in November 2010 reviews by other Federal Agencies resulted in the document being considered inadequate due to the various environmental studies still pending at the time. A re-circulation of the DED is planned for Summer 2013. This version of the document is anticipated to include the an Advanced Summary of Effect to River Values from the USFS, Final Recreational Survey Results, revised Section 4F, and proposed mitigation and minimization measures per AB 1973.

A CM will need to be procured early in the design phase. Design of either tunnel or rockshed is anticipated to begin in late 2013 or early 2014.

## **Cost/Funding**

SHOPP Permanent Restoration Program. Full federal reimbursement is expected for this project.

## **Permits/Agreements**

There are several permits anticipated to be obtained prior to constructing this project. The following is a current list of anticipated Agency coordination and permit requirements:

- U.S. Army Corp of Engineers (Section 404 Nationwide)
- U.S. Fish and Wildlife Service (Biological Opinion)
- U.S. Forest Service (Biological Evaluation)
- U.S. Forest Service (Section 7(a) Wild and Scenic Rivers Act Evaluation)
- U.S. Forest Service (Department of Transportation Easement)
- U.S. Forest Service (Special Use Permit)
- California Department of Fish and Wildlife (1602 Streambed Alteration Agreement)
- California Department of Fish and Wildlife (Section 2081 Permit)
- California Regional Water Quality Control Board (Section 401 Certification)
- California Regional Water Quality Control Board (National Pollution Discharge Elimination System Compliance)

## **Right of Way and Utilities**

Currently the project team is pursuing early acquisition of a mitigation site for the limestone salamander. A Project Change Request (PCR) is currently under review to allocate funds for Right of Way capital in the next fiscal year in anticipation of the PCR being approved. There are no other Right of Way acquisition anticipated for this project since it will be located entirely within U.S. Forest Service land. A Department of Transportation Easement will have to be obtained.

## **Public/Political Support of Project**

The project has been politically supported as evident in the passage of AB 1973 to specifically allow the project to have an incidental take on the limestone salamander. Because of the interest on the project from Federal, State, Local, Legislature and the public 4 Public Hearings have been held to date and two more planned for the Summer of 2013 in order to provide as much information to the public about the project. The project is located adjacent to the Merced River, a designated Wild and Scenic River. The project's location has various environmental groups including Friends of the River and the Sierra Club have expressing concern and interest on the project.

## **Why is this project a good CMGC candidate?**

There are many concerned Federal, State and local partners vested in the delivery of this project with a high expectation for detail. Delivery of PA&ED has been complex and lengthy requiring us to commit to avoidance and/or minimization of project impacts. Environmental permits will require detailed construction information beyond what is normally required in regards to construction methods,

access and sequencing to ensure our commitments are achieved. Much of this information is only assumed by the Department during the permit application phase, although in this case assumptions may not be good enough. The CM can be a critical member of the team in developing the project given the heightened need for accuracy and detail. The following are what the team foresees as critical aspects of the project that a CM can be of great use:

- ***Validate agency/consultant estimates*** *The CM could provide support in the development and approval of cost estimating certification.*
- ***Schedule Risk Analysis and Control*** *The CM could provide support in development of a solid CPM. This in turn could minimize potential delays, ultimately reducing CCO's and cost.*
- ***Prepare Document Control*** *Because of the many permitting agencies, the CM could assist in documenting, tallying, evaluating and presenting information to these agencies. Typical topics I would expect are staging areas, hauling impacts, duration of activities, etc.*
- ***Attend Public Meetings*** *The CM could assist PIO in documenting, evaluating and presenting information to local users and destination users of the facility. We all know that this section of highway is a highly regarded route for the Yosemite area and critical for locals.*
- ***Develop Quality and Safety Plans*** *Because of the inherent uniqueness of either a tunnel or rockshed for CT, safety during construction and future maintenance efforts are obvious topics we want to evaluate closely. The CM could act in support of this area by providing an independent perspective and drawing on their qualifications.*
- ***Constructability Reviews*** *Construction of a Tunnel or a Rockshed is a complex process. It will be beneficial to have an experienced CM to provide input during the design phase. The CM can help to determine appropriate design and ensure the team's assumptions are made with the right information.*
- ***Operability Reviews*** *Continuous operating strategies have to be determined for the design of either tunnel or rockshed. The CM can assist in outlining the requirements and identifying appropriate personnel to include in the discussion and development of the project.*

**DESIGN RELATED**

- Validate Department/Consultant design
- Assist/input to Department/Consultant design
- Design reviews
- Design charrettes
- Constructability reviews
- Operability reviews
- Regulatory reviews
- Market surveys for design decisions
- Verify/take-off quantities
- Assistance shaping scope of work
- Feasibility studies
- Encourage innovation

**COST RELATED**

- Validate agency/consultant estimates
- Prepare project estimates
- Cost engineering reviews
- Early award of critical bid packages
- Life cycle cost analysis
- Value analysis/engineering
- Material cost forecasting
- Cost risk analysis
- Cash flow projections/Cost control
- Shape the project scope to meet the budget

**PRECONSTRUCTION WORK RELATED**

- Utility Relocation
- Potholing

- Preliminary soil and geotech studies
- Right of Way Demolition
- Preliminary Surveying

**SCHEDULE RELATED**

- Validate agency/consultant schedules
- Prepare and manage project schedules
- Develop sequence of design work
- Construction phasing
- Schedule risk analysis/control

**ADMINISTRATION RELATED**

- Prepare Document Control
- Coordinate contract documents
- Coordinate with 3rd party stakeholders
- Subcontractor bid packaging
- Attend public meetings
- Bidability reviews
- Subcontractor bid packaging
- Prequalifying Subcontractors
- Assist in right-of-way acquisition
- Assist in permitting actions
- Study labor availability/conditions
- Prepare sustainability certification application
- Follow environmental commitments
- Follow terms of Federal Grant
- Coordinate site visits for subcontractors
- Teamwork/Partnering meetings/sessions
- Develop Quality and Safety plans

## Glossary of Preconstruction Services Terms

### Design-Related Preconstruction Services

- **Validate agency/consultant design**—Construction Manager evaluates the design as it is originally intended and compares it to the scope of work with both the required budget and schedule to determine if the scope can be executed within those constraints. A validated design is one that can be constructed within the budget and schedule constraints of the project.
- **Assist/input to agency/consultant design**— Construction Manager will offer ideas/cost information to the designer to be evaluated during the design phase. Ultimately, the designer is still responsible for the design.
- **Design reviews**—done to identify errors, omissions, ambiguities, and with an eye to improving the constructability and economy of the design submittal.
- **Design charrettes**— Construction Manager would participate in structured brainstorming sessions with the designer and owner to generate ideas to solve design problems associated with the project.
- **Constructability reviews**—review of the capability of the industry to determine if the required level of tools, methods, techniques, and technology are available to permit a competent and qualified construction contractor to build the project feature in question to the level of quality required by the contract.
- **Operability reviews**—bringing in the agency’s operations and maintenance personnel and providing them with an opportunity to make suggestions that will improve the operations and maintenance of the completed projects.
- **Regulatory reviews**—a check to verify that the design complies with current codes and will not have difficulty obtaining the necessary permits.
- **Market surveys for design decisions**—furnish designers with alternative materials or equipment along with current pricing data and availability to assist them in making informed design decisions early in the process to reduce the need to change the design late in the process resulting from budget or schedule considerations.
- **Verify/take-off quantities**—Construction Manager verifies the quantities generated by the designer for the engineer’s estimate.
- **Assistance shaping scope of work**— Construction Manager generates priced alternatives from the designer and owner to ensure that the scope of work collates to the constraints dictated by the budget and/or schedule.
- **Feasibility studies**— Construction Manager investigates the feasibility of possible solutions to resolve design issue on the project.

### Cost-Related Preconstruction Services

- **Validate agency/consultant estimates**—Construction Manager evaluates the estimate as it is originally intended and determines if the scope can be executed within the constraints of the budget.
- **Prepare project estimates**—Construction Manager provides real-time cost information on the project at different points in the design process to ensure that the project is staying within budget.
- **Cost engineering reviews**—review that includes not only the aspects of pricing but also focuses on the aspect that “time equals money” in construction projects.

- **Early award of critical bid packages**— Construction Manager determines which design packages should be completed first to ensure that pricing can be locked in on the packages.
- **Life-cycle cost analysis**— Construction Manager provides input to design decision that impact the performance of the project over its lifespan.
- **Value analysis**—process that takes place during preconstruction where the CMGC contractor identifies aspects of the design that either do not add value or whose value may be enhanced by changing them in some form or fashion. The change does not necessarily reduce the cost; it may actually decrease the life-cycle costs.
- **Value Engineering**—systematic review by a qualified agency and/or contractor personnel of a project, product, or process so as to improve performance, quality, safety, and life-cycle costs.
- **Material cost forecasting** – Construction Manager utilizes its contacts within the industry to develop estimates of construction material escalation to assist the owner and designer make decisions regarding material selection and early construction packages.
- **Cost risk analysis**—furnishing the agency with information regarding those cost items that have the greatest probability of being exceeded.
- **Cash flow projections/Cost control** – Construction Manager conducts earned value analysis to provide the owner with information on how project financing must be made available to avoid delaying project progress. This also may include an estimate of construction carrying costs to aid the owner in determining projected cash flow decisions.

#### **Schedule-Related Preconstruction Services**

- **Validate agency/consultant schedules**— Construction Manager evaluates if the current scope of work can be executed within the constraints of the schedule.
- **Prepare project schedules**— Construction Manager prepares schedules throughout the design phase to ensure that dates will be met, and notify the owner when issues arise.
- **Develop sequence of design work**— Construction Manager sequences the design work to mirror the construction work, so that early work packages can be developed.
- **Construction phasing** – Construction Manager develops a construction phasing plan to facilitate construction progress and ensure maintenance of traffic.
- **Schedule risk analysis/control**— Construction Manager evaluates the risks inherent to design decisions with regard to the schedule and offers alternative materials, means and/or methods to mitigate those risks.

#### **Administrative-Related Preconstruction Services**

- **Coordinate contract documents** – Construction Manager evaluates each component to the construction contract against all other components and identifies conflicts that can be resolved before award of the construction phase contract.
- **Coordinate with third-party stakeholders**— Construction Manager communicates with third parties involved in the project including but not limited to utilities, railroads, and the general public.
- **Public information-public relations** – Construction Manager implements a program to identify public relations issues and solve them to ensure the project is not delayed by public protest.
- **Attend public meetings** — Construction Manager can organize and attend public meetings to answer questions from the public about the construction of the project.

- **Biddability reviews** — Construction Manager reviews the design documents to ensure that subcontractor work packages can be bid out and receive competitive pricing. This action reduces the risk to the subcontractors because they are given the specific design product they need for their bids; not just told to find their work inside the full set of construction documents.
- **Subcontractor bid packaging** — Construction Manager coordinates the design work packaging to directly correlate with subcontractor work packages so that early packages can be easily bid out and awarded.
- **Prequalifying subcontractors** – Construction Manager develops a list of qualified subcontractors that are allowed to bid on packages as they are advertised.
- **Assist in right-of-way acquisition** – Construction Manager assists the designer in identifying options for right-of-way acquisitions by providing means and methods input. The primary purpose is to minimize the amount of right-of-way actions that must be undertaken.
- **Assist in permitting actions** – Construction Manager is empowered to meet with resource agencies and develop permit applications with assistance from the designer.
- **Study labor availability/conditions** – Construction Manager furnishes advice during design with regard to the availability of specialty trade subcontractors and the impact of that availability on project budget and schedule constraints.
- **Prepare sustainability certification application**– When certification for sustainability is desired, the Construction Manager is empowered to prepare the necessary paperwork to submit for certification