

**ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION**



**CONSTRUCTION MANAGER AT RISK (CMAR)
GUIDE**

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SECTION 1- INTRODUCTION

1.1 PURPOSE

The purpose of this document is to establish and explain the Department's process for procuring and administering both the design and construction of a highway facility through the Construction Manager at Risk (CMAR) method of Procurement. This method provides for the potential of a shorter design and construction schedule. It also reduces ADOT's risk through agreement of a Guaranteed Maximum Price (GMP) as design is finalized and actual construction begins. Other benefits include designer-contractor dispute reduction through sequential constructability reviews as the design progresses. Project quality, cost, and construction time have the opportunity to be optimized with this project delivery method.

1.2 SCOPE

This procedure affects all ADOT offices associated with the design and construction of major bridges, highways or other transportation-related projects using the Construction Manager at Risk process.

1.3 AUTHORITY

Arizona Revised Statutes 28-7361 (See Appendix A) and 28-7366 (See Appendix B).

1.4 DEFINITIONS

The definitions and terms listed below are intended to aid the reader.

Advertisement: The public announcement inviting Statements of Qualifications (SOQs). It contains a brief outline of the proposed work and contact information to obtain a detailed Statements of Qualifications package with reference material from ADOT's Contract and Specifications Section (C&S).

CMAR (Construction Manager at Risk) Contractor: The contractor engaged by the Department for the project and its officers, employees, agents, and authorized representatives involved in any way in the project. The CMAR Contractor is the entity contracting with the Department for the performance of the Preconstruction and Construction Services. CMAR is also used to describe the process of project delivery method. For clarity, this manual uses the term "CMAR Contractor" when indicating the construction firm.

CMAR (Construction Manager at Risk) Process: A procurement process in which ADOT selects a Contractor and a Designer based upon qualifications.

CMAR Statements of Qualifications Package: The document published by the Department that contains the Advertisement , the CMAR Contractor Request for Statements of Qualifications, the CMAR Contractor's Scope of Work for Preconstruction Services, the Project Scope of Work, General Requirements, Technical Specifications, the Designer's Scope of Work, and any forms, drawings and other supporting documents necessary to prepare a proposal.

Constructability Review: A process which integrates the contractor's perspective into the design phase. By active involvement, the contractor provides his expertise and experience into the design to identify potential problems, provide detail and clarity and optimize methods and phasing in order to reduce or eliminate Requests for Information (RFIs) and Change Orders and reduce construction time and costs.

Construction Contract: The written agreement between the Department and the CMAR Contractor setting forth the obligation of the parties, including the performance of the work, the furnishing of labor and materials and the basis of payment.

The construction contract includes the GMP, GMP Record Documentation, any addenda, contract agreement and contract bonds, certificates of insurance, Standard Specifications, Special Provisions, project plans, Standard Drawings, documents incorporated by reference, and any supplemental agreements that are required to complete the construction of the work in an acceptable manner, including authorized time extensions, all of which constitute one instrument.

Construction Phase: The time period when the CMAR Contractor performs the Construction. It begins after the construction contract Notice of Award is issued.

Contracts and Specifications (C&S): ADOT Section responsible for developing the SOQ Package from inception through the Notice of Award of the construction contract.

Cost Model: A cost tabulation for the construction of the project that is developed by the CMAR Contractor. The Cost Model will be based on the Department's list of standard pay items.

Design-Bid-Build (D-B-B): The low-bid method for building highways and making highway improvements where the Department (or a consulting engineer working for the Department) designs the project, solicits bids, and awards a contract to the lowest responsive and responsible bidder to build the project.

Designer: The in-house or Consultant Designer selected by the Department for the project. For Consultant Designers, it includes officers, employees, agents, independent contractors and authorized representatives involved in any way in the project.

Design Review Team: The representatives from the CMAR Contractor, the designer, the PM and ADOT construction and technical areas responsible for completing the final design. This includes review of recommendations provided by the CMAR Contractor or other Team members that involve constructability and identifying new products which provide added value to the project and lower construction/life-cycle costs.

Final list: The list of CMAR Contractor firms that are narrowed through the process of the Selection Team reviewing and evaluating SOQ submittals. The final list firms are notified by C&S of their status and if and when the oral interviews will be conducted for the next phase of scoring.

GMP (Guaranteed Maximum Price): The total itemized dollar amount negotiated between the CMAR Contractor and ADOT for constructing the project or portions thereof. It includes – but is not limited to - a construction schedule, all traffic control, quality testing, survey, replacement of rejected work or materials, public information and coordination costs.

GMP Allowance: Funds included in the GMP to be used by the CMAR Contractor only with the written consent of the Department. Each allowance is item specific. The allowances establish the type and amount of risk that the Department and the CMAR Contractor have assumed in agreeing to the GMP.

GMP Item Schedule: The list of pay item numbers, descriptions, quantities, units of measurement, unit prices and extended amounts, allowances, field and corporate overhead, taxes, bond and fixed fee that makes up the GMP. Similar in appearance to D-B-B bid schedule.

GMP Record Documentation: GMP Record Documentation consists of the GMP, GMP Item Schedule and all documents used to generate them including material incorporated by reference.

GMP Table: A recap of construction costs (CMAR Contractor and subcontractors), allowances, fees, home office and field office overhead, bond, and taxes. The CMAR Contractor must include a completed GMP Table with each GMP Proposal. (See Appendix C.)

Notice of Award: A written notice to the Contractor stating that their construction proposal (GMP) has been accepted by the Transportation Board.

Notice to Proceed (NTP): A written notice given by the Department to the CMAR Contractor identifying the date the CMAR Contractor shall start to perform their obligations under the Preconstruction Services contract.

Preconstruction Phase: The time period when the CMAR Contractor performs the activities under the Preconstruction Services Contract, after issuance of the NTP (see NTP definition). The Preconstruction Phase (also referred to as design phase) is the first phase of the project. During the Preconstruction Services Phase, the goal of the Department, the Design Consultant, and the CMAR Contractor is to develop and complete a design for the project.

Preconstruction Services Proposal: The CMAR Contractor's proposal for performing the advisory and design phase work contained in the Request for Statements of Qualifications and specified in the CMAR Contractor Solicitation. This proposal is independent of the GMP. The proposal is presented in the same manner as typically submitted for design contracts. Specific rates apply for individuals. Commercial rates apply for reimbursable tasks or services.

Project Manager (PM): The person designated by the Department to administer the Preconstruction Services contract on behalf of the Department.

Project Schedule: Project Schedule is a Critical Path Method (CPM), graphical and tabular listing of all tasks and submittals that is required by each member of the Project Team to complete the project. The Project Schedule indicates all preconstruction and construction milestones (Stage II; Stage III; Stage IV) with dates. The construction activities in the Project Schedule directly correlate with the Cost Model. The construction portion of the Project Schedule includes resource loading for manpower and cost loading for cash flow. This is similar to the Progress Schedule Submittal requirement in Standard Specification 108.03.

Project Team: The Project Team consists of the Department, the Design Consultant, the CMAR Contractor, and their subconsultants and subcontractors.

Scope of Work: A written agreement between contracting parties as to the requirements of the project. It includes identification of the elements of work and schedule.

Selection Team: Those individuals selected to score the CMAR proposals. ADOT requires all team members to receive training on the process prior to serving. The team must consist of at least three members and may be either department employees or outside consultants. At least one shall be a senior management employee of a licensed contractor who is not involved in the project. At least half the team must be professionally licensed engineers or architects.

Sr. Resident Engineer/Resident Engineer (RE): The person designated by the Department to administer the Construction Services contract on behalf of the Department.

Statements of Qualifications (SOQs): The response to the Request for Statements of Qualifications from the CMAR Contractors. It contains information about capabilities, team members, previous experience, and understanding and approach to the project. A final list is developed from the CMAR SOQs.

Surety (Contract) Bond: The security furnished with the GMP to guarantee that the CMAR Contractor will enter into the contract if its GMP is accepted.

NOTE: Contractor and Subcontractor Records

The contractor, subcontractors and all suppliers shall keep and maintain all books, papers, records, files, accounts, reports, and a copy of the GMP Record Documents with backup data, including electronic data, and all other material relating to the contract and project for five years following completion and acceptance of the work. All of the above material shall be made available to the Department for auditing, inspection and copying and shall be produced, upon request.

The contractor shall insert the above requirement in each subcontract, purchase order and lease agreement and shall also include in all subcontracts a clause requiring subcontractors to include the above requirement in any lower-tier subcontract, purchase order or lease agreement.

1.5 BACKGROUND

The Design-Bid-Build (D-B-B) system is the most common contracting approach for public owners. However, many construction owners have undertaken the development of CMAR as an alternative project delivery method.

CMAR benefits:

- Generally, less ADOT exposure to contractor claims over design and constructability issues.
- The approach tends to lessen adversarial relationships and increase cooperation and coordination among the contractor, designer and ADOT.
- The presence of a contractor's input into the project design increases the effectiveness and constructability of the design.
- Important design decisions affecting both the types of materials specified and the means of construction are made with full consideration of a construction perspective.
- Costs are closer to budget forecasts between the beginning of design and the completion of construction.
- The CMAR Contractor provides a schedule, Cost Model, value engineering (VE), and constructability review as a continuous process throughout the project design phase. The Designer and ADOT Technical Managers review innovative methods and materials under consideration, and decide on the merits of the CMAR Contractor's proposals.
- The Designer has the opportunity to tailor the design to the CMAR Contractor's preferred Means and Methods; provide more detail; and, potentially, reduce construction time. This collaborative approach with CMAR project delivery should also result in savings for Post Design Services.

The CMAR procurement method involves contracts between the Department and the designer and between the Department and the contractor. During design, the CMAR Contractor serves as an advisor.

In addition to providing ADOT with the benefit of Preconstruction Services that may result in efficiencies to the project, the CMAR scenario offers the opportunity to begin construction (constructable documents, but not necessarily biddable like a D-B-B) prior to design completion. The CMAR Contractor and the Department can negotiate multiple GMPs and propose to construct portions of the work at any time, often while design of unrelated portions is still not underway. The CMAR Contractor and ADOT negotiate a GMP based on the design at that time, which includes the CMAR Contractor's Cost Model for the remaining design features. The Cost Model includes all assumptions.

The CMAR Contractor may sublet the construction work to trade subcontractors following completion or near completion of the design. However, it is at the CMAR Contractor's own risk to do so prior to the acceptance of the GMP and issuance of the Notice of Award.

To achieve the maximum benefit in terms of completion time, cost value, and efficiency, the CMAR Contractor is generally selected following Stage II completion of the design documents. There will be instances where a particular project will be more desirable to select at another Stage.

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SECTION 2 PROJECT ADMINISTRATION

2.1 PROJECT SELECTION

CMAR is one of the most advantageous project delivery methods when:

- there is a need for immediate transportation improvements;
- the design is complex, difficult to define, subject to change and/or has several design options;
- there is a high coordination requirement with external agencies that make cost over-runs and construction schedule a pressing concern;
- the project is sequence or schedule sensitive.

CMAR is least suitable for straight-forward projects, easily defined, that lack schedule sensitivity.

The following are criteria for project selection suitability for CMAR method of project delivery:

Programming: The project is programmed into ADOT's 5-year Highway Construction Program although the method of procurement is not always specified.

Time: There should be sufficient time to allow for the design/pre-construction and the construction of the project.

Available CMAR Contractors: There should be a sufficient pool of available highway/heavy construction firms capable of handling the project, who have experience with CMAR project delivery.

Department Capabilities: There should be in-house staff and consulting expertise experienced in the CMAR process readily available to manage and oversee the execution of the project's distinct phases. The Department's PM should have either prior CMAR experience or experience in handling both design and construction of complex, urgent transportation projects.

Environmental Issues: The preparation of all environmental documents and the obtaining of required environmental and regulatory clearances shall be performed by ADOT (or their consultant). The scope of any remedial actions such as environmental mitigation measures, site cleanup, or hazardous materials abatement shall be clearly identified in the environmental documents and the CMAR Solicitation.

Right-of-Way Procurement: Right-of-way acquisitions are the responsibility of ADOT. Since available right-of-way significantly affects the final design, all efforts are expended to acquire necessary parcels

prior to construction. It is permissible to specify right-of-way limits and require all design features to remain within ADOT's right-of-way. The CMAR Contractor should also be allowed to obtain and secure any needed temporary construction easements with the assistance of the Department's Right-of-Way Section.

Utilities: The utility coordination and relocation requirements can be either the CMAR Contractor's preconstruction duties or ADOT's. This may impact the final schedule and the GMP. The CMAR Contractor is encouraged to begin long-lead construction items where the cost and design is agreed upon before the final project design is complete in order to reduce the impact to the overall schedule.

2.2 BUDGET

When a section of roadway or transportation facility is being considered for CMAR contracting, adequate funding must be identified and approved for the work. Funds must be established in the 5-year Highway Construction Program before the advertisement and the selection process begins.

2.3 MANAGEMENT APPROVAL

Prior to the CMAR Solicitation, a written statement describing the reasons for using a CMAR contract shall be submitted to the State Engineer for management approval. The State Engineer will make the final determination whether to use the CMAR contracting method.

2.4 ROLE OF THE DEPARTMENT'S CONTRACTS AND SPECIFICATIONS SECTION

The Contracts and Specifications Section primary responsibilities in the CMAR process are:

- Prepares the "SEP 14 Workplan" if federally funded, with the assistance of the Project Team (See Role of FHWA)
- Prepare the Request for Statements of Qualifications
- Assist in development of the schedule for advertising, reviewing and selecting the CMAR
- Advertise the project for selection of the CMAR Contractor
- Assist in assembling the Selection Team
- Responsible to negotiate Pre-Construction Services contract
- Receive the SOQ submittals
- Forms preparation, facilitate Selection Team meetings, notification/communication to firms
- Provide scoring documentation of final list firms to the State Engineer for approval
- Provide Departmental Engineer's estimate and review Cost Models at each stage of development

- Attend project meetings – to better understand the project for development and preparation of estimates and review of costs
- Prepare Section 100 of the Special Provisions
- Participate in the development of item specifications for allowances, fees, overhead (onsite and offsite), and taxes
- Assist in the negotiation of the Cost Model/GMP
- Finalize contract documents, including specifications, GMP Table, GMP, bond, etc., prior to award by the State Transportation Board

2.5 ROLE OF THE DEPARTMENT'S PROJECT MANAGER (PM)

The PM is the Department's lead individual and main point of contact for the project during design. The PM will be responsible for coordinating the procurement and oversight of CMAR design and Preconstruction Services. The PM will also work with the assigned ADOT Sr. Resident Engineer/Resident Engineer (RE) overseeing the construction of the project.

An important task of the PM during the preconstruction or design phase of the project is to assist C&S in the preparation of the CMAR Solicitation. The PM facilitates the development of the CMAR Package, ensuring that it is prepared in accordance with the scoping and environmental documents and that it meets the needs of ADOT management and key project stakeholders. Once the CMAR Solicitation has been published and the project advertised, the Project Manager may be involved in the evaluation and selection of the project designer and CMAR Contractor.

The PM should participate with Pre-Design in the initial scoping of the project, including the development of the Design Concept Report (DCR) or Scoping Letter. The PM should also be involved in the necessary environmental studies, permits, and assessments required for the project - including reviewing environmental, archeological and right-of-way documents. An involved and well-informed PM can accurately communicate the Department's scoping, right-of-way, and environmental concerns when developing the CMAR Solicitation.

The PM must rely heavily on a multi-disciplined team in order to:

- (a) determine the prequalification requirements of a project designer and CMAR Contractor,
- (b) develop the project scope and assist C&S with the CMAR Solicitation,
- (c) assist with the evaluation of the Statements of Qualifications (SOQs) for both design and CMAR Contractor,
- (d) assist - as needed - C&S, the Sr. RE/RE, the District, and the Construction Group with negotiations in order to reach agreement of the GMP.

(e) assist the Sr. RE/RE with design issues that arise during the construction of the project.

2.6 ROLE OF TECHNICAL LEADERS AND MANAGERS

Technical leaders and managers from the various design and technical groups oversee the design process similar to a design-bid-build project. CMAR schedule is critical; therefore timely preconstruction reviews by technical leaders are crucial. The PM is ultimately responsible to ensure that issues are resolved in a timely manner.

2.7 ROLE OF SR. RESIDENT ENGINEER/RESIDENT ENGINEER (RE)

In general, the role of the Sr. RE/RE is largely unchanged from a conventional design-bid-build project. Their involvement occurs earlier in the design phase – including developing, reviewing and approving the GMP. The Sr. RE/RE also ensures that no individual item exceeds its GMP and the contract amount is not exceeded during the construction phase. The Sr. RE/RE is the main point of contact during construction. The Sr. RE/RE and PM should work closely as a team to ensure a high quality project. In addition to conventional project administrative duties, the Sr. RE/RE may be part of the Selection Team to choose the CMAR Contractor.

2.8 ROLE OF DESIGN FIRM

The project designer works alongside the CMAR Contractor. The project designer must be familiar with the CMAR Contractor's Preconstruction Services contract in order to optimize the collective effort.

When the Department accepts the GMP and a Notice of Award is issued for the construction phase, there is no change to the Design Consultant's contract. The Designer must complete and submit all deliverables in their CMAR Preconstruction Services contract. The Designer has the potential to be working on both design and post design for different elements of the project.

NOTE: The CMAR Contractor shall not subcontract any portion of the contract to an entity that is, or has been, employed by the Design Consultant in the design of the project.

2.9 ROLE OF FHWA

If federally funded, the Department must prepare a "SEP 14 Workplan". The use of CMAR on federally funded projects is only allowed through the SEP 14 (Special Experimental Project) program. With the assistance of the Project Team, C&S prepares the SEP 14 Workplan for review and approval by local and headquarters FHWA. Each project is carefully considered by the FHWA for use of the CMAR delivery method. The FHWA is very selective of projects

approved for the use of the CMAR project delivery method. FHWA's website has information and examples of [SEP 14 submittals](#).

The guiding document governing the Department's relationship with FHWA is the [Stewardship Agreement](#).

2.10 ROLE OF ENGINEERING CONSULTANTS SECTION (ECS)

The process for selecting the design firm follows the design-bid-build method as established by the ADOT Engineering Consultants Section (ECS).

ECS also processes payments to both the CMAR Contractor and the Designer during the PreConstruction Services Phase.

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SECTION 3 SELECTING THE CMAR CONTRACTOR

3.1 GENERAL

The process for securing CMAR procurement must be well-defined and uniform. The objectives are 1) to deliver the best project value to ADOT and 2) to design and construct a project that meets the reduced time and budget expectations of the Department while fulfilling quality requirements. The CMAR Contractor is selected based on qualifications as provided in ARS 28-6923. This involves the submission of a SOQ from all interested contractors (joint ventures are permitted) and the development of a final list from all the responsive submittals which will be at least three firms, up to five firms. The SOQs from the CMAR Contractors are evaluated and interviews may be conducted from the final listed contractors, plus up to two additional firms. The CMAR Contractor is selected based on demonstrated competency and qualifications. This section describes each of the key steps in the selection process.

The Department's standard prequalification requirements apply to each entity providing professional engineering services or construction contracting as part of a CMAR Solicitation. Each CMAR Contractor must be prequalified with Contracts and Specifications Section (C&S) before submitting their Statements of Qualifications.

3.2 CMAR ADVERTISEMENT

The CMAR advertisement notifies the highway construction industry of an impending CMAR project. It summarizes the project and the CMAR selection process, and gives instructions on how the CMAR Statements of Qualifications package can be obtained. The CMAR Solicitation from recent CMAR projects should be used as a template for organizing and wording new CMAR Solicitations.

In advertising for a CMAR Contractor, the Department will follow a solicitation process similar to the acquisition of professional services. C&S will advertise in a local paper. All CMAR projects advertised are posted on the C&S website under "Advertised Alternative Delivery Projects".

The advertisement will state a general description of the work, the requirement for prequalification, any additional technical qualifications desired, and the time frames for the presubmittal conference (if one is held), and for submitting the proposals for preconstruction and construction services. The estimated cost of the project and the required project completion time shall also be included in the advertisement.

The selection process schedule should be included in the advertisement. This schedule summarizes not only the deadlines for the SOQs but establishes deadlines for final listing CMAR Contractor firms and award of the contract. All key milestones in the selection process should be listed in the schedule. A schedule helps the CMAR Contractors plan their work and requires the Department to commit to deadlines that will ensure efficiency and fairness in the selection process. The maximum number of pages in the SOQ will be specified by ADOT.

3.3 PRESUBMITTAL CONFERENCE FOR THE STATEMENTS OF QUALIFICATIONS

A presubmittal meeting may be held for all contractors to discuss the scope of the project, to introduce ADOT's Project Team, to clarify the CMAR Contractor selection process, to discuss the CMAR Package and to answer any questions regarding the process. If held, the meeting should take place within 7-14 days of project advertisement.

3.4 REQUEST FOR STATEMENTS OF QUALIFICATIONS

The CMAR Request for Statements of Qualifications Package should include the criteria for the selection process, design requirements, preconstruction scope of work, project constraints related to traffic, utilities, the environment and right-of-way, and construction requirements. The CMAR Request for Statements of Qualifications is typically organized as follows:

1. A copy of the CMAR solicitation advertisement.
2. A description of the selection process including the selection process calendar.
3. SOQ formatting instructions and documentation requirements with associated scoring criteria.
4. Oral interview requirements.
5. The scope of work for Preconstruction.
6. The scope of work for Construction services.
7. A copy of the designer's scope of work.
8. The Preconstruction contract agreement.
9. The Construction contract agreement.

3.5 STATEMENTS OF QUALIFICATIONS REQUIREMENTS

Specific documentation requirements and procedures each prospective CMAR Contractor is to follow when submitting the SOQ should be completely detailed in the Request for Statements of Qualifications. The submittal requirements for past CMAR projects (See Appendix D) can be used as a starting point for developing the submittal requirements for an upcoming project. However, each set of requirements needs to be tailored to the particular project. It should also fully describe expected format and content of the oral interview, if one is held.

C&S, along with the PM, will provide guidelines as to the general content, evaluation criteria and scoring requirements for the Statements of Qualifications and the Oral Interviews. The PM and the Technical Managers should tailor each submittal requirement and scoring criteria to reflect the specific needs of each project. They should establish the required content of each submittal (what the team would like to see) on a section-by-section basis, determine the evaluation criteria to be used (how each section of the proposal will be graded), and then decide on the scoring breakdown for the proposal (the points assigned to each section). Points for specific categories may vary from project to project due to specific characteristics of each project.

3.6 CMAR CONTRACTOR QUESTIONS AND ANSWERS

During the selection process, the Department will receive questions regarding the technical aspects of the project, SOQ formatting, availability of ADOT reports and records, and procedural issues. All questions to the Department must be directed to C&S. C&S should discuss the question with the PM before formulating a response. Questions regarding submittal procedures, formatting or qualification issues can be responded to directly by C&S. Technical questions should be discussed with the PM and addressed to the technical experts assembled for the CMAR project, such as the general consultant and technical representative from the various ADOT technical groups.

If required, C&S will issue addenda. The goal of this process should be to ensure fairness and maintain a level playing field for all potential contractors. No direct discussions about the project are allowed between ADOT staff and the CMAR Contractors once the CMAR Solicitation is advertised. All questions must be directed to C&S after advertisement.

3.7 SELECTION TEAM AND FINAL LISTING

The Selection Team will review and evaluate all SOQs submitted by the prospective CMAR Contractors to determine a final list of firms. The Selection Team shall consist of at least three members and may be either department employees or outside consultants. At least one of the members shall be a senior management employee of a licensed contractor. At least half the team shall be professionally licensed engineers or architects. No members can have any interest in the project or association that can be construed as a conflict of interest with potential contractors, designers or their subcontractors.

C&S will put together a list of potential Selection Team members and submit the list to the State Engineer's office for approval. The Department recognizes the advantage of maintaining continuity in the Selection Team members. Therefore, efforts will be made to retain key personnel throughout the entire evaluation and selection process. Once the Selection Team has been approved, the team shall have a kickoff meeting with C&S to go over the selection process for final listing the CMAR Contractors. C&S will prepare a "Selection Panel Instructions for Statements of Qualifications" brief and review

the selection procedures with the team members during the kickoff meeting. The PM and key project members will meet with the Selection Team at this time and provide a project overview to the panel. C&S will thoroughly explain the selection process. C&S must ensure that all team members, as well as applicable Technical Managers, have a complete set of the CMAR Solicitation documents - including addenda, supporting concepts drawings, reports, and studies to properly evaluate each SOQ.

3.8 CMAR CONTRACTOR INTERVIEWS (FINAL LIST)

The selection process for the CMAR Contractor should include oral interviews with each final listed contractor individually. The length, location of, and format of the interview will be developed by the PM and C&S. As a minimum, the format should include an oral presentation by the contractor addressing their plan and approach to the project followed by a question and answer session. The PM shall coordinate the interviews with each final listed contractor. The order of the interviews for the final listed contractors shall be at random and may be determined and published well ahead of the interview date. The notification will include information about location; set limits on the number of people attending (based on room size, occupancy comfort, and safety); should state the amount of time for each interview; and include any other scheduling or room constraints. Each firm shall be given the opportunity to inspect the interview room ahead of time so they can plan their interview more efficiently.

The Selection Team shall develop and compile a list of standardized questions about the project for the interview. C&S will approve the questions developed for the interview.

Each member of the Selection Team shall grade the oral presentation individually.

3.9 EVALUATION AND SELECTION OF THE CMAR CONTRACTOR

Each member of the Selection Team will grade both the SOQs and the Oral Interview for each of the final listed contractors using the approved scoring sheet. (See Appendix E for a sample scoring calculation for one firm.) After each member has reviewed and scored individual SOQs, scores and comments are submitted to C&S. The team will meet again to discuss strengths and weaknesses of each proposal. During this discussion, individual members are allowed to adjust their scores based upon the discussions. If any individual team member's SOQ score exceeds 1.65 times a standard deviation of all scores (plus or minus), that member's score is excluded. The 4th and 5th ranked firms may also be part of the final list if their SOQ scores are close to the 3rd ranked firm and the team concurs. Score sheets will then be given to C&S; C&S then notifies the final listed firms of when and where the oral interview, if any, will be conducted. The process is repeated for the oral

interviews, with C&S tabulating the scores and excluding those above or below 1.65 times the standard deviation.

Final scores for each firm will be calculated by C&S by adding individual team member's scores (minus the excluded scores) for both SOQs & oral interviews, then calculating the average.

Each firm will be rank ordered by the score and the list submitted to the State Engineer to authorize C&S to begin negotiations.

All scoring sheets and notes can not be released until after a CMAR Contract is executed.

3.10 PRECONSTRUCTION SERVICES NEGOTIATIONS

The Department will enter into negotiations with the highest ranking firm from the final list. The law is specific that no information may be given out except the names of the firms on the final list. All information must be obtained through C&S. If the Department is not able to negotiate a satisfactory contract with the highest ranking firm on the final list, the Department shall formally terminate negotiations. During negotiations ADOT requests the Contractor's "Best and Final Offer". If the offer is rejected by the Department then the Department may enter into negotiations with the next firm on the final list in sequence, until agreement is reached or a determination is made to reject all firms on the final list.

The CMAR contractor's proposal will be based on the amount of input which will be expected of the CMAR Contractor during the Preconstruction Phase: phase duration, number of meetings his attendance is required, time to assemble the Cost Model and update, constructability reviews, "over-the-shoulder" design input, etc. The CMAR Contractor usually is reimbursed on a time and material basis. A budget should be included as part of the contract including the CMAR Contractor's commercial rates for invoiced expenses and billing rates for personnel involved with this phase.

3.11 AWARD OF PRECONSTRUCTION SERVICES CONTRACT

Following the development of a budget and an agreeable method of payment for the services to be provided during the Preconstruction phase, C&S will make a recommendation to the State Engineer's office and to the Transportation Board, who awards the contract. The Transportation Board has the authority to award the contract or to reject any and all proposals.

SECTION 4 PRECONSTRUCTION SERVICES DURING DESIGN

4.1 DESIGN PHASE COOPERATION, COORDINATION, COLLABORATION AND COMMUNICATION

Following completion of negotiations and award, an initial coordination meeting should be established prior to the start of Preconstruction Services. This coordination meeting should follow the format of a Partnering/scoping session fully addressing issues affecting Project administration; implementation of procedures to permit ADOT, the designer and the CMAR Contractor to perform their respective obligations in the development of the design documents; and effective interaction amongst the team. It is also important to stress that key Project Team members identified in the Statements of Qualifications shall not be revised without written approval by the Department. The designer needs to update the CMAR Contractor as to the status of the design and review the design schedule and milestones. The design schedule should be officially submitted to the CMAR Contractor for implementation into the overall Project schedule which will be generated by the CMAR Contractor.

4.2 VALUE ANALYSIS (VA)

The CMAR Contractor, Design Consultant, and the Department shall participate in a formal VA Study for the project. Immediately after the selection of the CMAR Contractor, the PM will contact the Department's VA Manager. The VA manager will coordinate with the CMAR Contractor, Design Consultant and PM and schedule a VA Study. Results of the study will be documented in a report and sent to the PM by the VA Manager. The PM is responsible to insure that the recommendations contained in the report become part of the final design when deemed feasible and cost effective. The PM shall report back to the VA Manager which ideas were not implemented and why.

4.3 CONSTRUCTION MANAGEMENT PLAN

The CMAR Contractor shall prepare a Construction Management Plan (CMP) and submit it to the PM, usually thirty calendar days after the date of the Notice to Proceed. The PM will review the CMP with the rest of the Project Team to ensure it includes:

- Project milestone dates and the Project Schedule, including the broad sequencing of the design and construction of the project,
- investigations, if any, to be undertaken to ascertain subsurface conditions and physical conditions of existing surface and underground utilities,
- alternate strategies for fast-tracking or phasing the construction,
- a list of possible work segments to be constructed under multiple GMPs,

- the number of sub-agreements to be awarded to subcontractors and suppliers for the project construction,
- permitting strategy,
- safety and training programs,
- construction quality control,
- construction security, and
- a matrix summarizing each Project Team member's responsibilities and roles.

The CMAR Contractor shall update and add detail to its previous version of the CMP to keep it current throughout the Preconstruction Phase, so that the CMP is ready for implementation at the start of the Construction Phase. The update/revisions shall take into account:

- revisions in drawings and specifications,
- the CMAR Contractor's examination of the results of any additional investigatory reports of subsurface conditions, drawings of physical conditions of existing surface and subsurface facilities and documents depicting underground utilities placement and physical condition, whether obtained by the Department, the Design Consultant or the CMAR Contractor,
- unresolved permitting issues, and significant issues, if any, pertaining to the acquisition of land and right of way,
- the status of the procurement of long-lead time equipment and materials,
- funding issues identified by the Department, and
- input from the public involvement process.

4.4 PROJECT SCHEDULE

The CMAR Contractor shall prepare, update and maintain a Project Schedule to be used by the Project Team. The CMAR Contractor shall submit a preliminary Project Schedule to the PM no later than two weeks after the date of the Preconstruction Notice to Proceed. The PM will review the schedule with the rest of the Project Team to ensure that tasks are deliverable in the time frames shown and modifications made if unattainable.

The Project Schedule shall cover the entire project duration from design through completion of construction. The fundamental purpose of this schedule is to identify, coordinate and record the tasks and activities to be performed by all the Project Team members. The Project Team will use the Project Schedule as a basis for managing and monitoring all members' compliance with the schedule requirements of the project. Each Project Team member is responsible for their compliance with the schedule. It shall be consistent with the most recent Construction Management Plan. It shall be developed using the Critical Path Method (CPM) and presented in graphical and tabular reports as agreed upon by the Project Team.

The Project Schedule shall include all tasks and submittals required by each member of the Project Team to identify long lead time items, right-of-way transactions, utility relocation activity, permitting requirements, etc. If phasing is required, the Project Schedule shall indicate milestone dates for the phases once determined. The construction activities in the schedule shall directly correlate with the Cost Model. The construction portion of the schedule shall include resource loading for manpower and cost loading for cash flow.

The CMAR Contractor shall include the services and activities required of the PM, Design Consultant and CMAR Contractor. The CMAR Contractor shall incorporate the design schedule supplied by the Design Consultant and shall coordinate with the Design Consultant to finalize and incorporate design milestones into the Project Schedule.

4.5 DESIGN

During the design process, the CMAR Contractor will assist the designer "over-the-shoulder". The Contractor will suggest possible alternatives which could improve cost and/or schedule. The CMAR Contractor will advise on constructability. At specified milestones, usually concurrent with design reviews, formalized constructability reviews will occur. The designer and CMAR Contractor will review and discuss potential phasing of the project and make recommendations to ADOT.

In conjunction with the CMAR Contractor's "over-the-shoulder" assistance during the design, a formal design review process needs to be established. ADOT's representatives to the Design Review Team should consist of construction and technical representatives from each of the design groups associated with the design (roadside, traffic, bridge, roadway, and materials). They may be either consultants or department in-house staff.

As part of this Design Review Team, the CMAR Contractor will provide constructability comments - feasibility and practicality of any proposed means and methods; selected materials, equipment, and labor; material availability; site improvements; earthwork, and foundation considerations; coordination of the drawings and specifications, etc. The CMAR Contractor should also provide cost effective alternatives. The assigned RE and the District are part of the Design Review Team and work with the CMAR Contractor on constructability review.

4.6 COST MODEL

The CMAR Contractor prepares a Cost Model in a format agreed upon in advance by the Department and the CMAR Contractor. This is typically done within 30 calendar days after the date of the Preconstruction Notice to

Proceed; however, the exact period is specified in the Request for Statements of Qualifications. The Cost Model is based on the Department's list of standard pay items. The PM, Sr. RE/RE, District, and the Construction Group will work with the CMAR Contractor to develop the proposed form for the Cost Model and the GMP.

During the review period, the Department will compare the CMAR Contractor's Cost Model with estimates prepared by both the Design Consultant and the Department. These estimates are not to be disclosed to the CMAR Contractor because they are used to evaluate the Cost Model. Once approved by the Department, the Cost Model is continually updated and kept current throughout the Preconstruction Phase, until a GMP agreement is reached. The Cost Model is the best representation of the project's construction costs. The Cost Model does not include the CMAR Contractor's Preconstruction Services Fee, sums due to the Design Consultant, and the cost of land, right-of-way, or other costs which are the responsibility of the Department. The CMAR Contractor is required to state all assumptions used in preparing the Cost Model. The Cost Model may include allowances as agreed to by the Project Team, including additional quantities, work and investigations that the Department may require.

After receipt of the Design Consultant's documents at each design milestone, the CMAR Contractor will provide a detailed written report to the Project Team reflecting the impact and changes to the Cost Model. The PM, the Design Consultant, and the CMAR Contractor shall reconcile any disagreements on the estimate. If the Project Team requires additional updates of the Cost Model beyond that specified, the CMAR Contractor shall provide the requested information in a timely manner.

Each Cost Model may include:

- Unit prices and quantity take-offs using the Department's standard pay items.
- Details of all allowances and unit price work shown and specified in the detailed design documents.
- Material costs, equipment costs, labor costs, hourly labor rates, and total cost. Labor costs in the Cost Model shall include employee benefits, payroll taxes and other payroll burdens. The total cost for any portion of the work to be performed by subcontractors shall include subcontractor overhead and profit.
- Production rates, transportation, and other facilities and services necessary for the proper execution of the work, whether temporary or permanent, and whether or not incorporated or to be incorporated into the work.
- All fixed equipment, site improvements, and utility and equipment installations.

- Copies of quotations from subcontractors and suppliers. (The Initial Cost Model is conceptual in nature and probably will not include quotations from subs & vendors. Follow-up Cost Models may or may not include quotations, depending on the scope and financial significance.)
- Field Office overhead.
- Home Office overhead.
- Bonds, taxes, insurance.
- CMAR Contractor's fee.
- Memoranda, narratives, consultant's reports, and all other information used by the CMAR Contractor to arrive at the Cost Model or GMP. It must include all assumptions, descriptions and a breakdown of all allowances.

If the Cost Model submitted to the Department exceeds the Department's programmed construction estimate, the CMAR Contractor shall make recommendations on means/methods, materials, scope and/or other design elements that will reduce the estimated construction costs without altering the Department's overall concept. The State Engineer has the authority to approve the increase. However, if the costs are more than ten percent of the program amount, the State Engineer must request an increase through the Project Review Board (PRB) to the Priority Program Advisory Committee (PPAC) for Transportation Board approval.

If funds are not available, the Project Team may recommend a reduction in the scope of work to bring the project within the program amount. The State Engineer will provide direction.

The Cost Model being developed during the design phase eventually becomes the GMP. This can occur anywhere between Stage III and Final design, when both ADOT and the Contractor feel comfortable to agree on a final price of construction.

4.7 COST MODEL AND GMP RECORD DOCUMENTATION CONFIDENTIALITY

The Department's CMAR Confidentiality Policy allows the CMAR Contractor to designate information as confidential. Prior to submitting the Cost Model or GMP, the CMAR Contractor shall clearly mark each page of any backup documentation that is to remain confidential.

4.8 GUARANTEED MAXIMUM PRICE PROPOSALS

The CMAR Contractor guarantees to complete the project at or less than the approved GMP. No individual items in the GMP may be exceeded, except as noted in Section 5.5, Measurement and Payment. The CMAR Contractor is responsible for any overage costs.

The PM will advise the CMAR Contractor of the format for the GMP Proposal and when it is to be submitted to the Department. Any GMP Proposal submitted by the CMAR Contractor shall be based on and consistent with the current Cost Model. It shall include any clarifications or assumptions upon which the GMP Proposals are based.

The CMAR Contractor shall include a completed GMP Table (Appendix C) and one copy of its GMP Record Documentation with each GMP Proposal. In addition, an updated/revised Project Schedule shall be included with any GMP Proposal that reflects the scope of work shown in the current set of design documents upon which the GMP Proposal is based.

Each GMP Proposal shall be accompanied by the same backup documentation listed for the Cost Model submittal. The backup documentation supplied for the final GMP shall become the GMP Record Documentation and will be retained by the Department. The purpose of the GMP documentation is to ensure complete understanding and proper interpretation of the GMP.

The CMAR Contractor shall submit a non-collusion certification on a form provided by the Department with each GMP Proposal.

4.9 GMP ALLOWANCES

There is a risk for the CMAR Contractor when trying to establish maximum prices (for example, where subterranean features cannot be determined in advance, or where alternatives have not been selected by the Department. The CMAR Contractor can propose GMP allowances. This is a type of insurance should quantities exceed those estimated when establishing the Cost Model/GMP, or to account for unforeseen conditions. The allowance must be acceptable to the Department. In addition, the Department and the CMAR contractor will agree upon the type of allowance and the terms and conditions regarding use of the GMP allowance.

When establishing allowances, the CMAR contractor must provide the Department adequate reasoning as to why they are to be allowed. The allowance(s) will be used only for the work that the allowance was negotiated to cover. Allowance monies are not interchangeable and belong to the Department if not used. There are three types of allowances:

- **Fixed Allowance:** A fixed allowance establishes the upper limit that the Department will pay for the corresponding item of work. For example, if there is a fixed allowance for 1,000 linear feet of saw cutting, the Department will pay the CMAR Contractor up to 1,000 linear feet of saw cutting above the quantity designated in the GMP Item Schedule for saw cutting.
- **Open Allowance:** An open allowance designates that there is no upper quantity limit for the corresponding item of work. The Department will pay for all approved quantity increases for each corresponding item in excess of the GMP Item Schedule. For example, if there is an open allowance for geotextile and the Department directs the CMAR Contractor to place more geotextile than what is shown in the GMP Item Schedule, the Department will pay the CMAR Contractor for the full amount placed.
- **Provisional Allowance:** A provisional allowance is for alternative work. For example, the Department has not completed a JPA with a local government to replace ADOT chain link ROW fence. The quantities are known. The decision hasn't been made whether wrought iron or block will be used for the replacement. The Cost Model will include an item for chain link ROW fence, but two provisional allowances are set up, one for each type of replacement. (Another method would be to use the Provisional Allowances as a premium per foot for the selected upgrade.)

4.10 MULTIPLE GMPS

The Department may consider the use of multiple GMPS. During the Preconstruction Phase, the Department, the Design Consultant, or the CMAR Contractor may propose portions of the work to be constructed under separate GMPS. The Department will only consider proposals for multiple GMPS that meet all the following criteria:

1. The implementation of multiple GMPS must be clearly understood by the Department to be in its best interest.
2. The segment of work proposed for construction under a separate GMP shall have been cleared by the Department's Environmental, Right-of-Way and Utility Sections in advance of the start of construction. Additionally, work constructed under a GMP that does not cover the entire project shall not affect adjacent areas that do not have all required clearances.
3. The final product of construction under each GMP shall be a stand-alone segment. For example, if a project includes construction of multiple traffic interchanges (TIs), a proposal for a separate GMP to construct one of the TIs that would be usable to the traveling public upon completion of construction would be a stand-alone segment and may be considered for construction under a separate GMP.

4. Use of more than one GMP on the project must be demonstrated to save time, reduce inconvenience to the travelling public, or reduce construction costs.

5. If work on the project is done under multiple GMPs, each GMP will be a separate construction contract between the Department and the CMAR Contractor. Execution of a construction contract for one GMP does not obligate the Department to have the CMAR Contractor construct any subsequent part of the project.

The Department will not approve a GMP for a portion of the work until the Department has determined that the CMAR Contractor can construct the entire project within the project budget.

4.11 GMP PROPOSAL REVIEW AND APPROVAL

The CMAR Contractor shall meet with the Project Manager and Design Consultant to review any GMP Proposal and the written statement of its basis. In the event the Project Manager or Design Consultant discovers inconsistencies or inaccuracies in the information presented, the CMAR Contractor shall make adjustments as necessary to the GMP Proposal, its basis or both.

Upon receipt of any GMP Proposal from the CMAR Contractor, the Department may submit the same documents that were used by the CMAR Contractor in developing the GMP to an independent third party, the Design Consultant and/or ADOT Construction Group for review and verification.

If the GMP Proposal is greater than the Department's estimate, the Department may require the CMAR Contractor to reconfirm its GMP Proposal. The CMAR Contractor may be requested to, or at its own discretion, submit a revised GMP Proposal for consideration by the Department. (This process is addressed in Section 4.6, Cost Model.)

If agreement is not reached the Department may terminate this Contract and elect to not enter into a separate contract with the CMAR Contractor for the Construction Phase.

If the Department opts to terminate the contract and bid the project under its normal bid process, the CMAR Contractor will not be allowed to submit a bid.

If the Department elects to terminate the Preconstruction Services contract, or not enter into a Construction contract, or not enter into subsequent GMPs in the event that multiple GMPs are undertaken, the CMAR Contractor has no claim against the Department.

If agreement is reached on a GMP, the GMP is forwarded to the Transportation Board for issuance of a Notice of Award.

NOTE: If the project has multiple GMPs, each GMP must be forwarded to the Transportation Board and separate Notice of Awards are issued for each GMP.

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SECTION 5 CONSTRUCTION ADMINISTRATION

5.1 CONSTRUCTION PHASE

During the Construction Phase of the project, the goal of the Department, the Design Consultant, and the CMAR Contractor is to construct the project in accordance with the construction documents. The Construction Phase will begin when all the following have occurred:

1. The CMAR Contractor and the Department agree on a Guaranteed Maximum Price (GMP) for the entire project, or the first of multiple GMPs for a portion of the construction work, and related matters;
2. The CMAR Contractor and the Department execute a CMAR Construction Contract and all attachments; and
3. The Department issues a written Notice of Award with the Construction Work.

The Design Phase and the Construction Phase are not mutually exclusive in timing. The Construction Phase may begin before all activities of the Preconstruction Services Phase are complete. Whether or not the Construction Phase begins prior to design completion, the CMAR Contractor will remain obligated to complete the Preconstruction Services Contract.

Administering a CMAR project is similar to a design-bid-build project. The Sr. RE/RE and his staff should review the contract for specific requirements.

5.2 SUPPLEMENTAL AGREEMENTS

In considering any request for additional compensation and/or an extension of time as a result of a contract modification, the Sr. RE/RE will consider the fact that this project has been developed using the CMAR project delivery process. As part of this process, the CMAR has had the opportunity to review the contract documents throughout the Preconstruction Phase and to verify the accuracy and completeness of the plans, specifications, and quantities included in the GMP Record Documentation. If the reasons for the requested modification to the contract could have reasonably been foreseen given the CMAR Contractor's participation in the Preconstruction Phase, the CMAR Contractor will not be entitled to any compensation and/or an extension of time. If in the opinion of the Sr. RE/RE the reason for modifications could not be foreseen and not provided for with an allowance, the PM's notification is required prior to executing a Supplemental Agreement granting additional compensation and/or time. The Sr. RE/RE must follow the process for approval limits and time. The approval of the Assistant State Engineer for Construction is required.

5.3 VALUE ENGINEERING PROPOSALS (VEP)

In determining whether to entertain a VEP that will result in a sharing of cost savings between the CMAR Contractor and the Department, the Sr. RE/RE will consider the fact that the CMAR Contractor participated in the design effort during the Preconstruction Phase. The CMAR Contractor may not share in any cost savings where the Value Engineering Proposal could have reasonably been made by the CMAR Contractor during the Preconstruction Phase.

Therefore, an additional condition required in the CMAR Contractor's proposal is a satisfactory explanation why the VEP was not made during the Preconstruction Phase. The PM and Value Analysis Manager must concur with the CMAR Contractor's reasoning.

5.4 MAINTENANCE AND PROTECTION OF TRAFFIC

The CMAR Contractor has the option of choosing one of two methods for payment of these costs.

The first method would identify each traffic control device, its unit price, quantity and extended amount. The GMP would set out a total amount. Any quantities that are less than estimated would result in monies that ADOT would retain. Money cannot be moved between identified pay items.

The second method would identify each traffic control device and its unit price but not specify the quantity. The GMP would set out a total lump sum amount. This method would allow the Contractor to claim the quantity documented for each traffic control device up to the GMP lump sum amount. This method provides more flexibility for the contractor. Again, if the payment for quantities used is less than the GMP, those monies are retained by ADOT.

5.5 MEASUREMENT AND PAYMENT

Standard pay items are established in the GMP similar to the conventional Design-Bid-Build projects. However, measurement and payment to the contractor on each item may not exceed the GMP.

Exceptions:

1. Open Allowance items.
2. If the CMAR Contractor determines that the actual quantity of any individual pay item is likely to exceed the quantity in the GMP. The CMAR Contractor discusses their options in reconciling the increase with the Department to establish whether or not it could not have been reasonably foreseen during project development / design. The

Department will continue to measure and pay the item up to ten percent above the GMP quantity. In the event that the quantity exceeds the GMP quantity, and the CMAR Contractor and the Department have not reconciled the increase, the CMAR Contractor has 60 days to justify the increase. Lack of justification will result in the Department rescinding the additional payment.

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APPENDIX A. Arizona Revised Statute 28-7361

28-7361. Definitions

In this article, unless the context otherwise requires:

1. "Architect services" means those professional architect services that are within the scope of architectural practice as provided in title 32, chapter 1.
2. "Construction-manager-at-risk" means a project delivery method in which:
 - (a) There is a contract for construction services that is separate from the contract for design services, except that instead of a single contract for construction services, the department may elect separate contracts for preconstruction services during the design phase, for construction during the construction phase and for any other construction services.
 - (b) Design services are performed under a separate design services contract, except that as to bridges and other transportation facilities the department may perform with its own employees or force account preliminary design and either:
 - (i) In the case of bridges only, all design services up to final design.
 - (ii) In the case of other transportation facilities, up to twenty per cent of the design work.
 - (c) The contract for construction services may be entered into at the same time as the design services are commenced or at a later time.
 - (d) Design and construction of the project may be either:
 - (i) Sequential with the entire design complete before construction commences.
 - (ii) Concurrent with the design produced in two or more phases and construction of some phases commencing before the entire design is complete.
 - (e) Finance services, maintenance services, operations services, preconstruction services and other related services may be included.
3. "Construction services" means either of the following for construction-manager-at-risk and job-order-contracting project delivery methods:
 - (a) Construction, excluding services, through the construction-manager-at-risk or job-order-contracting project delivery methods.
 - (b) A combination of construction and, as elected by the department, one or more related services, such as finance services, maintenance services, operations services, design services and preconstruction services, as those services are authorized in the definition of construction-manager-at-risk or job-order-contracting.
4. "Contract" means all types of department agreements, regardless of what they are called, for procurements pursuant to this article.
5. "Contractor" means any person who has a contract with the department.
6. "Design-build" means the process of entering into and managing a contract between the department and another party in which the other party agrees to both design and build a highway, a structure, a facility or other items specified in the contract.
7. "Design-builder" means any individual, partnership, joint venture, corporation or other legal entity that is appropriately licensed in this state and that furnishes the necessary design services, in addition to construction of the work, whether by itself or through subcontracts, including subcontracts for architectural and engineering services.
8. "Design services" means architect services, engineer services or landscape architect services.
9. "Emergency" means an immediate threat to public health, welfare or safety caused by flood, earthquake, hurricane, tornado, explosion, fire or other catastrophe such that compliance with normal bidding procedures for repair or reconstruction of transportation facilities would be impracticable or contrary to the public interest.
10. "Engineer services" means those professional engineer services that are within the scope of engineering practice as provided in title 32, chapter 1.
11. "Finance services" means financing for a construction services project.
12. "Job-order-contracting" means a project delivery method in which:
 - (a) The contract is for indefinite quantities of construction and, at the election of the department, may or may not include a guaranteed minimum amount of work.
 - (b) The construction to be performed is specified in job orders issued during the contract.

(c) Finance services, maintenance services, operations services, preconstruction services, design services and other related services may be included.

13. "Landscape architect services" means those professional landscape architect services that are within the scope of landscape architectural practice as provided in title 32, chapter 1.

14. "Maintenance services" means routine maintenance, repair and replacement of existing facilities, structures, buildings or real property.

15. "Operations services" means routine operation of existing facilities, structures, buildings or real property.

16. "Person" means any corporation, business, individual, union, committee, club, other organization or group of individuals.

17. "Preconstruction services" means services and other activities during the design phase.

18. "Specific single project" means a project that is constructed at a single location, at a common location or for a common purpose.

19. "Subcontractor" means a person who contracts to perform work or render service to a contractor or to another subcontractor as a part of a contract with the department.

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APPENDIX B. Arizona Revised Statute 28-7366

28-7366. Construction-manager-at-risk construction services and job-order-contracting construction services

A. The department may procure the following services pursuant to this section:

1. Construction-manager-at-risk construction services.
2. Job-order-contracting construction services.

B. The department shall provide notice of each procurement of construction services prescribed in this section and shall award contracts on the basis of demonstrated competence and qualifications for the type of construction services pursuant to the procedures prescribed in this section.

C. In the procurement of construction services pursuant to this section:

1. The department shall issue a request for qualifications for each contract and publish notice of the request for qualifications in the same manner as provided in section 28-6923. The request for qualifications shall:

(a) Include the number of persons or firms to be included on the final list. At least three but not more than five persons or firms shall be on the final list.

(b) State the criteria to be used by the selection team to select the person or firm to perform the construction services. The request for qualifications shall also state in a manner determined by the department the relative weight of the selection criteria.

(c) If the department will hold interviews as part of the selection process, state that interviews shall be held and the number of persons or firms to be interviewed, which shall be at least the number of persons or firms to be included in the final list but not more than the number of persons or firms to be included in the final list plus two.

2. For each request for qualifications, the department shall initiate a selection team pursuant to section 28-7365, subsection B. A person who is a member of a selection team shall not be a contractor under the contract or provide construction, construction services, materials or services under the contract. The selection team shall:

(a) Evaluate the statements of qualifications and performance data that are submitted in response to the department's request for qualifications.

(b) If determined by the department and included by the department in the request for qualifications, conduct interviews with the number of persons or firms to be interviewed as stated in the request for qualifications regarding the contract and the relative methods of approach for furnishing the required construction services.

(c) After any interviews or if interviews are not held, in order of preference, based on the criteria and the weighting of criteria established and published by the department and included in the request for qualifications, select a final list for the contract of persons or firms the selection team deems to be the most qualified to provide the construction services and, in the case of a contract that will be negotiated under subsection E of this section, rank the persons or firms on the final list in order of preference. The selection team shall base the selection of the final list and the order of preference on demonstrated competence and qualifications only. The number of persons or firms on the final list shall be the number of persons or firms specified in the request for qualifications, except that:

(i) If a smaller number of responsive and responsible persons or firms respond to the solicitation, the department may have the selection team proceed with the selection process, including interviews and the final list, with the remaining persons or firms if at least two persons or firms remain or the department may readvertise pursuant to this subsection as the department deems necessary or appropriate.

(ii) If only one responsive and responsible person or firm responds to a solicitation for a contract to be negotiated pursuant to subsection E of this section, the department may proceed with only one person or firm in the selection process and may award the contract to a single person or firm if the department determines in writing that the fee negotiated pursuant to subsection E of this section is fair and reasonable and that either other prospective persons or firms had reasonable opportunity to respond or there is not adequate time for a resolicitation.

(iii) If a person or firm on the final list withdraws or is removed from the selection process and the selection team determines that it is in the best interest of the department, the selection team

may replace that person or firm with the person or firm that submitted qualifications and that is selected by the selection team as the next most qualified.

(d) Base the selection of the final list and order of preference on the final list on demonstrated competence and qualifications only.

3. The department and the selection team shall not request or consider fees, price, man-hours or any other cost information at any point in the selection process under this subsection or subsection D of this section, including the selection of the persons or firms to be interviewed, the selection of the persons or firms to be on the final list, in determining the order of preference of persons or firms on the final list or for any other purpose in the selection process.

4. For construction-manager-at-risk construction services, the contract under a request for qualifications solicitation is limited to a specific single project.

D. The department shall award a contract for construction services to one of the persons or firms on the final list prepared pursuant to subsection C of this section as provided in subsection E or F of this section, except that, if fewer than the number of persons or firms on the final list respond to the request for proposals pursuant to subsection F of this section but at least two persons or firms on the final list submit responsive proposals, or if one or more of the persons or firms on the final list drop out of the selection process pursuant to subsection E or F of this section:

1. If there are three or more remaining persons or firms, the department shall proceed with the selection process.

2. If there are only two remaining persons or firms, as the department deems necessary and appropriate, the department may proceed with the selection process with the two persons or firms or may terminate the selection process and may readvertise pursuant to subsection C of this section.

3. If there is only one remaining person or firm, the department may award the contract to a single person or firm pursuant to subsection E of this section if the department determines in writing that the fee negotiated pursuant to subsection E of this section is fair and reasonable and that either other prospective persons or firms had reasonable opportunity to respond or there is not adequate time for a resolicitation.

E. For the single contract included in the request for qualifications, the department shall enter into negotiations for the contract with the highest qualified person or firm on the final list for the construction services. The negotiations shall include consideration of compensation and other contract terms that the department determines to be fair and reasonable to the department. In making this decision, the department shall take into account the estimated value, the scope, the complexity and the nature of the construction services to be rendered. If the department is not able to negotiate a satisfactory contract with the highest qualified person or firm on the final list at compensation and on other contract terms the department determines to be fair and reasonable, the department shall formally terminate negotiations with that person or firm. The department may undertake negotiations with the next most qualified person or firm on the final list in sequence until an agreement is reached or a determination is made to reject all persons or firms on the final list. If a contract for construction services is entered into pursuant to this subsection:

1. If the contract is for construction-manager-at-risk construction services and includes preconstruction services by the contractor, the department shall enter into a written contract with the contractor for preconstruction services under which the department shall pay the contractor a fee for preconstruction services in an amount agreed by the department and the contractor, and the department shall not request or obtain a fixed price or a guaranteed maximum price for the construction from the contractor or enter into a construction contract with the contractor until after the department has entered into the written contract for preconstruction services and a preconstruction services fee.

2. Construction shall not commence until the department and contractor agree in writing on either a fixed price that the department will pay for the construction to be commenced or a guaranteed maximum price for the construction to be commenced. The construction to be commenced may be the entire project or may be one or more phased parts of the project.

F. As an alternative to subsection E of this section, the department may award job-order-contracting construction services as follows:

1. The department shall use the selection team that is appointed for the request for qualifications pursuant to subsection C of this section.

2. The department shall issue a request for proposals to the persons or firms on the final list that is developed pursuant to subsection C of this section.

3. For job-order-contracting construction services, the request for proposals shall include:

(a) The department's project schedule and project final design and construction budget or life cycle budget for a procurement that includes maintenance services or operations services.

(b) A statement that the contract will be awarded to the offeror whose proposal receives the highest number of points under a scoring method.

(c) A description of the scoring method, including a list of the factors in the scoring method and the number of points allocated to each factor.

(d) A requirement that each offeror separately submit a technical proposal and a price proposal and that the offeror's entire proposal be responsive to the requirements in the request for proposals.

(e) A statement that in applying the scoring method the selection team will separately evaluate the technical proposal and the price proposal and will evaluate and score the technical proposal before opening the price proposal.

(f) If the department conducts discussions pursuant to paragraph 5 of this subsection, a statement that discussions will be held and a requirement that each offeror submit a preliminary technical proposal before the discussions are held.

4. If the department determines to conduct discussions pursuant to paragraph 5 of this subsection, each offeror shall submit a preliminary technical proposal to the department before those discussions are held.

5. If determined by the department and included by the department in the request for proposals, the selection team shall conduct discussions with all offerors that submit preliminary technical proposals. Discussions shall be for the purpose of clarification to ensure full understanding of, and responsiveness to, the solicitation requirements. The department shall accord fair treatment to offerors with respect to any opportunity for discussion and for clarification by the owner. Revision of preliminary technical proposals shall be permitted after submission of preliminary technical proposals and before award for the purpose of obtaining the best and final proposals. In conducting any discussions, information derived from proposals submitted by competing offerors shall not be disclosed to other competing offerors.

6. After completion of any discussions pursuant to paragraph 5 of this subsection or if no discussions are held, each offeror shall separately submit the offeror's final technical proposal and the offeror's price proposal.

7. Before opening any price proposal, the selection team shall open the final technical proposals, evaluate the final technical proposals and score the final technical proposals using the scoring method in the request for proposals. No other factors or criteria may be used in the evaluation and scoring.

8. After completion of the evaluation and scoring of all final technical proposals, the selection team shall open the price proposals, evaluate the price proposals, score the price proposals and complete the scoring of the entire proposals using the scoring method in the request for proposals. No other factors or criteria may be used in the evaluation and scoring.

9. The department shall award the contract to the responsive and responsible offeror whose proposal receives the highest score under the method of scoring in the request for proposals. No other factors or criteria may be used in the evaluation.

10. The contract file shall contain the basis on which the award is made.

G. Until an award and execution of a contract by the department, only the name of each person or firm on the final list developed pursuant to subsection C of this section may be made available to the public. All other information received by the department in response to the request for qualifications or contained in the proposals is confidential in order to avoid disclosure of the contents that may be prejudicial to competing offerors during the selection process. The department shall open the proposals to public inspection after the contract is awarded and the department has executed the contract. To the extent that the offeror designates and the department concurs, trade secrets and other proprietary data contained in a proposal remain confidential.

H. The department may cancel a request for qualifications or a request for proposals or reject in whole or in part any or all proposals as specified in the solicitation if it is in the best interest of the

department. The department shall make the reasons for cancellation or rejection part of the contract file.

I. Notwithstanding any other law:

1. The contractor for job-order-contracting construction services is not required to be registered to perform design services pursuant to title 32, chapter 1 if the person or firm actually performing the design services on behalf of the contractor is appropriately registered.

2. The contractor for construction-manager-at-risk construction services or job-order-contracting construction services shall be licensed to perform construction pursuant to title 32, chapter 10.

3. For each project under a construction-manager-at-risk construction services contract, the licensed contractor performing the contract shall perform, with the contractor's own organization, construction work that amounts to not less than forty per cent of the total contract price for construction. For the purposes of this paragraph, the total contract price for construction does not include the cost of preconstruction services, design services or any other related services or the cost to procure any right-of-way or other cost of condemnation.

4. Each procurement and each request for qualifications pursuant to this section is limited to a single contract for construction-manager-at-risk construction services or job-order-contracting construction services. This restriction does not affect or impair the department's ability to procure multiple contracts for job-order-contracting construction services in a single procurement using a single request for qualifications pursuant to section 28-7367.

5. The department shall not procure any construction services using the construction-manager-at-risk construction services or job-order-contracting construction services method of project delivery after December 31, 2025. For the purposes of this paragraph, the department procures construction services when the department solicits the contract for construction services. If the department solicits a contract for construction services on or before December 31, 2025, the contract may be executed and construction services under the contract may be rendered in whole or in part after December 31, 2025.

J. For job-order-contracting construction services only:

1. The maximum dollar amount of an individual job order shall be one million dollars or such higher or lower amount prescribed by the department. Requirements shall not be artificially divided or fragmented in order to constitute a job order that satisfies this requirement.

2. If the contractor subcontracts or intends to subcontract any of the work under a job order and if the job-order-construction services contract includes descriptions of standard individual tasks, standard unit prices for standard individual tasks and pricing of job orders based on the number of units of standard individual tasks in the job order:

(a) The contractor has a duty to deliver promptly to each subcontractor invited to bid a coefficient to the contractor to do all or part of the work under one or more job orders:

(i) A copy of the descriptions of all standard individual tasks on which the subcontractor is invited to bid.

(ii) A copy of the standard unit prices for the individual tasks on which the subcontractor is invited to bid.

(b) If not previously delivered to the subcontractor, the contractor has a duty to deliver promptly the following to each subcontractor invited to or that has agreed to do any of the work included in any job order:

(i) A copy of the description of each standard individual task that is included in the job order and that the subcontractor is invited to perform.

(ii) The number of units of each standard individual task that is included in the job order and that the subcontractor is invited to perform.

(iii) The standard unit price for each standard individual task that is included in the job order and that the subcontractor is invited to perform.

K. Notwithstanding anything to the contrary in this title, the department shall not enter into a contract as contractor to provide construction-manager-at-risk construction services or job-order-contracting construction services.

L. Each contract for construction-manager-at-risk construction services or job-order-contracting construction services shall contain a description of each separate location at which the construction will be performed and a requirement that the contractor include in each of the

contractor subcontracts the same location description. The contractor shall include in each subcontract a description of each separate location at which the construction will be performed.

M. Except as otherwise provided in this section, sections 28-6923 and 28-6924, relating to bid, performance and payment bonds, change orders, progress payments, contract retention, definitions and authority to award contracts, apply to department construction-manager-at-risk and job-order-contracting contracts for transportation facilities pursuant to this article.

DRAFT

	TOTALS	GMP w/o ALLOWANCES	ALLOWANCES
Direct Construction Costs (Labor, Materials, Equipment)		\$18,000,000.00	
Allowances - Open (Unsuitable Materials & Lead Removal)			\$1,000,000.00
Allowances - Fixed (Geotextile)			\$100,000.00
Allowances - Provisional (Emerald City Wrought Iron Fence JPA)			\$250,000.00
Allowances Total	\$1,350,000.00		\$1,350,000.00
Cost of Subcontractor Performed Work		\$10,000,000.00	\$1,000,000.00
Direct Construction Costs	\$18,000,000.00	\$18,000,000.00	\$350,000.00
Construction Fee on CMAR Performed Work @ 6.00%		6.00%	6.00%
Construction Fee on Subcontractor Performed Work @ 3.00%		3.00%	3.00%
Construction Fee (Composite)	\$910,500.00	\$840,000.00	\$70,500.00
Field Overhead @ 5.00%		5.00%	5.00%
Home Office Overhead @ 2.50%		2.50%	2.50%
Total Overhead	\$1,451,250.00	\$1,350,000.00	\$101,250.00
Gross Receipts Tax			
Emerald City Tax Rate 10% x .65 = 0.065		\$1,170,000.00	\$87,750.00
GUARANTEED MAXIMUM PRICE	\$22,969,500.00		
NOTE: All data shown is fictitious, for illustration purposes only			Revised 8/30/10

APPENDIX D. Statements of Qualifications Format

**STATEMENT OF QUALIFICATIONS FORMAT
For
Construction Manager at Risk**

Provided for your use is the format for submission of a Statement of Qualifications (SOQ).

1. One original and seven copies of the Statement of Qualifications shall be submitted to ADOT.
2. There is a total page limit of 20 pages. The proposal may include clear report covers, covers, dividers, table of contents, tables, figures, maps, etc., but these will be counted in the 20 page limit. A page shall be 8 1/2 X 11 inches, blank or printed on one side only. Fold out pages are not allowable. Other documents are also required that are not included in the page count, as detailed below.
3. The SOQ shall have following format:

	MAXIMUM POINTS	
FRONT COVER (Optional, but if included will count as a page)		
INTRODUCTORY LETTER (Included in page count)		
PROPOSAL FORM (Not included in page count)		
SUPPORTING DOCUMENTATION (Included in page count) Must include information to support the following criteria:		
1. Qualifications of Firm	15	
2. Experience of Key Personnel	20	
Resumes of Key Personnel (not included in page count)		
3. Project Understanding	25	
4. Approach	25	
5. Involvement of Subcontractors	15	
6. Safety Program	5	
7. EMR *	5	
8. Miscellaneous	5	
BACK COVER (Optional, but if included will count as a page)		
	<u>SOQ POINTS</u>	<u>TOTAL PAGES</u>
	115	20
	<u>INTERVIEW PTS</u>	
Oral Interviews	50	
	<u>TOTAL POINTS</u>	
	165	

* OSHA Form 300A and Insurance EMR certification are not included in the page count.

4. Submissions failing to follow the instructions outlined above will be rejected and the contractor notified in writing of the reason for rejection.

The name of the CMAR firms selected to be on the Final List will be available after they are selected. The Statement of Qualifications submitted by those CMAR firms on the Final List may be reviewed only after execution of the contract. Copying will not be permitted.

INTRODUCTORY LETTER (Included in page count)

The introductory letter shall be addressed to:
Arizona Department of Transportation
Contracts and Specifications Section
1651 West Jackson, MD 121F
Phoenix, AZ 85007-3212

The introductory letter shall contain the following items:

- An expression of the firm's interest in being selected for the project.
- A statement confirming that the firm is prequalified with ADOT. Individual contractors, as well as joint ventures and limited liability partnerships or corporations, shall be prequalified.
- A statement confirming the commitment of the key personnel identified in the submittal to the extent necessary to meet ADOT's quality and schedule expectations.
- A statement detailing the legal structure of the firm's, or consortium of firm's, project team.

PROPOSAL FORM (Not included in page count)

Complete the form, which is provided in the Proposal Package for Prequalified Firms.

SUPPORTING DOCUMENTATION

The information that shall be included in the statement of qualifications is outlined here.

1. Qualifications of Firm (15 Points) (Included in page count)

- a. Identify at least three comparable projects in which the firm served as either a CMAR, an Agency Construction Manager during design and/or construction, or a General Contractor.

For each project identified, provide the following:

- 1) Description of the project. (If an ADOT project, include the TRACS number.)
- 2) Role of the firm (specify whether CMAR, Agency Construction Manager or General Contractor. If CMAR or General Contractor, identify the percent of work self-performed. Also specify services provided during design, i.e. cost estimating, scheduling, value engineering, etc.)
- 3) Initial construction cost and final construction cost.
- 4) Original contract construction duration and actual duration.
- 5) Project owner, contact name, telephone number and address.
- 6) Design Consultant contact name, telephone number and address if the project was a CMAR project.
- 7) Reference information (two current names with telephone numbers per project)

- b. Describe in detail your firm's method of allocating management, supervision, labor, material and equipment resources to projects.
- c. Describe how your firm will interface with the local governments, utility companies, and other stakeholders in this project.
- d. Describe your firm's past experience working with the local governments, the affected utility companies and other stakeholders on this project.
- e. Describe the methods your firm has in place for addressing project issues, contract modifications, and schedule recovery to maintain the completion date.
- f. List all relevant State DOT projects where the firm provided CMAR, agency construction management, general or subcontractor construction services in the last five years. (If an ADOT project, include the TRACS number.) Indicate what State DOT the project was for, whether projects are completed or ongoing, and if ongoing give approximate percent complete.
- g. Describe your firm's approach to Constructability Reviews and Value Engineering. Briefly describe examples of Constructability Reviews and Value Engineering your firm has provided on recent projects.

2. Experience of Key Personnel to be assigned to this Project (20 Points) (Included in page count)

- a. List all key personnel to be assigned to this project and how, if ever, the key personnel have previously worked together as a team. List at least two comparable projects in which the key personnel have played a primary role. If a project is selected to demonstrate the experience of a key person and that same project is selected to show the work history of the firm for Question 1, then provide just the project name and the role of the key person. For other projects provide the following:
 - 1) Description of project. (If an ADOT project, include the TRACS number.)
 - 2) Role of the person.
 - 3) Initial construction cost and final construction cost.
 - 4) Original contract construction duration and actual duration.
 - 5) Project owner, contact name, telephone number and address.
 - 6) Design Consultant contact name, telephone number and address if the project was a CMAR project.
 - 7) Reference information (two current names with telephone numbers per project)
- b. Explain why you have assembled your proposed team and how it will handle the major issues, components and challenges of this project.
- c. Submit individual resumes for each key person. The resumes will not be included in the page count.

3. Understanding of the project (25 Points) (Included in page count)

- a. Discuss the major issues your team has identified on this project and how it intends to address those issues.
- b. Discuss your understanding of the construction sequencing and traffic control required for this project. Discuss how they will impact the traveling public, local businesses and residents and describe how you will minimize those impacts and traffic delays.

- 4. Approach to performing the required services (25 Points)** (Included in page count)
- Describe your firm's project management approach and team organization both during design and construction services. Describe processes, methods and systems used for planning, scheduling, estimating, and managing construction.
 - Describe your team's approach to coordinating with the Department, the designer, subcontractors and suppliers regarding key critical issues and how the team will deal with them.
 - Describe your firm's approach to conformance with the Clean Water Act and the Clean Air Act. Discuss the means and methods the team will use to maintain compliance with the Clean Water Act and the Clean Air Act on this project.
 - Explain how your firm would manage construction quality control and subcontractors during the Construction Phase of the contract.
- 5. Involvement of Subcontractors (15 Points)** (Included in page count)
- Describe how your firm has used subcontractors on projects over the past five years.
 - Describe the role subcontractors will play on your team and what benefits will they provide to your team, the Department and the project.
 - Discuss the firm's utilization of Disadvantaged Business Enterprise (DBE) subcontractors.
- 6. Safety Program (5 Points)** (Included in page count)
- Describe the firm's overall approach to safety.
- 7. Experience Modifier Rate (EMR) (5 Points)**
- Clearly list your firm's EMR for each of the past five years, (if a joint venture, provide EMRs for each firm). List the type of work included in the EMR (Included in page count).
- Provide documentation for your firm's safety record on all construction projects for each of the past five years. Documentation should include a copy of your firm's *OSHA Form 300A Summary of Work Related Injuries and Illnesses* along with your insurance *Worker's Compensation Experience Modifier Rate (EMR)* certification. (Form 300A and the EMR certification will not be included in the page count)
- An EMR greater than 1.0 will result in zero points for this question.
- 8. Miscellaneous (5 Points)** (Included in page count)
- Identify any contract or subcontract held by the firm or officers of the firm, which has been terminated. Identify any claims or issues arising from a contract which resulted in litigation, or arbitration, or could not be resolved through the Department's Escalation Level/Issues Resolution Ladder. Briefly describe the circumstances and the outcomes.
 - List all ADOT projects where Liquidated Damages were assessed, and explain why they were assessed.

APPENDIX E. Sample Scoring Matrix

SAMPLE SCORING CALCULATION FOR ONE FIRM:

Criteria		Max Score	Selection Team Member 1	Selection Team Member 2	Selection Team Member 3	Selection Team Member 4	Selection Team Member 5	Selection Team Member 6	Selection Team Member 7
Qualifications of Firm	15.00		15	12	13	14	14	13	12
Experience of Key People	20.00		20	15	17	17	12	17	17
Project Understanding	45.00		45	37	38	41	20	39	41
Safety	10.00		10	6	8	9	7	8	7
Involvement of DBE's	10.00		10	8	8	10	5	8	6
Miscellaneous	20.00		20	16	19	17	13	18	17
Maximum Possible Score	120.00		120	94	103	108	71	103	100
Mean Score	99.86								
1.65 X Standard Deviation	24.83								
Mean Plus 1.65 Std Dev	124.69								
Mean Minus 1.65 Std Dev	75.03								
FINAL SOQ SCORE	104.67		120	94	103	108	OUT	103	100
Interview	25.00		25	21	12	25	20	20	25
Mean Interview Score	21.14								
1.65 X Standard Deviation	7.71								
Mean Plus 1.65 Std Dev	28.85								
Mean Minus 1.65 Std Dev	13.44								
FINAL INTERVIEW SCORE	22.67		25	21	OUT	25	20	20	25
FINAL COMBINED SCORE	127.33								