

Arizona DOT
Special Experimental Project No. 14 (SEP-14)
Alternative Contracting Work Plan for
CONSTRUCTION MANAGER AT RISK
(CMAR)
November 30, 2011

1. INTRODUCTION:

The Arizona Department of Transportation (ADOT) submits this work plan for review and approval to use the Construction Manager at Risk (CMAR) alternative contracting method to design and construct approximately twelve highway projects under the provisions of Special Experimental Project No. 14 (SEP-14).

2. PURPOSE:

FHWA Headquarters' SEP-14 approval is required to use any non-traditional construction contracting technique that uses a method of contract award other than award to the lowest responsive bidder. In addition; the Department is seeking a blanket approval through this SEP-14 process to evaluate and use the CMAR process for approximately twelve highway projects.

2.1 What is the CMAR Contracting Method?

The CMAR alternative contracting method falls under the SEP-14 program because the contractor is selected based on qualifications rather than by the traditional low bid process.

Prior to selecting a contractor, the Department will select a design consultant based on qualifications. The Request for Proposals (RFP) to design firms will describe the CMAR process and inform them of the level of coordination and participation expected on a CMAR project

During the design phase, the Department will advertise for Statements of Qualifications (SOQs) from prequalified contractors. The designer's preliminary design documents will be provided to the CMAR as part of the Request for Statements of Qualifications. The submitted SOQs will be evaluated by a selection team comprised of ADOT and non-ADOT personnel, including a senior management level employee of a licensed contractor who is not involved in the project.

After evaluating the SOQs, the selection team will invite the highest ranking firms to participate in oral interviews. The CMAR will be selected based on the combined scoring from the SOQ and the oral interview. The Department will negotiate a preconstruction Services Contract with the highest ranked CMAR for their participation in the design phase of the project. Once the preconstruction Services Contract is executed, the selected CMAR becomes an active member of the project team. The CMAR

contracting method combines the effort of the Department, the designer, and the contractor into a single, collaborating team. The CMAR team works together to design, discuss, and develop the components of the project. The CMAR's contributions to the team include providing input into the design and the construction schedule, providing constructability reviews and cost estimates for various design options, identifying potential risks, and working with the Department to determine how to best allocate and manage those risks. The culmination of the ongoing dialogue and effort, with the contributions of each team member, should result in final contract documents that convey clear intent and scope, minimize the need for change orders, allocate risks to maximize project value, and contain the preferred strategies to meet the project objectives.

As the project develops, the CMAR will submit cost models to the Department for evaluation. The CMAR contracting method is an open book process, which means the Department has open access to the backup documentation that supports the CMAR's unit prices. The backup documentation gives the Department a definitive understanding of the basis of the cost models and Guaranteed Maximum Price (GMP) proposal. The Department can use that information to analyze and evaluate the cost models and GMP proposal.

The GMP is the maximum compensation that the CMAR will receive for construction of the work as specified in the contract documents. If the actual cost of the work exceeds the GMP, the contractor is obligated to complete the work at no additional cost to the Department.

The Department and the CMAR collaborate, with the ultimate objective being agreement on a GMP and construction of the project. If the Department and the CMAR cannot agree on a GMP, the Department has the option to advertise the project for bids. The contractor's knowledge and input during the design phase of the project is beneficial to the Department even if agreement cannot be reached on a GMP.

2.2 Why evaluate the CMAR Contracting Method?

The Department has traditionally used the design-bid-build contracting method. Beginning in ~008, the Department used the CMAR method on four highway construction projects. Two were state-funded, and two were federally-funded projects developed through the SEP-14 process. To date, the Department has found CMAR to be a viable contracting method. However, additional evaluation is required before more definitive procedures can be put in place and the Department can reach a final conclusion and, if appropriate, recommend removing the experimental designation.

The Department's purpose in submitting this SEP-14 work plan is to obtain FHWA approval for further use of the CMAR contracting method on approximately twelve highway construction projects. These projects will provide a sample large enough to effectively evaluate this alternative delivery method and develop an understanding of additional advantages and disadvantages.

The Department hopes to achieve, at a minimum, the following:

- ensure competition in the CMAR contracting method,
- ensure public transportation facilities are constructed for a reasonable price,
- determine appropriate construction durations,
- improve the process for selection of the CMAR,

- determine the relative weights between the CMAR firm's experience and the CMAR personnel's experience (i.e. project manager, estimator, etc) in selecting the best firm,
- determine how best to engage the CMAR in the project development process,
- find ways to nurture the CMAR process to best provide value to the projects and to the Department,
- facilitate constructive dialogue regarding project design, objectives, scope, and risks between all team members,
- determine new methods to effectively communicate project status and development to team members and stakeholders,
- develop procedures that will withstand the test of time to determine the most qualified contractor and produce the best value,
- develop internal processes that are better aligned with the CMAR alternative contracting method,
- learn to better identify risks inherent in construction,
- determine how best to manage and allocate project risks, and
- evaluate lessons learned on each CMAR project to improve and refine the CMAR process.

3. PROCESS:

The Department will identify and evaluate individual projects in the Statewide Transportation Improvement Plan (STIP) to determine if the use of the CMAR alternative contracting method is in the best interests of the Department and the public. The projects selected will be of a nature that the Department will benefit from contractor participation in the development of the project. The final selection of projects will be a collaborative process with the Arizona Division of the FHWA.

Federal Oversight:

The Federal Highway Administration will monitor the CMAR projects in accordance with the FHWA and ADOT Stewardship and Oversight Agreement for Arizona and the FHWA SEP-14 Policy. The FHWA will be an active participant in the entire process with approval of the final selection of projects.

4.0 REPORTING:

The Department will prepare and submit initial, interim and final reports on each project to the Federal Highway Administration Headquarters.

The initial report will be submitted after execution of the Preconstruction Services Contract. It will describe the selection of the CMAR and include any feedback received from the contracting industry on the CMAR process and from the Selection Team.

The intermediate report will be prepared and submitted after the Department accepts the GMP and the construction contract is awarded. The intermediate report will discuss the preconstruction services portion of the project. The report will also discuss what value the CMAR has added to the project, highlight the Department's analysis of critical items, and present lessons learned during the design of the project.

The final report will be submitted after completion of construction and acceptance of the project by ADOT and FHWA. The final report will describe the construction phase of the CMAR project, evaluate the overall effectiveness of the CMAR alternative contracting method for the given project, and compare the GMP with the actual amount paid the contractor. The report will also include suggestions for improvements, pitfalls to avoid, and a recommendation as to the further use of the CMAR alternative contracting method.

In addition, the Department may evaluate the number of change orders and the reasons for them, review escalations and determine why they occurred, and compare them with the trends for traditional design-bid-build projects. The report may also include a comparison of construction engineering costs on the CMAR project with traditional design-bid-build projects, and discuss competitive bidding versus the value added by the CMAR alternative contracting method.

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