

CMGC
NOMINATION FACT SHEET
03-SAC-99-PM 7.1/9.4
Project EA 03-0F280 [EFIS 0312000069]

Project Description

The project is located on State Route (SR) 99, in Sacramento County, in and near Elk Grove, from 0.3 mile south of Dillard Road Overcrossing to 0.6 mile south of Grant Line Road.

The project proposes to replace four bridges, relinquish an underpass (UP) structure {requiring partial realignment of SR 99 southbound (SB) with a new overhead (OH) structure}, and rehabilitate/replace the bridge deck/barrier railings on an overcrossing (OC) structure.

The four bridges to be replaced are Cosumnes River Overflow Bridge, Br. No. 24-0021R/L, and Cosumnes River Bridge, Br. No. 24-0020R/L. The structure to be relinquished is the McConnell Underpass, Br. No. 24-0048L. The new structure to be constructed is the McConnell Overhead, Br. No. 24-0048L.

On Dillard Road OC, Br. No. 24-016, the project will replace the non-standard bridge railing, remove the deck AC surfacing, and place a polyester concrete deck overlay. In addition, the project will reconstruct/overlay the OC approaches and ramp, replace structure approach guard railing on and beneath the OC, along the freeway that are shielding OC columns. A Roadway Informational System (RWIS) will also be installed on the freeway and ramps, just north and south of Dillard Road OC. Other proposed electrical work includes installing a fiber optic cable along freeway, and upgrading existing freeway lighting.

The project also proposes to abandon the SB on and off ramps to Eschinger Road, and as mentioned above, relinquish an UP structure (McConnell UP, Br. No. 24-0048L) to Union Pacific Railroad.

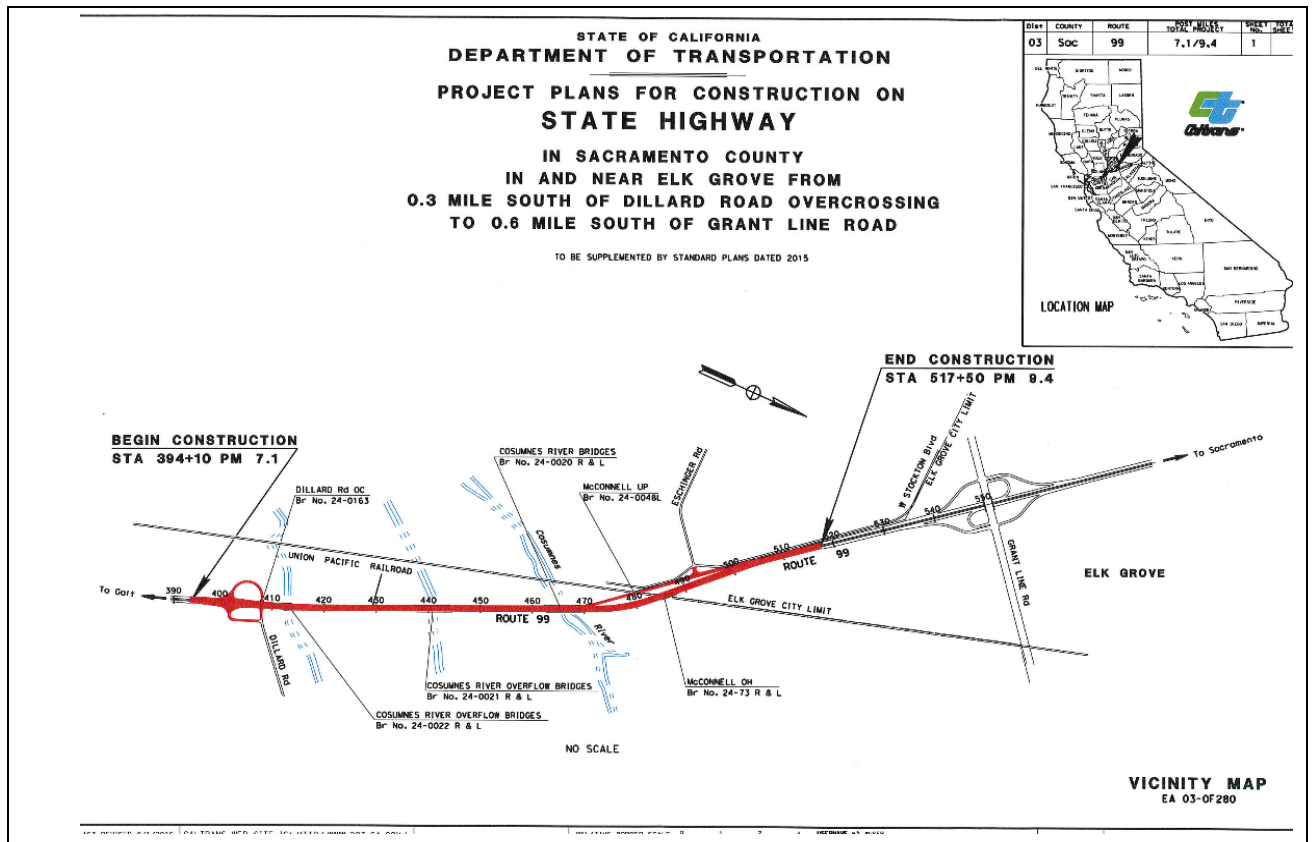
Problem, Deficiencies, and Justifications

The original work scope (widen SR 99 SB structures, seismically retrofit SR 99 SB/NB structures, and replace Dillard OC Barrier Rails) and related roadway approach work that was proposed in the PR does not address current deficiencies and long term needs of the transportation facility along this stretch of SR 99. Upon further investigation by technical staff, it was determined that all four bridges are scour critical. A load rating analysis was performed on these four structures also. The results of the analysis indicates that should the calculated scour occur, live loads from permit vehicles would exceed the design capacity of a majority of the piles for each structure.

A review by district executive management in August 2016 concluded that it is best to replace all four structures addressing the scour, seismic, and structural capacity issues and not to expend funds on widening the 59-88-year old structures and placing rock slope protection to mitigate scour.

The proposed improvements will improve freight mobility by eliminating the UP structure that has nonstandard horizontal and vertical clearance. The partial realignment of SB SR 99 will eliminate the varying median width, providing a uniform width that is consistent with segments that are north and south of the project. Replacing the two long SB bridges (Br. N. 24-0020L and 21L) will improve safety by providing standard freeway/expressway bridge shoulder widths (presently 2-foot wide).

Project Location Map



Schedule

Schedule Description	M No.	Target Date
BEGIN ENVIRONMENTAL	M020	07/01/17
CIRC DPR & DED	M120	04/01/19
PA&ED	M200	07/01/19
BRIDGE SITE SUBMITTAL	M221	08/01/17
R/W REQUIREMENTS	M224	09/01/17
REGULAR R/W	M225	02/01/18

GENERAL PLAN	M275	04/01/19
PS&E TO DOE	M377	11/01/18
DRAFT STR PS&E	M378	10/01/19
RTL	M460	05/01/20
APPROVE CONTRACT	M500	10/15/20
CONTRACT ACCEPT (CCA)	M600	11/01/24

Approval of Supplemental PSSR and Project Change Request in May 2017 (CTC vote June 28-29, 2017) changed the project scope of work to bridge replacement. Due to Delivery Fiscal Year of 2019/2020, the project will require fast tracking of development phases (simultaneous work on PA&ED, RW, and PSE components). Work on PA&ED has just been initiated, with kickoff Project Development Meeting (PDT) held in June 2017.

District has utilized an A&E Consultant to deliver 60% design concept (horizontal and vertical alignments, staging plans, and estimates). District PSE work is expected to validate Consultant work and add details necessary for Structure Bridge Site Submittal. Structures PSE work has just started (approximately at 10%).

Due to change in scope of work and project limits the work associated with environmental clearance approval and right of way clearance will be re-initiated. Environmental document expected to be IS/MND for CEQA and CE for NEPA. Initial public informational meetings will be scheduled and a Value Analysis will be performed during the PAED phase.

The CM would need to be procured by early 2018 to maximize the benefits of CMGC through the project development phases.

Cost/Funding

The project is currently programmed as a 2016 SHOPP Bridge Rail Replacement and Upgrade Program (20.XX.201.112). Change in scope of work to bridge replacement project authorized by PCR approved May 2017 (CTC approval June 28-29, 2017). Current programming estimates are:

PA&ED	\$4,500,000
PSE	\$12,000,000
RW	\$4,000,000
CON	\$14,200,000
RW Capital	\$6,000,000
CON Capital	\$113,000,000

Permits/Agreements

Potential permits and agreement are:

Environmental Permits:

California Regional Water Quality Control Board, Central Valley (RWQCB Section 401 Water Quality Cert.);

Section 401 annual Active Discharge Fee;
Section 401 Annual Discharge Monitoring Fee;
California Department of Fish and Wildlife (CDFW) Consistency Determination;
CDFW Incidental Take Permit;
CDFW Section 1602 Agreement;
U.S. Army Corps of Engineer (USACE) Section 404
Central Valley Flood Protection Board (CVFPB) Encroachment Permit
Environmental permits, mitigation, and restoration are estimated at \$1,700,000.

Right of Way Agreements:

Union Pacific Railroad

Railroad Agreement

Relinquishment Agreement

Sacramento County Cooperative Agreement

Elk Grove Cooperative Agreement

Eschinger Road On/Off Ramps Relinquishment Agreement

Right of Way and Utilities

All right of way and utilities activities will need to be re-initiated due to scope of work and project limit changes. Right of way and utility involvement with following agencies is expected:

Union Pacific Railroad

Electrical Overhead (SMUD)

Cable Overhead

Natural Gas, Kinder Morgan (Underground)

Frontier Communications

AT&T

Consolidated Communications (aka Surewest)

PG&E

Level 3 Communications

Qwest Communications

Cosumnes CSD

Elk Grove Water District

Sacramento County Water Agency

SMUD

Kinder Morgan

Comcast

The PDT will evaluate potential utility conflict. A new Right Of Way Data Sheet will be requested for updating the list of potential utilities and relocation costs will be part of this process.

Public/Political Support of Project

Political and public support will need to be determined through a series of public informational meetings and direct discussions with local city and county staff, and other stakeholders.

Why is this project a good CMGC candidate?

CMGC Nomination Fact Sheet was emailed to PDT members on June 13, 2017 requesting evaluation of proposed use of Construction Manager on this project. This Draft CMGC Nomination Fact Sheet is based on information provided by project manager with additional input from environmental and CMGC Focus Meeting on June 29, 2017.

Utilizing CM in the early in the project development phases (PAED, PSE, and RW) would provide benefits related to coordination of Caltrans functional staff, regulatory agencies, utility companies, Railroad Company staff, local officials, and other stakeholders during the project development process. CM input related to the evaluation and resolution of construction issues, development of plans and estimates, participation in value analysis, constructability, and safety reviews would be expected.

It is hoped that the CM will be able to assist in negotiating the permit conditions with regulatory agencies with the goal of improving the construction work window durations and reducing environmental constraints on the project. CM expertise would be utilized to provide project specific information agency staff through the use of detailed construction methodology presentations and/or documentation.

CM would participate in reviews validating design of SB SAC-99 RR overhead and other bridges, stage construction, and construction working days estimate. CM would participate in the Railroad company review of SB SAC-99 OH structure, in the relinquishment of SB SAC-99 undercrossing discussions, and in the discussions with local officials regarding the closing of SB SAC-99 off and one ramps at Eschinger Road.

The project is located in a section of Sacramento Route 99 that has high traffic volumes, therefore, traffic control and accident monitoring will be critical during construction. CM input would benefit development of the traffic staging plans and could propose alternative construction methods that could substantially reduce the number of working days. Reduction of working days would reduce construction support cost and even more importantly reduce construction impacts on the traveling public.

CM expertise would benefit the validation of engineers' estimate by providing independent real time pricing assessment of bid items and a check on quantity calculations.

It is expected that CM input would likely increase support costs during project development, however, construction capital costs are likely to be lower by reducing the need for Contract Change Orders (CCOs) and improve understanding and compliance with regulatory agency permit requirements during construction.

Risk analysis of schedule, costs, scope of work, and assumptions will be an on-going process through the various project development phases. Using the CM expertise will be very beneficial in this assessment effort, it is anticipated that the CM would propose innovated ideas and solutions to the PDT that would eliminate, mitigate, or reduce the impacts of risks to the maximum extent possible.

Anticipated CMGC Service

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 brain-storming 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

The following is a delivery selection tool we are developing. Please provide a response to each of the questions below.

EVALUATION OF PROJECT SCOPE AND CHARACTERISTICS		
QUESTION No.	QUESTION	Rating (A, B or C)
1a)	Where is the project in the project development process? A. Detailed or final engineering stage B. Preliminary design C. Conceptual engineering stage	B
1b)	What is the size/complexity of the project? A. Relatively simple, smaller project with no need for specialized outside expertise B. Medium size project with more technically complex components and schedule complexity C. Large, complex project with significant schedule complexity (e.g. multiple phases, extensive third-party issues, specialized expertise needed)	C
1c)	Does the project involve significant impacts to highway users and local businesses/community during construction? A. No more than typical B. More than typical C. Much more than typical	B
1d)	Does the project present right-of-way limitations that would benefit from the contractor's assistance? A. No more than typical B. More than typical C. Much more than typical	C
1e)	Does the project present environmental permitting issues that would benefit from the contractor's assistance? A. No more than typical B. More than typical C. Much more than typical	B
1f)	Does the project present utility or third-party issues that would benefit from the contractor's assistance? A. No more than typical B. More than typical C. Much more than typical	C
1g)	Does the project present unique work restrictions or traffic maintenance requirements that would benefit from the contractor's assistance? A. No more than typical B. More than typical C. Much more than typical	C
1h)	Would the project benefit by packaging features of work to allow early lock-in of construction materials/labor pricing? A. No more than typical B. More than typical C. Much more than typical	B
1i)	Would the project benefit by raising quality standards/benchmarks to minimize maintenance and achieve lower life-cycle cost? A. No more than typical B. More than typical C. Much more than typical	B

EVALUATION OF SUCCESS CRITERIA		
QUESTION No.	QUESTION	Rating (A, B or C)
2a) Schedule Issues		
1	Can time savings be realized through concurrent design and construction activities (fast-tracking)? A. No more than typical B. More than typical C. Much more than typical	A
2	Can the schedule be compressed? A. No more than typical B. More than typical C. Much more than typical	C
2b) Opportunity for Innovation		
1	Will the project scope allow for innovation (e.g., alternate designs, traffic management, construction means and methods, etc.)? A. No more than typical B. More than typical C. Much more than typical	A
2	Must the project scope be primarily defined in terms of prescriptive specifications (i.e., predetermined materials and methods), or can performance specifications (expressing desired end results) be used, or a combination of both? A. Primarily prescriptive specifications B. Combination of prescriptive and performance specifications C. Performance specifications for significant elements	
2c) Quality Enhancement		
1	Will there be opportunities for contractors to provide materials or methods that provide greater value than normally specified by the state on similar projects? A. No more than typical B. More than typical C. Much more than typical	A
2	Will there be the opportunity for realization of greater value due to designs tailored to contractor's area of expertise? A. No more than typical B. More than typical C. Much more than typical	B
3	Will warranties or maintenance agreements be used? A. No B. Limited to short-term workmanship and materials C. Much more than typical	A

EVALUATION OF SUCCESS CRITERIA (Continued)		
QUESTION No.	QUESTION	Rating (A, B or C)
2d) Cost Issues		
1	<p>Will there be opportunities for contractors to provide designs with lower initial construction costs than those typically specified by the state?</p> <p>A. No more than typical B. More than typical C. Much more than typical</p>	A
2	<p>Will there be opportunities for contractors to provide alternate design concepts with lower lifecycle costs than those typically specified by the state?</p> <p>A. No more than typical B. More than typical C. Much more than typical</p>	A
3	<p>Is funding for the project committed and available?</p> <p>A. Secured for design phase only or cannot support accelerated construction B. Funding can accommodate fast-tracking to some extent C. Funding will accommodate compressed schedule/fast-tracking</p>	C
4	<p>Will the cost of procurement affect the number of bidders?</p> <p>A. Procurement cost would significantly limit competition B. Procurement cost could affect the number of bidders C. Procurement cost would not be a significant issue given the size or complexity of the project</p>	C
5	<p>Will project budget control benefit from the use of formal contingencies?</p> <p>A. No benefit B. A formal contingency may permit the Department to add project scope or enhance quality within the constraints of its published budget C. A formal contingency is required to allow the Department to maximize project scope and quality within the constraints of its published budget</p>	B
2e) Staffing Issues		
1	<p>Does the Department have the expertise and resources necessary for a complicated procurement process?</p> <p>A. Inadequate resources or expertise B. Limited resources or expertise C. Adequate resources and expertise</p>	C
2	<p>Are resources available to complete the design?</p> <p>A. Resources are available to complete design B. Resources are available for partial design C. Specialized expertise, not available in-house, is required</p>	A
3	<p>Are resources available to provide construction oversight?</p> <p>A. Resources are available B. Full-time construction oversight could strain staff resources C. Resources are unavailable</p>	A