

**ARIZONA DEPARTMENT OF TRANSPORTATION  
INTERMODAL TRANSPORTATION DIVISION**



**DESIGN-BUILD PROCUREMENT AND  
ADMINISTRATION GUIDE**

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Phoenix, AZ 85007  
(602) 712-7323**

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# ARIZONA DEPARTMENT OF TRANSPORTATION DESIGN-BUILD PROCUREMENT AND ADMINISTRATION GUIDE

## 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 with a single contract. The process should clearly communicate **all** known information to the Design-Builder regarding site conditions, environmental issues, regulatory concerns, community and political interests, right-of-way constraints, utility conditions, and other design and construction issues to keep the risk transfer to the Design-Builder to a minimum, thereby producing the most economical project. The purpose of the process is to provide a substantial fiscal benefit or accelerated delivery schedule for transportation projects.

### 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 D-B process

### 1.3 AUTHORITY

Arizona Revised Statutes 28-6713; -6923; -7361; -7363; -7364; -7365

### 1.4 DEFINITIONS

For purposes of this policy, the following definitions apply.

**Design-Bid-Build:** the traditional 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 hires a construction contractor to build the project.

**Design-Build (D-B):** the process of entering into a contract between the Department and a Design-Builder in which the Design-Builder agrees to both design and build a highway, structure, facility or other items specified in the contract.

**Design-Builder:** any individual, partnership, joint venture, corporation, or other legal entity that is appropriately licensed in Arizona and that furnishes the necessary design services in addition to constructing the work, whether by itself or through subcontracts including subcontracts for architectural and engineering services.

**Design-Build Package:** is the document published by the Department that contains the Public Advertisement (Notice to Bidders), the Request for Qualifications, the Request for Proposals, General Requirements, Design Scope of Work, Technical Specifications, Price Proposal Documents including the Bid Schedule, and any forms, drawings and other supporting documents necessary to guide the Proposers in preparation and submittal of a proposal for a Design-Build project.

**General Consultant (GC):** a firm or corporation properly registered with the Arizona Board of Technical Registration that has been hired to assist the Department in the successful implementation of a Design-Build project. The GC may provide a wide range of services including, but not limited to, assistance with project advertisement, technical assistance, technical coordination, issue identification and resolution, design oversight review and construction administration.

**Price Proposal:** contains the Proposer's price for performing the work contained in the Technical Proposal and specified in the Design-Build Package. The Price Proposal is sealed and completed only on forms included in the D-B Package. The Proposer for an A+B type of Price Proposal also quotes a specified project time.

**Project:** the project to be designed and constructed as described in the public announcement.

**Proposer:** a Design-Build firm or joint venture submitting a statement of qualifications or a Technical Proposal for a Design-Build project.

**Request for Qualifications:** a part of the D-B Package that contains the desired minimum qualifications of the Design-Builder, a scope of work statement, the project requirements, and the selection criteria (understanding and approach, Team members, the firm's capabilities, and quality and safety programs) for compiling a short-list including the number of firms to be short-listed.

**Request for Proposals:** a part of the D-B Package that contains a detailed scope of work including design concepts, technical requirements, and specifications; the time allowed for design and construction; the Department's estimated cost of the project; the deadline for submitting the proposal; the required format for the proposal; the selection criteria; and a copy of the contract the Design-Builder is expected to sign.

**Statement of Qualifications:** the Design-Builder's response to the Request for Qualifications. It contains information about the Design-Builder's capabilities, Team members, previous experience, and understanding and approach to the project.

**Technical Proposal:** the Design-Builder's response to the Request for Proposals. This document contains detailed descriptions and exposé of the Design-Builder's approach to designing, constructing, and managing the project in accordance with the Design-Build Package. The Design-Builder's conceptual design is included as well as a proposed construction sequence and schedule. Technical Proposals are usually hundreds of pages in length and contain tables, charts, drawings, plots, and sketches.

## **1.5 BACKGROUND**

D-B combines into a single contract the design, and construction, construction engineering, inspection requirements and testing requirements for a project, all in accordance with standard Arizona Department of Transportation (ADOT) design criteria, construction specifications, and contract administration practices. These projects allow the contractor to participate in design in an effort to reduce costs and expedite construction.

In 1996, the Arizona Legislature authorized the Department to use the D-B process on two pilot projects. In 1998, the pilot program was expanded to include three more projects.

In 2000, the Arizona State Legislature approved design-build as a permanent program until 2007. Highlights of the approved legislation included:

1. The limitation of two Design-Build contracts per year at a minimum cost of \$40 million each.
2. The ADOT Director must submit an annual report to the Governor and the Legislature regarding the benefits associated with the Design-Build program.
3. The score for each Technical Proposal must be publicly announced.
4. At least three but no more than five firms are required to be short-listed from the request for qualifications.
5. The Department must pay a stipend of 0.2 percent to each short-listed firm of the Department's estimated cost for design and construction cost of the project.

**NOTE: Subsequent legislation has deleted the requirement for annual reporting, the limitation on minimum cost, and the limit on number of projects. The program now has an expiration date of 2025.**

## SECTION 2

## PROJECT ADMINISTRATION

### 2.1 PROJECT SELECTION

ARS 28-7364 defines the criteria as the minimum basis that the Department must use for determining when to use the design- build method of project delivery as:

1. The extent to which the Department can adequately define the requirements.
2. The time constraints for delivery of the project.
3. The capability and experience of potential teams with the Design-Build method of project delivery.
4. The suitability of the project for use of the Design-Build method of project delivery in the areas of time, schedule, and quality.
5. The capability of the Department to manage the project, including the employment of experienced personnel, including consultants.
6. The capability of the Department to oversee the project with persons who are familiar with the Design-Build project delivery.
7. Other criteria the Department deems relevant.

Other criteria should include:

**Funding:** the project must be programmed into ADOT's 5-year Highway Construction Program or the long range plan.

**Available Design-Builders:** there should be a sufficient pool of available engineering design and highway/heavy construction firms capable of handling a project of this size. An evaluation should be performed to ensure at least three experienced and qualified D-B Teams can be short-listed.

**Department Capabilities:** the Department's Project Manager (PM) and Resident Engineer (RE) should seek out volunteers interested in the process and develop personnel to staff D-B projects through orientation training.

**Suitability of the Project:** a good candidate for D-B must have minimal right-of-way impacts and minimal or readily resolvable utility relocations. Environmental documents don't need to be complete to advertise the RFP, but it is advisable.

**Right-of-Way Procurement:** right-of-way acquisitions shall remain the responsibility of ADOT. Since available right-of-way significantly affects the final design, all parcels should be in possession at the time of advertisement. If this is not feasible, then the date the parcels will be available must be specified in the D-B Package. It is permissible to specify right-of-way limits and require all design features to remain within the owner's right-of-way. The Design-Builder should also be allowed to obtain and secure any needed temporary construction easements with the assistance of the Department's Right-of-Way Section.

**Environmental Issues:** the preparation of all environmental documents and the obtaining of required

environmental and regulatory clearances shall be performed by ADOT. 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 D-B Package.

**Railroads:** review and approval for railroad facilities often times takes three to four years. However, if it is more advantageous to use D-B where a railroad is involved, by law, the railroad company must approve the use of the D-B method before the Department awards the D-B contract.

**Utilities:** the location of the project should not be congested with utilities to the extent that their removal and relocation would require an excessive utility coordination and cooperation effort on the part of the Design-Builder. If this is the case, consider packaging some or all of the utility relocation work as a separate project to lessen the impact to the schedule and inefficiencies to the Design-Builder.

D-B is most advantageous when there is a need for immediate transportation improvements—when safety, large peak traffic volumes, or chronic congestion are a pressing concern, with a need for speed in both design and construction. (ADOT will consult the contracting industry and consulting engineer’s association in making selection of projects for D-B contracting.)

## **2.2 BUDGET**

When a section of roadway or transportation facility is being considered for Design-Build, adequate funding must have been previously identified and approved for the work. Funds must be established in the 5-year Highway Construction Program or long range plan before the advertisement and the selection process begins. Bonding may also be considered for Design-Build projects. The speed of Design-Build may require temporary bonding to compensate for the Design-Builder’s rapid earnings.

## **2.3 MANAGEMENT APPROVAL**

Before beginning the D-B Package, a written statement describing the reasons for using the Design-Build shall be submitted to the State Engineer for management approval.

## **2.4 ROLE OF THE DEPARTMENT’S PROJECT LEADERS (PM & RE)**

The PM in conjunction with the RE are the Department’s lead individuals. The PM will be responsible for coordinating the procurement of D-B services as well as overseeing the design of the project. The RE is the main point of contact for construction. The PM ensures that the development process specified in ADOT’s Project Development Process Manual is adhered to for a D-B project.

Construction Administration will be assigned to a RE by the District Engineer. The RE and PM must work closely as a Team with the Design-Builder to assure efficient, collaborative design oversight and construction administration.

If possible, the PM should be participating with the Predesign Program Management Section in the initial scoping of the project including the development of the design concept report (DCR). The PM should also be involved in the necessary environmental studies, permits, and assessments required for the project including reviewing environmental documents. The objective is to have a well-informed, involved PM who can accurately communicate the Department’s scoping, right-of-way, and environmental concerns when developing the D-B Package.

The PM must rely heavily on a multi-disciplined Team in order to: (a) determine the prequalification requirements of a Design-Builder, (b) develop the project scope and D-B Package, (c) evaluate the Statement of Qualifications and Technical Proposals and (d) oversee the design. The RE has an integral role to play in the development of the final contract documents (plans and special provisions).

The most important task of the PM during the development phase of the project is preparation of the D-B Package. The PM should be in a direct management role to ensure the D-B Package is prepared in accordance with the scoping and environmental documents and meets the needs of ADOT management and key project stakeholders. Once the D-B Package has been published and the project advertised the Project Manager should be involved in evaluation and selection of the Design-Builder. The PM will have design oversight responsibilities of ADOT technical staff and/or consultants.

## **2.5 ROLE OF TECHNICAL LEADERS AND MANAGERS**

Technical leaders and managers from the various design and technical groups must still continue to oversee the design process as done on a typical design-bid-build project. However, because of the accelerated design process and the combining of design with construction, new paradigms are needed for technical leaders involved in a D-B project. At any time the on-site project team cannot quickly solve an issue, the issue may be referred to ADOT technical leaders. ADOT technical leaders and/or staff shall be kept informed of potential issues so that they can quickly evaluate those that they may have to help resolve.

### **Shortened Design Process**

Technical leaders must realize that the design work progresses at a much faster and dynamic pace. Issues have to be resolved quickly and decisions must be expedited because most D-B projects are schedule-driven. The time constraints may require the technical leader to frequently prioritize their D-B project involvement over other projects.

### **Looking Beyond Design Policies and Standards**

A certain amount of enlightenment and synergy occurs among ADOT, the designer and constructor when they work closely side-by-side to solve problems. In the traditional role, where each group tends to work in isolation, many beliefs and practices are taken for granted and are rarely challenged. The enlightenment and synergy required on D-B projects causes team members to both question standards and look for cost-effective, innovative alternatives that meet the construction and functional needs of the project. Technical leaders are often questioned about ADOT design policies and standards. Rather than rigidly applying the standards, technical leaders are encouraged to look beyond the standard or policies to identify the underlying issues the standard or policy attempts to resolve. Once these issues have been identified, the technical leaders are in a better position to decide the merits of the D-B team's innovations and help develop solutions that meet everyone's interest and the project goals.

## **2.6 ROLE OF CONSTRUCTION GROUP**

The Construction Group manages ADOT's Design-Build procurement process. The Assistant State Engineer for Construction acts as the Design-Build process manager and is available as a resource to assist with questions regarding the process itself, the steps needed to evaluate the suitability of a project for D-B, and the procedures for selecting a Design-Builder.

The Construction Group will continue to gather information on D-B projects in order to improve this innovative program. As a result, expertise has been developed that can be of great benefit to the Department related to advertising, developing the D-B Package, and administering D-B projects.

## **2.7 CONTRACT PREPARATION**

Contract documents will be assembled and published by Contracts and Specifications (C&S) Section with close coordination with Engineering Consultant Section (ECS).

## **2.8 USE OF CONSULTING ENGINEERS**

**Refer to the following policy (MGT 02-3 Consultant Participation in ADOT Contracts):**



**Intermodal  
Transportation  
Division  
Policy**

March 21, 2002  
Effective Date

March 21, 2007  
Review Date

89-01 (5-1-92)  
and  
89-02 (5-1-92)  
Supersedes

Dick Wright,  
State Engineer

## MGT 02-3 CONSULTANT PARTICIPATION IN ADOT CONTRACTS

### Purpose

To clarify the involvement and participation of consultant or sub-consultant engineering firms in ADOT contracts.

### Background

This policy is a combination of ITD policies 89-01 "*Conflict of Interest Between Mutually-Owned Design and Construction Firms*", and 80-02 "*The Use of Design Sub-consultants During the Construction Phase*", and the division memo regarding "*Consultant Engineer Participation in Design/Build Contracts*" dated 3-11-99.

### Policy

It is ITD's policy to:

1. Avoid potential or perceived conflicts of interest and not compromise the integrity of the consultant or construction programs.
2. Allow a firm who has performed sub-consultant design-related services to perform construction-oriented services, providing the services are functionally different as determined by the State Engineer in conjunction with the Project Manager.
3. Disallow and not accept bids from contractors who have provided or participated in major design component(s) of the program. Major components are defined as those which represent, in aggregate, ten percent or more of the project construction cost estimate. This policy applies to any design and construction firms which are owned by the same corporation, parent company, or partnership.
4. It is ITD's policy that the consultant or sub-consultant not negotiate, contract, or make any agreement with the contractor, subcontractor, or any supplier, with regard to any of the work included in the project, or any service, equipment, or facilities to be used on the project.
5. Consultant engineering firms and sub-consultants working for ADOT on design and development activities of a project in total or in specific engineering disciplines cannot work for a contractor during construction of the project in the same discipline.
6. A consultant engineering firm and a contracting firm under the same corporate ownership cannot perform both design and construction work on the same project.

7. No contract or sub contract for the construction of any part of a project shall be awarded to a firm that designed more than 10 percent of the project (except with the written approval of the department) as prescribed in 3 above. This policy applies to firms, subsidiaries, affiliates, the parent company and sub consultants. Similar work performed in the following engineering disciplines and areas shall not occur in both the design development phase and construction phase of the contract. This applies to:
  - a. Surveying
  - b. Mapping
  - c. Environmental surveys and studies
  - d. Geotechnical and materials design
  - e. Roadway design
  - f. Bridge design
  - g. Drainage reports and studies
  - h. Utilities locators
  - i. Caisson investigation (Geotech firm)

#### **Policies Specific to Design/Build Projects**

1. When a project will be built with the Design/Build Process, and the decision to use the Design/Build Process was made after the Design Concept Report(s) and Environmental Documents were underway, the following applies:
  - a. Consultant and sub-consultant engineering firms working on Design Concept Report(s) and/or Environmental Documents may compete for general consultant contracts while working for ADOT.
  - b. Consultant and sub-consultant engineering firms working on Design Concept Report(s) and/or Environmental Documents may be part of the Design/Build Construction Team.
  - c. Consultant and sub-consultant engineering firms working as a general consultant on the Design/Build project to ADOT, may not be part of the Design/Build Construction Team.
2. When the project will be built with Design/Build Process, and the decision was made before the Design Concept Report and Environmental Documents were underway, the following applies:
  - a. Consultant and sub-consultant engineering firms working on Design Concept Report(s) and/or Environmental Documents or as a general consultant for ADOT, may not be part of the Design/Build Construction Team.

#### **Responsibilities**

Engineering Consultant Section will include the following as part of the contract:

1. A request that consultants, at the time of submitting stage IV design to Contracts and Specifications Section, include a certification letter stating they have or have not any known construction affiliates or that their sub-consultants have or have not any known construction affiliates. If a potential conflict of interest exists, resolution will be determined by the State Engineer or designee.

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2. If a waiver is requested, the consultant or sub-consultant will include a statement describing the nature of their design involvement so it can be determined if a conflict of interest exists. The consultant or sub-consultant sends the request for waiver to Engineering Consultants Section, who will forward a copy to Contracts and Specifications and Field Reports Section.
3. Field Reports Section will seek prior approval of the State Engineer or designee, before approving a subcontractor identified as an organizational affiliate.
4. Field Reports Section will review each contractor's request for a waiver to use a sub-contractor who participated in the design process. When a conflict of interest is determined, the contractor will be requested to substitute another sub-contractor.

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## **SECTION 3**

## **THE SELECTION PROCESS**

The process for securing D-B services must be clear, efficient, fair, and applied uniformly. The purpose is to: 1) Receive the best value using this procurement method; and 2) Build a project that meets the quality, schedule, budget expectations and other project goals and objectives of the Department. Under ARS 28-7365, a TWO-PHASE selection process must be used. The first phase involves requesting a Statement of Qualifications (SOQ) from all interested Proposers and developing a short-list of (three, but no more than five) Proposers from all the responsive submittals. The second phase involves requesting Technical and Price Proposals from the short-list of Proposers, and selecting a Design-Builder based on evaluation of each Technical Proposal and Price Proposal. This section describes each of the key steps in the selection process.

### **3.1 PREQUALIFICATION REQUIREMENTS**

The Department's standard prequalification requirements apply to each entity providing either professional engineering services or construction contracting as a member of a D-B team. Each entity must be prequalified with ECS or C&S before their team submits a Statement of Qualifications. Firms proposing as a joint venture shall submit their joint venture application a minimum of five days prior to the Technical Proposal due date.

### **3.2 SELECTION TEAM**

Prior to solicitation, the Director shall appoint a Selection Team of at least three persons. At least one-half of the Selection Team shall be engineers. An architect may be substituted for an engineer should it be deemed necessary by the Director due to project criteria. Both disciplines are required to be registered pursuant to ARS 32-121. The Selection Team members may be either Department employees or outside consultants. The Selection Team shall also include at least one person who is a senior management employee of a licensed contractor who is not involved in the project. Any architect or engineer who is serving on the Selection Team and who is not a Department employee shall not be otherwise involved in the project. The Department recognizes the advantages of maintaining continuity of Selection Team members. Therefore, efforts will be made to retain key personnel throughout the entire evaluation and selection process.

### **3.3 PUBLIC NOTICE (ADVERTISEMENT)**

The Department shall prepare documents for a Request for Qualifications (RFQ). In advertising for a Design-Builder in phase one, the Department will follow its standard advertisement process for acquiring professional services through ECS by means of an RFQ. In addition, a copy of the advertisement will be sent by C&S to all pre-qualified contractors.

The request for qualifications shall include all of the following:

1. The minimum qualifications of the Design-Builder.
2. A scope of work statement and schedule.
3. Documents defining the project requirements
4. The form of contract to be awarded.
5. The selection criteria for compiling a short-list and the number of firms to be included on the short-list. At least three but not more than five firms shall be included on the short-list.

6. A description of the phase two requirements and subsequent management needed to bring the project to completion.
7. The maximum time allowable for design and construction.
8. The Departments estimated cost of design and construction.

The selection process schedule should be included in the public notice. This schedule summarizes not only the deadlines for the Statement of Qualifications and Technical Proposal but establishes deadlines for short-listing firms and awarding the contract. All key milestones in the selection process should be listed in the schedule. A schedule helps the D-B firms 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 (no more than 50 including supporting information) and Technical Proposal will be specified by ADOT based upon project specifics; length, cost, specific engineering problems, and opportunity for innovation. In all cases the number of pages requested is to be kept to the minimum required to properly address the scope of work. It is estimated this will be in the range of 50-100 Plans Sheets and 50-100 pages of narrative, graphs and charts in the Technical Proposal. Page and sheet limitations should be listed in the RFQ and RFP.

### **3.4 PRESUBMITTAL CONFERENCE FOR THE STATEMENT OF QUALIFICATIONS**

A presubmittal meeting shall be held for all firms and individuals to discuss the scope of the project, to introduce ADOT's D-B management team, to clarify the D-B selection process, to address changes to the D-B Package, to inform attendees about the availability of supplemental technical information for the project (such as DCRs, EA studies, etc.) and to answer any questions. This meeting should take place within 30 days of releasing the public notice.

### **3.5 QUESTIONS FROM AND ANSWERS TO THE DESIGN-BUILD FIRMS**

Except as contained in Section 3.8 (Alternate Technical Concepts Discussions), during the selection process the Department will receive questions regarding the technical aspects of the project, proposal formatting, availability of ADOT reports and records, qualifications of team members, and procedural issues. All questions to the Department must be in writing and should be sent to ECS. ECS will in turn forward the questions to the Project Manager with a copy to C&S. The PM should discuss the questions with ECS and C&S before formulating a response if the question regards submittal procedures, formatting or qualification issues. Technical questions should be distributed by the PM to the technical experts assembled for the D-B project such as the general consultant and technical representative from the various ADOT technical groups.

All answers should be in writing and sent to the PM who will forward them to ECS. ECS in turn will send a copy to C&S and copies to all firms still proposing on the project. The goal of this process should be to ensure fairness to and maintain a level playing field for all Proposers.

### **3.6 STATEMENT OF QUALIFICATIONS AND THE SHORT-LISTING OF THE DESIGN-BUILD FIRMS**

Once the Statement of Qualifications is received, a "short-list" of firms will be developed. The short-list shall be developed by the Selection Team. In short-listing a firm, the Selection Team evaluates the Statement of Qualifications using the criteria established in the RFQ. Requirements in the SOQ shall be general and not require the Proposer to do technical evaluation or detailed scheduling of project specifics.

Between three and five teams will be short-listed. The short-list must be approved by the State Engineer's office before notification is given. Subsection 5.1 provides additional information on the short-listing procedure.

### **3.7 ANNOUNCEMENT OF THE SHORT-LISTED FIRMS AND THE MANDATORY TECHNICAL PROPOSAL PRESUBMITTAL MEETING**

Once the Project Manager has received approval of the short-list, notification letters should be sent to all teams who submitted Statement of Qualifications. The letter should contain the names of the short-listed teams, a request for Technical and Price Proposals and the time and location for the mandatory Technical Proposal presubmittal meeting.

The phase two request for proposals shall include:

1. The scope of work, including programmatic, performance and technical requirements, conceptual design, specifications, and functional and operational elements for the delivery of the completed project, which shall all be prepared by an architect or engineer, as appropriate, who is registered pursuant to ARS 32-121.
2. A description of the qualifications required of the Design-Builder and the selection criteria, including the weight or relative order, or both, of each criteria.
3. Copies of the contract documents that the successful Proposer will be expected to sign.
4. The maximum time allowable for design and construction.
5. The Departments estimated cost of design and construction.
6. The requirement that a proposal be segmented into two parts, a Technical Proposal and a Price Proposal. Each proposal shall be in a separately sealed, clearly identified package and shall include the date and time of the submittal deadline.
  - a. The Technical Proposal shall include a schedule, schematic design plans and specifications, technical reports, calculations, permit requirements, applicable development requirements, and other data requested in the request for proposals.
  - b. The Price Proposal shall contain all design, construction engineering, inspection, development, and construction costs for work proposed in the RFP.
7. The date, time, and location of the public opening of the sealed Price Proposals.
8. Other information relevant to the project.

The main purpose of the Technical Proposal presubmittal meeting is to elaborate on and clarify the remaining parts of the selection process. Any changes to the technical requirements or addenda to the D-B Package should be discussed. It is also important to notify the firms of the location and availability of any technical support documents (DCRs, traffic studies, etc.), especially any documents that have been updated or are new since the submission of the Statement of Qualifications. ADOT controlled D-B activities such as ROW acquisition, utility identification, environmental agreements, and regulatory permitting should be discussed and updated at the meeting. Lastly, the firms should be informed of the composition of the Selection Team; individuals should not be identified by name but by the ADOT sections or organizations they represent. The Department shall require the Selection Team to include representatives of the construction industry and may include a representative of the consultant engineering industry.

The Technical Proposal presubmittal meeting should be mandatory to ensure all firms understand the selection process and are aware of any changes to the technical requirements and evaluation criteria. Transcripts of the meeting will be distributed to all the short-listed firms.

### **3.8 ALTERNATE TECHNICAL CONCEPTS DISCUSSIONS**

The short-listed firms may request a confidential one-on-one meeting(s) with the ADOT PM and members of the Selection Team, or other technical managers, to discuss the proposed Alternate Technical Concepts (ATC) vs. the RFP's design and construction criteria. The Department will provide the Proposer a confidential written response as to the acceptability of the ATC, with any limitations for use in the Technical Proposal. This confidential one-on-one meeting(s) must take place a minimum of 45 calendar days in advance of the proposal due date. A written response must be provided to the D-B Team a maximum of 15 calendar days after the one-on-one meeting(s).

Design exceptions beyond those listed in the RFP are not encouraged, but can be considered under an ATC depending on other benefits or advantages and conformity to design intent.

The ADOT team assembled to review ATCs must hold the discussions and ATCs in absolute confidence. ECS will develop a confidentiality statement to be signed by each of the ADOT team members evaluating ATCs.

ADOT reserves the right to issue clarifications or addenda to the other Proposers to clarify design criteria or misunderstandings of the RFP criteria based on input from the ATC discussions. Great care must be exercised in these clarifications or addenda to not expose a Proposer's acceptable ATC to the other Design-Build Proposers. Any clarifications or addenda issued to all Proposers as a result of ATC confidential discussions must be approved by the State Engineer's Office.

### **3.9 TECHNICAL AND PRICE PROPOSALS**

Technical Proposals will address the technical elements of the design and construction of the project. The selection process will consider the Design-Builder's proposed responses to the key project issues. These issues may include design and quality management, design features, schedule, public relations, and aesthetics. Innovation, construction resources, and traffic control may be other issues that are evaluated. Detailed directions on completing the Technical Proposal are to be included in each D-B Package.

On the due date for submitting the Technical Proposals, the Design-Builder's Price Proposal is also submitted. This Price Proposal is submitted in sealed package along with the Technical Proposal to C&S. The Price Proposal is kept at C&S and is not opened until the day of the public opening of price proposals.

### **3.10 SUBMITTAL OF CASH FLOW AND ESCROW DOCUMENTATION**

After submitting the Technical and Price Proposals, short-listed firms are required to submit within five working days their anticipated Cash Flow Schedule and a sealed package containing all quotes, estimates, and other documentation used to compile their Price Proposal. The sealed package is placed in escrow and returned to all the unsuccessful firms after the award of the contract.

### **3.11 RESPONSIVENESS, ORAL INTERVIEWS, AND SCORING OF THE TECHNICAL PROPOSALS**

Once the Technical and Price Proposals have been submitted, the Department may elect to hold oral interviews. The Selection Team should first notify each D-B firm of the responsiveness or non-responsiveness of its proposal. Responsive firms to be interviewed shall be notified in writing a minimum of two weeks prior to the scheduled interview date.

The oral interview should not exceed 75 minutes, including presentation and questions and answers. Presentation material shall be limited to a maximum of six charts, display boards, flip charts and posters. Overhead graphs or PowerPoint Presentations may also be used. The Project Manager will determine the contents of the interview session and will state the requirements in the D-B Package.

Questions for the oral interview should be prepared in advance by the Selection Team and asked to all short-listed firms. The committee should not deviate from the questions unless clarification is needed to score the answers or clarification is needed for issues in the firm's SOQ.

Scoring of the Technical Proposals should follow the suggested guidelines given in the Selection Process section of this manual.

The State Engineer's office will review scoring of Technical Proposals.

### **3.12 PUBLIC OPENING OF PRICE PROPOSALS**

The sealed Price Proposals will be publicly opened in the ADOT auditorium. Technical Proposal scores will be announced at the meeting prior to the opening the Price Proposals. An adjusted score for each D-B firm is calculated by taking the cost stated in the Price Proposal and dividing it by the score of the Technical Proposal. If A+B bidding is used in the Price Proposal, then the A+B score is used in the numerator which is then divided by the Technical Proposal score. In either case, the lowest adjusted score wins.

Once the adjusted scores are calculated, they are announced at the meeting indicating which firm has the apparent lowest adjusted score. C&S must still review each Price Proposal for irregularities and verify bonding, insurance and other contract requirements. The scores will be reviewed by the State Engineer's office and a recommendation made to the Transportation Board.

C&S will organize the opening of the proposals with a representative from ECS attending the meeting.

### **3.13 AWARD OF CONTRACT**

D-B projects are awarded like any other ADOT highway contract. A recommendation is made by the State Engineer's office to the Transportation Board, who awards the contract at their next regularly scheduled meeting. However, once the award is made, project time begins as specified in the contract documents. A Notice of Award letter is sent by certified mail to the successful Design-Builder.

### **3.14 STIPULATED FEE (STIPEND)**

The Department is required to pay responsive short-listed firms a stipulated fee (or stipend) equal to 0.2% of the Department's estimated cost of design and construction for the project. The selected Design-Builder does not receive the stipend. Only short-listed D-B firms that are not selected but submitted responsive proposals are allowed to receive the stipend. Upon request, a firm may elect not to receive the stipend. This election prevents the Department from using any of the ideas and information contained in the firm's Technical Proposal.

If the Department cancels the contract, responsive short-listed firms, including the selected Design-Builder, will receive the stipend. The stipend must be paid within 90 days from the award of the contract or from the day the decision is made not to award. Payment should be handled through ECS.

### **3.15 PROGRESS PAYMENTS**

Progress payments are made once design work has started. The payments are based on several lump sum items as established in the bidding schedule for key elements of the project. A percentage of each lump sum item is paid each month based on both the Cash Flow Schedule submitted by the Design-Builder at bid time and the actual progress as measured in the field by the PM, RE and the Design-Builder's project manager. See Section 6 for additional information.

## **SECTION 4 THE DESIGN-BUILD PACKAGE (SCOPE OF SERVICES)**

The purpose of this chapter is to give the reader guidance in putting together a D-B package for advertisement to the highway construction industry. The intent is not to give specific wording requirements or even dictate how the document should be organized and formatted. Rather the purpose is to address elements that should be included in any Design-Build package and the relationship and responsibilities the Department and the Design-Builder have within each element. The D-B Package from more recent D-B projects should be used as template for organizing and wording a new D-B Package.

### **4.1 INTRODUCTION**

The D-B Package should include the design requirements, the design standards, the allowable design exceptions, the design services required, the project constraints related to traffic, utilities, the environment and right-of-way, the construction requirements, and the construction management services required. The RFP may include restrictions as to the type of bridges, pavements, construction components, etc. – **keeping in mind unnecessary restrictions limit innovation, which can increase project costs.** The Department's roles and responsibilities should also be included. The project requirements shall be described completely and in a manner that will be easily interpreted and understood. The Department's D-B team will conduct adequate research and investigations to determine the facility requirements and clearly identify the Department's needs and goals for the facility.

ADOT's Standard Scope of Work for Design (as modified to fit a specific project) shall be used as the guide in developing the design portion of the contract.

The D-B Package is typically organized into six sections:

1. An overview section which contains the project advertisement and summary of the project,
2. The RFQ and Technical Proposal requirements containing the submittal requirements and selection criteria to be used,
3. The General Requirements for the project describing the goals, objectives, incentives and operational constraints for the project,
4. The design scope describing the design standards, criteria and references the project is to be designed to,
5. The technical specifications which include the project special provisions, stored specs, and other needed construction specifications.
6. The contract forms and boiler plate such as EEO requirements, federal contracting specifications, contract affidavits, and the bid schedule.

### **4.2 OVERVIEW SECTION**

This section contains the public notice or project advertisement and an introductory section. Besides the regular boiler plate that goes into any public notice, the public notice should also state project's estimated cost of design and construction and contain a selection process calendar detailing the key milestone dates for selecting the Design-Builder.

The overview section also contains an introduction that gives both a brief, one to two page description of the project and a summary of the selection procedure ADOT will follow.

### 4.3 STATEMENT OF QUALIFICATIONS AND TECHNICAL PROPOSAL REQUIREMENTS

These sections detail the specific requirements and procedures each Proposer is to follow when submitting the Statement of Qualifications, the Technical Proposals and other submittals that support the Technical Proposal such as the Price Proposal and Cash Flow Schedule. The submittal requirements for past D-B projects can be used as a starting point for determining the submittal requirements for the current project.

ADOT Construction Group will also provide guidelines as to the general content, evaluation criteria and scoring requirements for the Statement of Qualifications, the Technical Proposal, the Price Proposals and other submittals required by each Proposer. The Project Manager and their D-B team **should tailor each submittal requirement and scoring criteria to reflect the specific needs of each project.** The PM and their team should establish the required contents of each submittal (what the team would like to see) on 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. The team's recommendations should be sent to the State Engineer's Office for review before incorporation into the D-B Package.

Firms will be asked to develop and submit proposals based on the D-B Package. Proposals will be divided into two parts: the Statement of Qualifications and the Technical Proposals, which also includes the Price Proposal and Anticipated Cash Flow Schedule as separate submittals.

#### **Statement of Qualifications (SOQ)**

The purpose of the SOQ process is to narrow the number of interested Proposers who will submit Technical Proposals down to a maximum of five but no less than three. The goal is to have the best three to five qualified and capable firms submitting detailed Technical Proposals.

The SOQ submittal is not intended to be a detailed submittal on how each firm will design and build the project. Rather the SOQ submittal is intended to find out how each Proposer will approach both designing and constructing the project. It describes the processes and resources that each firm will use to tackle the project. The SOQ is also used to evaluate the Proposer's understanding of the project's scope and their grasp of the issues involved. Lastly, the SOQ shall demonstrate each Proposer's experience and financial resource capabilities of delivering the proposed successful project.

The SOQ should be divided into five key areas:

- Understanding and Approach
- Project Team
- Firm's Capabilities
- Quality Program, and
- Safety Program

The D-B Package should spell out the evaluation criteria for each area and assign points to each criteria listed (usually bulleted notation is used to list the criteria with points assigned to each bullet).

Each Proposer should be using the SOQ as a way of introducing their firm and people to the Department. During this stage the Department is not looking for specific ideas on how to design and build the project. The Department is interested in getting the best talent and most qualified firms capable of doing the job, and then evaluating their ideas closer during the Technical Proposal stage. In both establishing the evaluation criteria for the SOQ and evaluating the SOQ, the Department should look at:

1. how well the Proposer understands the project and the issues,
2. the individual team members and their experience,
3. each Proposer's resources and ability to handle a project of this complexity and size,
4. the business practices of the Proposer, and
5. their quality process and safety procedures.

No design drawings are required. Figures and sketches may be used to demonstrate understanding and communicate design ideas. The PM should limit both the page size (usually 8 ½ x 11) and the number of pages (no more than 50 including supporting information).

Evaluation and selection of SOQ is covered in Subsection 5.1.

### **Technical Proposals**

Only the short-listed firms will submit Technical Proposals. The objective of the Technical Proposal is to evaluate how each Proposer intends to design and build the project. Specific requirements should include:

1. The responsiveness of the Design-Builder to key project issues and considerations including how their design solves the key issues and challenges of the project, the type of pavements and types of structures to be used, and the concepts for lighting, traffic signals, striping, and drainage would also be discussed.
2. Innovation: In this section, the Proposer describes the innovative elements of the design and approach. In this section the Proposer must submit to ADOT design or construction exceptions with justification. Constructibility of the design should also be addressed.
3. Design & Construction: Design and Construction Management - including organization, staffing, communication, controls, scheduling, and planning - should be discussed in great detail. In addition, traffic control operations and safety should also be discussed. Interfacing with utilities, other contractors, and other agencies should be an important element discussed in this section.
4. Special Considerations: This section is left for the PM to include any special characteristics that are unique to the project that need to be considered and graded separately. This may include environmental mitigation measures, public information management, transit features, or freeway management systems.
5. Design Exceptions: In this section the Proposer shall list and briefly describe all design exceptions required by their design. The inclusion of design exceptions other than those approved by the Department as a part of the Design-Build Package or through Alternative Technical

Concept discussions will cause the proposal to be deemed non-responsive.

6. Oral Interview Results: An oral interview may be a requirement of the Design-Build selection process and must be included in the scoring (an interview is not required by statute). A time limit not to exceed 75 minutes should be set for the interviews, as well as a limit placed on visual aids and handouts that can be submitted during the interview.

Under innovation, when the Proposer deviates from the established design criteria, other than approved design exceptions allowed by the D-B Package, the Proposer shall clearly list the advantages and disadvantages of each deviation in the Technical Proposal. The Proposer should not assume additional design exceptions will be allowed and therefore should not price them in the proposal, unless an Alternate Technical Concept has been approved by the Department. An agreed upon price for recommended scope modifications will be negotiated with the successful Proposer after award of the contract as a Value Engineering Joint Proposal (Subsection 104.13) or supplemental agreement. As part of the Technical Proposal, the Proposer may eliminate or improve upon design exceptions allowed by the D-B Package at no cost to the Department as long as the elimination does not adversely affect other project requirements or change the scope of the project. Under innovation, the Proposer may offer additional low cost enhancements that will add value to the project, knowing they are at risk for cost of the additional features or enhancements.

The Technical Proposal shall include:

- preliminary plan sheets showing typical sections and dimensions,
- horizontal and vertical alignments,
- structure locations and identifications,
- roadway layout concepts, showing survey layout data and dimensions,
- signing, striping and lighting concepts, traffic control and phasing schemes,
- other design features as needed,
- design and construction schedules,
- organizational charts,
- resource utilizations tables,
- resumes of key personnel if changed from the SOQ\*,
- any sketches or renderings,
- design exceptions,
- completed forms and certificates as required by the D-B Package.

The evaluation criteria for the Technical Proposals should be clearly spelled out in the D-B Package, including the scoring breakdown and how each section of the D-B Package will be evaluated for scoring. The suggested method is to divide the evaluation into sections and use bulleted notation to describe and list each evaluation criteria with the assigned score for each section (similar to similar to the SOQ scoring). See Subsection 5.3 for further information. Points may vary for each specific project and shall not exceed 135 points.

\* Should a Proposer find it necessary to change individual key team members, subcontractors or subconsultants between submission of the SOQ and Technical Proposal, the Proposer shall clearly state the reasons why the original party is no longer available and why the qualifications of the replacement are equal to or better than the original team member. It is not the intent of the Department to allow changes of team members during the selection process and will only be allowed after thorough justification. A Technical Proposal containing team member changes could be declared non-responsive by the

Department if the changes are not adequately justified. Substitution of J/V Partners or lead design firms will be evaluated by the Selection Team with a recommendation to the State Engineer for possible disqualification. The Proposer shall submit substitutions or changes to their Team in writing to the Department a minimum of 30 calendar days in advance of the proposal due date. The Department shall respond in writing 7 calendar days from the receipt of the contractor's change proposal on whether the requested changes by the Proposer will be considered non-responsive.

### **Price Proposal**

The D-B Package shall include well-defined Price Proposal requirements. D-B projects are bid lump sum and are paid through a payout schedule based on major items or tasks. Therefore, the Proposer's Price Proposal shall include the lump sum price, and pricing for each of the major work activities. The breakdown of the work activities is made by the Department and included in the bidding schedule. The PM and the project team should come up with the bidding schedule pay items based on the major items of work for the project (ex. widen bridge, construct roadway, construct new bridge, install landscaping, design roadway, design bridges, etc.).

It is the Department's intent to assign the risk in work items to the contract party who is best able to control or define the risk. Anticipated contingency items like pavement repair, prior rights utility work, hazmat remediation, or environmental mitigation measures should also be included in the bid schedule as lump sum pay items to be performed as contingent items or by force account work. The PM's project staff estimates the amount of these contingency items for inclusion into the bid schedule. When it is clear that there will be contingency items on the project, it may be better for the Department to assume the risk and specify an amount in the bidding schedule, rather than have each Proposer estimate the risk and include their best estimate spread among other pay items.

Some D-B projects may include A+B bidding, where project time is given a daily value and used to evaluate the overall cost of the project. If A+B bidding is used, the formula for determining each Proposer's adjusted score, which includes the contract price, specified completion time, and the score for the Technical Proposal should be shown in the D-B Package.

Price Proposals may be submitted at a later date than the Technical Proposals because of the length of time required to review Technical Proposals. This also gives all the Proposers the opportunity to adjust their prices based on the oral interviews and clarifications that may follow after submission of the Technical Proposals. This flexibility will be defined in the RFP for each project.

The Price Proposal shall contain the proposal forms - including the bidding schedule, any other federal-aid contract forms, a surety bond, the receipt of addenda certificate, and the non-collusion affidavit.

### **4.4 GENERAL REQUIREMENTS**

The General Requirements section of the D-B Package is similar to general requirements of a design-bid-build project. It contains special requirements and unusual specifications for the project that are usually outside the scope of ADOT's Standard Specifications. The General Requirements may include incentives/disincentive specifications, traffic restrictions, noise limitations, special environmental regulations, and other special contracting regulations.

Traffic control, public involvement, and quality management are project requirements that come up on

almost all projects and are usually found in the General Requirements. The following is a discussion on the requirements for each as related to a D-B project.

### **Traffic Control**

One of the most important elements of the D-B Package is the traffic control restrictions placed on the Design-Builder. Of all the factors affecting design and construction, traffic control is often the single biggest limiting factor in determining what can be designed, how the project can be built and the project time duration. Since one of the major advantages of D-B is the way in which design innovation and construction resourcefulness are both liberated and integrated, traffic control restrictions can severely limit the amount of innovation and potential costs savings to a project. There is nothing inherently wrong with this limitation, since a balance needs to be achieved between operating a facility and upgrading it. The issue the PM and their team need to deal with is quantifying the traffic restrictions and keeping those restrictions to a minimum to encourage innovation and improved efficiency.

In quantifying the restrictions, it's very important for the PM to talk to those within ADOT who are stakeholders in operating the facility. In most cases these stakeholders include the District Engineer, the Regional Traffic Engineer, the Traffic Operations Center, and district maintenance supervisors. If restrictions and closures are within or affect the jurisdictions of local governments, then their traffic officials also need to be involved in defining the restrictions. Also, if traffic restrictions have the potential of becoming a politically sensitive issue for the Department, then the State Engineer's office and Communication and Community Partnership (C&CP) Group also need to be involved defining those restrictions.

The PM's goal should be to carefully and clearly define the traffic restrictions that the Department and stakeholders can accept. Being too restrictive may have unwanted side effects of discouraging innovation, creating an unlevel playing field for Proposers, increasing contract time and costs, and creating more of a disruption because of a protracted construction schedule. On the other hand, being too permissive can cause major disruptions to the traveling public that may have consequences affecting public safety, the local economy, and ADOT's relationship with the public and its political leaders. The results may lead to more restrictive traffic control provisions resulting in a claim from the Design-Builder. The bottom line is that the PM and selection panel need to have a thorough understanding of project traffic control needs.

### **Public Involvement**

Public involvement is an important aspect of the project development process. It includes communicating to all interested persons, groups and government organizations regarding the development of the project. Therefore, it is imperative that the PM clearly define in the D-B Package the level of coordination and involvement required for a particular project. The trend on ADOT D-B projects is to have the Design-Builder handle the more routine public involvement and community relations functions of the project with the PM and the ADOT Communication and Community Partnership (C&CP) Group leading the higher profile functions, such as public meetings and media contacts.

## **Quality Management Requirements**

The fundamental quality management process to be used on an ADOT D-B project is described in the “Glossary of Highway Quality Assurance Terms,” April 1996, Transportation Research Circular #457 that covers specifications, materials and workmanship. The “Implementation Manual for Quality Assurance” bulletin dated February 1996 and published by the AASHTO Highway Subcommittee on Construction primarily covers materials; while “Quality Assurance Procedures for Highway Construction,” dated June 29, 1995 (DOT/FHWA 23 CFR Part 637) covers both materials and workmanship. Checklists for quality verification inspections are covered in TRB Record No. 1712, Materials and Construction 2000, “Quantified Checklist for Construction Inspection Examination.”

When developing the quality management specifications for the D-B Package, the PM should involve Materials Group, the District, Construction Operations, and Roadway Group. Recent D-B projects are a great starting point for finding the specifications that you’ll need. The team can then tailor those specs to the needs of the new project.

### **Definitions:**

**Quality Management** - a system which identifies quality control, quality acceptance, and sampling, testing, and inspection responsibilities.

**Quality Control** - shall consist of those actions necessary to assess production and construction processes so as to control the level of quality being produced in the end product. QC actions will include examining, checking, and inspecting of in-process and completed work, and materials sampling and testing during production and construction, as a means of controlling and measuring the characteristics and conformity of an item, process, or feature to established requirements.

**Quality Conformance Inspections** - performed by the Design-Builder or ADOT to assure conformance with all contract requirements and specifications. These inspections are independent of quality control inspections.

**Quality Acceptance Sampling and Testing** - performed by the Design-Builder or ADOT at the end point of production or construction and used by the Department for specification compliance and in the acceptance decision. Samples and tests are taken as specified by the contract documents. It is important that the contract clearly spell out what is required so that there are no arguments/questions left up to the project team members. These tests are subject to Department verification. The Department may direct additional testing at any time or location. The sampling and testing are independent of quality control sampling and testing.

**Quality Verification (Inspection, Sampling, and Testing)** - verify the reliability of the Design-Builder’s quality conformance inspections and quality acceptance sampling and testing.

**Independent Assurance (Certification Acceptance)** - Performed to check the reliability of all quality acceptance and verification sampling/testing methodology and testing equipment. It is intended to be an independent assessment of product and processes for quality management purposes (not used to determine the acceptability of materials or work).

## **Quality Management Responsibilities**

Both the Design-Builder and the Department are jointly responsible for quality management. The Design-Builder is responsible for quality as the producer and constructor, while the Department is responsible for quality as a specifier and buyer.

The Design-Builder is always responsible for quality control while the Department is always responsible for quality verification, independent assurance, and final acceptance. In the area of quality conformance inspections and quality acceptance sampling and testing, there is a choice that can be made as to whether these functions are performed by either the Design-Builder or ADOT field staff. The District Engineer and Materials Section will jointly make this decision. However, the Department is always responsible for acceptance of the work and cannot delegate this to the Design-Builder. The Department can and should use the results from the Design-Builder's quality control, quality conformance, and quality acceptance sampling and testing in making acceptance decisions as long as there is quality verification results and independent assurance results that validate the Design-Builder's quality management program.

The responsibilities are summarized below:

Quality Control - always the Design-Builder's

Quality Conformance Inspections – either the Design-Builder's or the Department's

Quality Acceptance Sampling and Testing - either the Design-Builder's or the Department's

Quality Verification – always the Department's including checklist completion

Independent Assurance – always the Department's

Acceptance of the Work – always the Department's; can use the results from the Design-Builder's quality conformance inspections and quality acceptance sampling and testing in arriving at a decision.

When the Design-Builder performs quality conformance inspection and acceptance sampling and testing, the work must be performed by inspectors and testers that do not belong to any of the construction contracting firms that are part of the D-B team. The intent is to have an organization that is independent of the Design-Builder's production and quality control team. Ideally, if the Design-Builder employs a consulting engineering firm, their engineers and qualified inspectors would perform the inspection and report to a management level in the Design-Builder's organization separate from the construction function.

The Department expects the Design-Builder to inspect and test for quality conformance and acceptance at the same frequencies as an ADOT field office. In this respect the Project Manager must get very prescriptive in the sampling frequencies, testing standards, and the inspection staffing and qualifications requirements the Design-Builder is expected to follow. Materials Group should be consulted when prescribing sampling frequencies and materials testing requirements. Both the District and Construction Operations Section should be consulted when specifying inspection staffing levels, inspector qualifications and inspection duties.

## **Quality Management During Design**

The Design-Builder shall be required to submit a design quality management plan which describes how the Design-Builder will control the accuracy and completeness of the plans, specifications, and other related design documents produced by the Design-Builder. The Design-Builder must appoint a Design

Quality Manager (DQM) whose job it is to implement and oversee the design quality management plan. The D-B Package shall detail the elements the Design-Builder is to include in the plan as well as the reporting procedures to the Department when the plan is implemented.

ADOT will still retain a quality verification role as it does for other quality management issues. For design work, quality verification will be accomplished through the use of design reviews led by the PM and performed by ADOT's technical groups or the general consultant, if one is used. These reviews should be conducted in the Design-Builder's office, and the D-B Package should specify that space within the Design-Builder's office be set aside for ADOT's design review team.

Three levels of review will be performed. The first level is called over-the-shoulder review which is done in conjunction with the Design-Builder's oversight review performed by the Design Quality Manager and their review team. Over-the-shoulder-reviews are performed while the design is being developed. They are proactive in nature, informal, interactive, and intended to catch omissions and oversights that may lead to a major redesign of the work.

The next level of reviews performed by the Department is the early construction review. This review is in conjunction with the early construction review performed by the Design-Builder's design quality management team for plans that are released for construction before the design is 100 percent complete. The intent is to ensure that enough detail has been provided in the plans to allow construction to begin and that ADOT's minimum design standards are maintained.

The third level of review is the 100 percent design review. The intent is that a formal submittal is made to the Design-Builder's design quality management team and they along with ADOT's design review team perform a detailed review and plan check to ensure all criteria have been satisfied and all design exceptions approved.

#### **4.5 DESIGN SCOPE**

Unlike traditional design-bid-build project where a consulting engineer is retained to do the design work and a contractor the construction, a D-B project is designed and built by a single firm under contract with the Department. Furthermore, this firm must give the Department a hard dollar amount for both design and construction. **Any change in design scope or design standards can have a huge ripple effect on the project.** The design scope must clearly define both the design services and the design requirements. Design services are any tasks that support the design of the facility. These tasks include geotechnical investigations, surveying, permitting, mapping and DTMs, utility coordination/relocation, engineering drawings, plans, and construction specifications, and as-built plans. The D-B Package should clearly define which design services will be performed by the Department and which by the Design-Builder.

Design requirements are the standards and regulations the Department expects the Design-Builder to design to. An entire section of the D-B Package should be devoted to the design requirements and standards of the project. It is very important for the PM to obtain the latest design policies and standards from the various ADOT technical groups and incorporate these requirements into the D-B Package. All design references such as AASHTO design guides, FHWA references, and ADOT design manuals shall be referenced, including their edition date. Any studies, DCRs, PAs, and environmental reports shall also be referenced. The goal should be to have a complete and exhaustive set of design standards, studies, and reports referenced in the D-B Package. Even supporting references such as water quality standards and regulatory statutes should be cited. Because there are so many laws, regulations, and standards that

govern highway design, complete disclosure is extremely important to minimize design oversights or regulatory violations that could halt the project during construction.

### **Environmental Services**

The Department will prepare for the project all environmental documents normally prepared during the design and development stages. This would include environmental assessments, environmental impact statements, and TIPs. These documents should be included or referenced in the D-B Package. Any special environmental considerations to be addressed by the Design-Builder must also be included.

The Department will also obtain all the necessary environmental permits such as 404 permits and clearance letters. However, any special environmental remediation work that needs to be performed during construction as part of these permits should be specified in the D-B Package for the Design-Builder to perform.

The Design-Builder is still responsible for obtaining all the environmental permits specified in the Standard Specifications such as dust control and hauling permits as well as the National Pollution Discharge Elimination System's Notice of Intent (NOI) and Notice of Terminations (NOT).

### **Design Plans and Engineering Calculations Review**

The D-B Package shall clearly define any documentation (included but not limited to design plans, shop drawings or engineering calculations) that is to be received by the Department. Under D-B, the submittals will be reviewed by the Department for verification of compliance with specified design criteria. Partial construction plans shall require sealed drawings and specifications prior to beginning construction on that specific phase. The Department's and Design-Builder's design review teams should coordinate the allotted time for design plans and engineering calculations review.

### **Utilities and Permits**

ADOT, through its investigation of existing utility facilities in the corridor, will provide the location and ownership of existing utilities to the Design-Builder. A database is typically developed to be included with the D-B Package. The Design-Builder, in consultation with utility companies, shall determine utility conflicts and arrange for relocation or adjustments as required. When possible, the Design-Builder should consider performing the relocation or adjustment work if allowed by the utility company. The Design-Builder's or the utility company's relocation work must conform to the requirement of the "Arizona Department of Transportation Guide for Accommodating Utilities on Highway Right-of-Way."

The D-B Package should include a provision requiring the Design-Builder to assign both a utilities coordinator and a construction utilities coordinator. The job of both coordinators is to work with the utilities during design and construction to verify utilities locations, obtain permits and oversee utility relocation work and adjustments. Regular coordination meetings should be held by the Department at least monthly to review the status of outstanding utility conflicts, resolve scheduling issues, and to assist the Design-Builder as much as possible.

Information regarding "prior rights" and compensation responsibilities for utility relocations must be clearly defined in the D-B Package. If the Design-Builder's Technical Proposal requires additional utility relocations these costs should be reflected in the Price Proposal. Those relocations must also be shown in

their schedule.

The PM shall consult with the Utilities and Railroad Engineering Section to determine what utilities are present and what utility and railroad coordination may be required. The D-B Package should make the Design-Builder responsible for obtaining ADOT permits for all utility relocation work. On design-build projects, it's the Department's policy to have the PM and their staff approve all permit work. The district permits office should receive copies of all approved permits.

The D-B Package should also require the Design-Builder to write all utility clearance letters for the project and submit them to the PM.

### **Right-of-Way and Temporary Construction Easements**

As discussed in chapter on project selection, it is highly desirable to have all needed ROW and temporary construction easements (TCEs) acquired before the project is advertised for D-B. ROW acquisition can take many months when condemnations and demolition are involved. TCEs can also be difficult to obtain, especially if the property owner is unfamiliar with the process or involves an attorney.

The D-B Package should indicate the limits of the ROW acquisitions or easements obtained or being obtained so that the Design-Builder can plan its operations accordingly. The PM should ensure that there is language in the D-B Package warning the contractor of the time frames, processes and potential consequences if additional ROW and TCE are required by the Design-Builder. The Design-Builder cannot make private deals for ROW acquisitions. ADOT's ROW section must do all ROW acquisitions. However, the Design-Builder can deal with private property owners for setting up yards and gaining access for construction. The Department must approve these activities, and any arrangements with private property owners must be in writing and submitted to the Department. These requirements should also be included in the D-B Package.

The D-B Package shall also include a section that specifies the responsibility for demolition and disposal or salvage of existing features or systems.

### **Survey Requirements**

The D-B Package shall specify any survey information performed by the Department such as photogrammetry and digital terrain modeling. The Proposers should be made aware of all survey information available to them.

It may be necessary for the Department to perform some survey work in the preparation of the project scope. In any event, the PM must determine who will provide the survey control for layout, the layout itself, and if it is to be tied to the State Plane Coordinate System.

### **Geotechnical Requirements**

The D-B Package shall contain any geotechnical information or reports prepared by the Department or its consultants. The Department will perform some preliminary geotechnical work in the preparation of the project scope. The Department may also conduct the geotechnical investigations in order to save the short-listed firms the time and expense. The Department shall provide copies of any and all existing geotechnical information that is available to all short-listed firms. The D-B Package shall clearly

delineate the geotechnical investigation responsibilities for the both the Design-Builder and the Department.

### **Items to Be Furnished By the Department**

The D-B Package shall list any items or services to be furnished by the Department. This should include any information (data, reports, etc.), support functions (computer services, etc.), materials, equipment, testing devices, or other items that would affect the bid or technical approach. Such information might include survey data, geotechnical information, bridge hydraulic reports, existing plans, and R/W maps. As a rule, the PM must also determine if the Department is going to provide the pavement coring and pavement design, or if this will be accomplished by the Design-Builder. It is preferable for the Department to specify the minimum pavement design requirements to allow innovative ideas in this area. This information shall be furnished to the Proposers as early as possible in the selection process.

### **Computer Services**

The D-B Package shall include a list of the Department's computer programs that are available for the Design-Builder to use during the design and construction of the project. The Proposers should be required to identify in their Technical Proposal which programs they will use during the execution of the contract.

### **Final Documents**

The scope shall clearly define the final documents required by the Department from the Design-Builder upon completion of the project including as-built plans (100% automated), engineering reports, shop drawings, test results, daily reports, warranties, instruction manuals, and quantity summaries.

## **4.6 TECHNICAL SPECIFICATIONS**

The D-B Package shall add any applicable specifications not found in the Standard Specifications or other referenced technical publications (MUTCD, AASHTO, APWA, ACI, ASTM). Not only does this include the latest ADOT stored specifications, but also any specialized specifications related to the project site and the uniqueness of the project work (the Special Provisions on a conventional design-bid-build project). In addition, the Design-Builder's Technical Proposal and Price Proposal shall be specifically referenced as part of the contract documents. This ensures the Design-Builder is obligated to design and build using the resources, procedures, and construction methods upon which the Department based its selection.

The D-B Package shall contain language, which allows firms to subcontract up to 60 percent of their work upon approval in writing by the Department.

Professional liability insurance requirements for the design of the project shall be included in the D-B Package. The insurance shall be project specific and the dollar amount and term (length of time) clearly spelled out in the scope. The successful Design-Builder shall provide a performance and payment bond for the construction portion of the contract that complies with the requirement of bonds given pursuant to Title 34, Chapter 2, Article 2 of the Arizona Revised Statutes. Owner Controlled Insurance Programs (OCIP) may be used on projects with a value of over \$50 million.

#### **4.7 CONTRACT FORMS, BID SCHEDULE AND BOILERPLATE**

Any federal aid requirements such as Davis-Bacon wage rates and training hours should also be included in the technical specifications.

## **SECTION 5 PROPOSAL REQUIREMENTS AND SUBMISSIONS:**

### **5.1 SELECTION TEAM AND SHORT-LISTING THE DESIGN-BUILD FIRMS**

The Selection Team will review and evaluate all Statement of Qualifications submitted by Proposers to determine a short-list of three to five firms, which will submit Technical Proposals. The Team shall consist of at least three members and may include public officials from outside agencies (FHWA, COGs, local and tribal governments). At least one of the members shall be a licensed contractor in the state of Arizona selected by the Arizona Chapter of the Associated General Contractors (AGC). Also, at least half the Team shall be licensed engineers or architects. A professional consultant engineer selected by the Arizona Consulting Engineers Association (ACEA) may also serve on the team. The PM should be included on the Selection Team as well as any other key project member such as the Resident Engineer. As a matter of policy the review members, other than the licensed contractor (and consultant, if participating) should be ADOT employees or other public officials.

The PM shall propose a list of the Selection Team members and submit the list to the State Engineer for approval. Once the Selection Team has been approved, the Team shall have a kickoff meeting with ECS to go over the selection process for short-listing the D-B firms. ECS will prepare a "Selection Panel Instructions for Statement of Qualifications" booklet and review the selection procedures with the committee members during the kickoff meeting.

The PM must ensure that each Selection Team member has a complete set of the D-B Package documents including addenda, supporting concepts drawings, reports, and studies to properly evaluate each SOQ or Technical Proposal.

The Project Manager and key Team members will meet with the team at this time and thoroughly explain the selection process.

The law allows selection of three to five Proposers. The D-B Package will specify the number of Proposers the Department intends to accept on each project. After each Team member has reviewed and scored each SOQ, the Selection Team will meet again to review both the scores and rankings and conclude any discussions about their evaluations of the SOQ. The committee will short-list three Proposers or more as defined in the Bid Package. To determine the inclusion of Proposers 4 and 5, their respective scores must be within four percent of the average of the top three Proposer's scores. For example, if the average of the top three scores is 90 points, a score of 86.4 points or higher would be needed by Proposer 4 and Proposer 5 if either of their proposals is to make the short-list. The final number of firms to be shortlisted will be agreed upon between ADOT, AGC, & ACEA.

The final ranking and scores shall be submitted to ECS and to the State Engineers' office. Once reviewed by the State Engineer's office, the scores and ranking will be released by ECS, including notification to each Proposer.

## **5.2 SELECTION PROCESS FOR TECHNICAL PROPOSALS AND PRICE PROPOSALS**

The selection of a Design-Builder will involve both technical qualities of the design, design and construction management proficiency, and the contract price. After the submittal deadline, the Technical Proposals will be sent to the Selection Team for evaluation. The Team in cooperation with ECS shall first review the proposal to determine whether they are responsive to the requirements of the D-B Package.

Alternate Technical Concepts will not be considered after proposals and price packages are submitted. During review of the Technical Proposals, the Selection Team may request clarifications from each Proposer to determine if the proposal is responsive. Responses to clarification requests that alter the original submittal will not be accepted. Confidential communications may be requested by the Department to determine acceptability of proposals and to properly evaluate them. If any of the Technical Proposals were considered non-responsive, the manager of Contracts and Specifications and/or ECS will notify those firms of that fact

Each Technical Proposal found to be responsive should be evaluated based on the rating criteria provided in the D-B Package. A kickoff meeting, similar to the one held for the Selection, will be conducted by ECS. ECS will prepare a "Selection Panel Instructions for Technical Proposals" booklet and review the selection procedures with the committee members during the kickoff meeting.

### **Interviews**

As part of the selection process for the Technical Proposals, the Selection Team may hold face-to-face interviews as a group with each Proposer. The length, location of, and format of the interview will be developed by the PM and ECS. As a minimum, the format should include an oral presentation by the Proposer, followed by a Q&A session. The PM shall coordinate the interviews with the Proposers and set limits on the number of people attending (based on room size, occupancy comfort, and safety), the amount of time for each interview, and any other scheduling or room constraints. The PM should not be too constraining in establishing the interview format. Each Proposer shall be given the opportunity to check out the interview room ahead of time so each team can better plan their interview and improve the efficiency of the interview process.

The Selection Team shall develop the questions for the interview as a Team, but each member shall grade the answers individually. The Selection Team may consult with ADOT technical leaders for suggestions for questions. The PM and ECS will approve the questions developed for the interview.

### **Final Scoring of the Technical Proposals**

After completion of the interviews, each Team member shall submit their Technical Proposal scores to ECS for processing. ECS shall rank the scores and meet with the Team to go over the ranking and scores as well as conclude any discussion on both. Once the Selection Team has completed reviewing the final scoring, the scores shall be sealed by ECS and sent to C&S for inclusion with the Price Proposal. A copy of the sealed scores shall also be sent to the State Engineer's office. It is extremely important to guard the confidentiality of the Technical Proposal scores. Technical scores must not be leaked to the industry and the Proposers.

## Evaluation of the Price Proposals and Selection of the Design-Builder

The Price Proposals are submitted in sealed packages to C&S along with other supporting documents. C&S will review each Price Proposal for responsiveness, check for valid bond, insurance, and completed contract forms.

The manager of Contracts and Specifications shall publicly open the sealed Price Proposals and the sealed Technical Proposals and read the Price Proposal amounts and technical scores aloud. Once the scores are read, the manager shall compute the adjusted score by dividing the amount in the Price Proposal by the Technical Proposal score. In computing the adjusted score, the manager should note that when “A+B” bidding is specified, the A and the B are added (cost and time related cost) and that sum is divided by the technical score. The “A” alone is not divided by the technical score. The following table illustrates how the adjusted scores are computed. Please note that in this example the second low-bidder (Firm Y) in terms of cost ended up as the apparent low bidder on an adjusted score basis due to a higher technical score.

Proposer	A Amount	B Amount	Total Price Proposal (PP) A+B Amount	Technical Proposal Score (TPS)	Best Value (PP/TPS)
Department's Estimate	\$69,020,330	\$13,440,000	\$82,460,330		
Firm X	\$71,900,000	\$9,352,000	\$81,252,000	108	\$752,333
Firm Y	\$75,685,003	\$9,240,000	\$84,925,003	115	\$738,478
Firm Z	\$87,498,280	\$9,996,000	\$97,494,280	109	\$894,442

The manager shall then announce the adjusted scores for each Proposer and identify the apparent low bidder.

Unless all proposals are rejected, the Department will recommend to the State Transportation Board that the responsive firm having the lowest adjusted score be awarded the contract. The cost of the D-B contract will be the amount received in the Price Proposal.

## **SECTION 6**

## **CONSTRUCTION ADMINISTRATION**

### **6.1 ROLES, PROJECT COMMUNICATION, AND THE WINNING TECHNICAL PROPOSAL**

D-B is unlike ADOT's traditional project development process where there is a clear break between the design and construction processes. In Design-Build, the break between design and construction does not exist. Each process complements the other until construction is well underway. This process of commingling design and construction on an ADOT project results in both the PM and RE having overlapping responsibilities. The Department suggests a more collaborative approach in sharing responsibilities and making decisions between the PM and RE. Both need to work together, communicate effectively, and contribute their expertise in resolving both design and construction issues with the Design-Builder.

An Initial Partnering Workshop, with all key stakeholders, should commence immediately after the award of the contract. A goal of the workshop is to develop a Project Team Plan. This plan describes the roles, interactions, and responsibilities of ADOT's and the Design-Builder's key project Team members including the PM, the RE, the Design Quality Manager, technical sections, the general consultant and the Design-Builder. One of the primary goals of the document is to determine how the ADOT Team makes decisions and how it interacts with the Design-Builder's Team.

It is important that the PM retain a key role on the project during construction. The Project Manager shall sign all important correspondence related to any design or technical issues. The Project Manager should also be involved in key project decisions made by the RE and the District.

The RE is the primary technical leader on the project during construction and represents the District. Construction quality (including testing and inspection), long-term maintenance, traffic control, neighborhood relations, contract payments, safety, and roadway operational issues are some of the primary concerns of the RE.

Both the RE and PM need to thoroughly review the Design-Builder's Technical Proposal after award of the contract. The Technical Proposal becomes part of the contract documents upon award, and thus RE and PM need to ensure compliance with the Technical Proposal by the Design-Builder. Particular attention should be paid to the quality management processes during both design and construction that the Design-Builder proposed to use. The RE and PM should oversee these processes to ensure they are implemented as proposed. It is the RE's responsibility to ensure that progress payments are generated to the D-B as stipulated in contract documents. The design features and the construction methods the Design-Builder described in the Technical Proposal should also be examined and verified during prosecution of the contract.

### **6.2 DESIGN REVIEWS**

The PM oversees the design review process on behalf of the Department. The PM's design review team should consist of a technical representative from each of the design technical groups (roadside, traffic, bridge, roadway, and materials). They may either be consultants, if a general consultant is used, or the Department's in-house staff from each of the technical groups. The technical rep will be responsible for reviewing and approving all design drawings from the Design-Builder related to their discipline. Since

the design work is usually fast tracked, it is imperative for the PM to have the design review team in place and ready to go upon award of the contract.

Design reviews are usually performed at the Design-Builder's offices and are typically over-the-shoulder, in process reviews. When the design work first gets underway each technical rep should plan on co-housing at the Design-Builder's office. The PM should ensure that each of the Department's reviewers has adequate office space and furnishings to effectively perform the reviews.

It is also important for the PM to involve the RE and his senior inspection staff in the design reviews; they will represent the District during the review process and can identify constructibility, maintenance, and operational issues that may arise while the design is being developed. This early involvement of the construction staff, including the Design-Builder's, should be encouraged. National studies have shown that constructibility reviews performed by experienced construction personnel early in the design process can lead to many construction efficiencies, minimize changes during construction, improve quality, and reduce construction and maintenance costs.

The PM's design review team members should meet with their counterparts on the Design-Builder's side to work out scheduling, coordination, formatting, and review issues. The protocol for approving plans and when plans are released for construction should be worked out in advance. It's also important for each technical rep to coordinate their review with the other technical reps to avoid or resolve potential design conflicts and incompatibilities.

### **6.3 INSPECTION, SURVEY, AND ACCEPTANCE OF WORK**

Because D-B is a fast track method of construction with a feedback loop between construction and design, changes are often made to the design while the work is under construction. This can sometimes be a little bewildering and confusing for inspectors who are accustomed to operating in the traditional design-bid-build environment where the plans are the standard by which the inspectors measure contract conformance. It is important for the RE to brief their inspection staff on the differences between inspecting in the Design-Build environment compared to the traditional design-bid-build. Some inspectors may not be able to make the adjustment, while others may welcome the change. It is advisable for the RE to spend time training their staff on how to inspect on a D-B project so they are as empowered to make decisions and work with the Design-Builder's construction staff as they were on a design-bid-build project. The RE may also want to ask for volunteers within the District and the Department who are interested in D-B work.

The RE will staff the project depending on who performs the quality conformance inspections and quality acceptance testing - the Department or the Design-Builder (see Section 4.4 for the various quality management definitions). If the Department is performing the quality conformance inspections and quality acceptance testing, then the RE should staff the project like a traditional design-bid-build project. On the other hand, if the Design-Builder is performing the quality conformance inspections and quality acceptance testing, then the RE will need a team of inspectors to perform quality verification inspection and testing. Quality verification inspection consists of completing inspection checklists with the Design-Builder's construction staff at various hold points throughout the course of the project. This inspection process is more end-result or end-process based and does not require the continual attention of the inspector while the work is being constructed. As result, the RE should be able to use fewer staff than on a design-bid-build project, but that staff needs to be more highly qualified since they are usually the final point of inspection.

## **Survey**

On a design-bid-build project the District survey crew performs the initial control survey for the project, then verifies the contractor's survey work throughout the life of the project when requested by the RE or Project Supervisor. On a D-B project the Design-Builder's surveyors will layout the initial control. However, the district survey crew should verify this control before any permanent construction begins. In addition the District Survey Supervisor or their staff should verify the datum and control used during the design so they are compatible with the existing ADOT control in the corridor.

The RE should still have the District survey crew check the Design-Builder's survey work at key points during construction.

## **Acceptance**

The PM, RE, and the District Engineer are always the final points of acceptance on a D-B project. Acceptance of the work cannot be delegated to the Design-Builder. Some of the terminology used in quality management like "quality acceptance sampling and testing" and "quality conformance inspection" implies that the Design-Builder is accepting the work on behalf of the Department (see Section 4.4 for quality management definitions). To clarify, the quality acceptance sampling and testing that the Design-Builder performs can be used by the Department for acceptance of the work (as long as tests results correlate), but that acceptance still rests with the Department. Similarly, the Design-Builder may be performing quality conformance inspections in a role similar to ADOT's on a design-bid-build project, but the final acceptance for workmanship lies with the RE, their inspection staff, and the District. Inspectors and the RE have the right to inspect the work anywhere, at anytime, and to any level of detail if they suspect non-conforming work. This right is not given up under the D-B process even when the inspector's role may only be to complete checklists.

## **6.4 OFFSITE WORK AND INSPECTIONS**

The Department, as on a traditional design-bid-build project, will still inspect offsite work requiring inspection - like structural steel welding, precast girder casting, or precast pipe fabrication. This type of inspection and the duties involved do not change if a project goes D-B. However, the RE is responsible for coordinating with and getting plans or shop drawings to the respective ADOT technical groups so their offsite inspection staff can inspect the work.

If the Design-Builder is doing the quality acceptance sampling and testing, then the Design-Builder must also do acceptance sampling and testing for materials produced at commercial batch plants (ex. aggregates, oil, cement, etc.), which is normally done by the ADOT regional labs.

## **6.5 PROGRESS PAYMENTS**

At the beginning of the project there should be a cost loaded CPM schedule submitted by the Design-Builder to the Department for review and approval by the RE and PM. If a Cash Flow Schedule was submitted as part of the Price Proposal, the CPM schedule should be reviewed for compliance with the Cash Flow Schedule. Once the CPM schedule is approved, it will serve as the basis for making monthly progress payments. Each month the Design-Builder and the RE will estimate the percent complete for

each activity and multiply it by the cost for that activity from the cost loaded CPM schedule. The Design-Builder will assign those costs to the pay items in the bidding schedule and produce an invoice for the RE to review. When the RE has reviewed and approved the contractor's invoice, the field office will produce a monthly pay estimate using a modified version of the Department's CPE program.

## **6.6 ISSUE RESOLUTION**

On a D-B project the issue resolution process is the same as for other projects. Subsections 104.01, 104.02, and 105.21 of the Standards Specifications are all applicable unless a special dispute resolution procedure has been included in the D-B Package. Please refer to the ADOT Construction Manual and the Department's Partnering Management Section for additional information.

It is advisable for the RE and PM to streamline the issue resolution process on a D-B project due to the fast track nature of the work and the expensive overhead costs of the Design-Builder.

## **6.7 TRAFFIC CONTROL**

Traffic control inspection and oversight will continue to be performed by the Department's field office on D-B projects. ADOT is still the owner of the facility and is accountable to the public for the safe and efficient conduct of traffic through the project and the corridor. The RE should assign a traffic control coordinator to the project that should ensure the Design-Builder's traffic control complies with the approved traffic control plans. Also the RE, in coordination with the District Traffic Engineer, shall review and approve all traffic control plans. The Design-Builder's designer and traffic control coordinator should also review traffic control plans for compliance with the MUTCD, the Arizona Supplement to the MUTCD, and any special requirements in the D-B Package prior to the RE's review.

## **6.8 PUBLIC INVOLVEMENT**

The Design-Builder has to be more involved in the community relations activities for a D-B project due to the fact that the Design-Builder controls both the design of the project as well as its construction. The Department expects a higher level of participation from the Design-Builder in handling neighborhood complaints, dealing with business owners, attending and participating in public meetings, talking to community leaders, and answering calls from the public. The ADOT C&CP Group will still handle media relations.

The Department coordinates community relations and public involvement activities. Either the PM or RE will take the lead in this area with assistance from the ADOT C&CP Group. Since each D-B project will have its own specific needs with respect to public involvement, the responsibilities the PM, RE, Design-Builder, the District and the ADOT C&CP Group will vary from project to project. However, what should not change is the Department's lead in this area. Some of the public involvement duties like maintaining a project hotline, presenting a design at a public meeting, or meeting with a neighbor can be delegated to the Design-Builder. The Department must still manage the process, control the flow of public information, and be responsive to the public.

## **6.9 PERFORMANCE EVALUATION**

The Project Manager shall be responsible for conducting a performance evaluation of the Design-Builder at the end of the project. This evaluation should be conducted through the use of the Partnering Evaluation Program.

## **APPENDICES: Arizona Revised Statutes, November, 2006**

### 28-6713. Bids for construction, reconstruction, equipment or supplies; procedure; bond; exceptions

A. Except as provided in subsection G of this section, in a county with a population of two hundred fifty thousand persons or more as determined by the most recent United States decennial census or the most recent special census as provided in section 28-6532, bids for all items of construction or reconstruction involving an expenditure equal to or greater than the amount determined pursuant to subsection B of this section, all purchases or other acquisition of equipment involving an expenditure of more than five thousand dollars and all purchases of supplies and materials involving an expenditure of two thousand five hundred dollars or more shall be called for by advertising in a newspaper of general circulation in the county for two consecutive publications if it is a weekly newspaper, or for two publications of at least six but not more than ten days apart if it is a daily newspaper. The advertisement shall state specifically the character of the work to be done and the kind and quality of materials or supplies to be furnished.

B. Bids shall be called pursuant to subsection A of this section for all items of construction or reconstruction involving an expenditure of:

1. In fiscal year 1985-1986, thirty-five thousand dollars.

2. In fiscal year 1986-1987 and each fiscal year thereafter, the amount provided in paragraph 1 of this subsection adjusted by the annual percentage change in the GDP price deflator as defined in section 41-563.

C. If the board of supervisors receives a satisfactory bid, it shall contract with the lowest responsible bidder after the contractor or supplier gives any bond required by title 34, chapter 2, article 2, except that in counties with a population of more than one million persons according to the most recent United States decennial census, in determining the lowest responsible bidder under this section, the board may consider, for no more than five projects, the time of completion proposed by the bidder, the value over time of completed services and facilities and the value over time of interrupted services, if the board determines that this procedure will serve the public interest by providing a substantial fiscal benefit or that the use of the traditional awarding of contracts is not practicable for meeting desired construction standards or delivery schedules and if the formula for considering the time of completion is specifically stated in the bidding information. The board may reject any or all bids and readvertise.

D. The board of supervisors, a member of the board of supervisors or any other official or agent of a county affected by this section shall not segregate or divide into separate units a contiguous or continuous portion of highway construction or reconstruction or divide into separate portions an item of equipment or generally recognized unit of supplies or material to avoid the restrictions imposed by subsection A of this section.

E. The board of supervisors, a member of the board of supervisors or any other official or agent of a county affected by this section shall make every effort to combine the following:

1. Separate portions of highway construction or reconstruction projects.

2. Items of equipment, supplies and materials.

F. After a contract has been awarded, the board of supervisors' authorized representative may authorize change orders to the contract if necessary pursuant to guidelines set by the board of supervisors. This authority does not permit the board of supervisors' authorized representative to act independently to award new contracts.

G. A building, structure, addition or alteration may be constructed without complying with the bidding requirements of this section if the construction, including construction of buildings or structures on public or private property, is required as a condition of development of private property and is authorized by section 9-463.01 or 11-806.01. For the purposes of this subsection, building does not include any police, fire, school, library or other public building.

H. Subsections A, B and C of this section do not apply to procurement of construction-manager-at-risk, design-build and job-order-contracting construction services pursuant to title 34, chapter 6.

### 28-6923. Bid requirements; procedure; bond

A. All items of construction or reconstruction of department facilities involving an expenditure of fifty thousand dollars or more shall be called for by advertising in a newspaper of general circulation published in this state for either:

1. Two consecutive publications if it is a weekly newspaper.

2. Two publications at least six but not more than ten days apart if it is a daily newspaper.
- B. The advertisement shall state specifically the character of the work to be done and where a person may obtain copies of the plans, specifications and complete information as to the proposed work.
- C. The bidding information provided shall state specifically the character of the work to be performed and the kind, quantity and quality of materials or supplies to be furnished. The plans and specifications:
  1. Shall be sufficiently complete, definite and explicit to permit informed, free, open and competitive bidding on a common basis.
  2. May require performance on the basis of either means and methods specifications or end result specifications.
  3. If end result specifications are used, shall provide an objective or standard to be achieved with the successful bidder expected to exercise the bidder's skill and ingenuity in achieving that objective or standard of performance by selecting the means and manner of performance and by assuming a corresponding responsibility for that selection.
- D. A bid shall be accompanied by a certified check, cashier's check or surety bond for ten per cent of the amount of the bid included in the proposal as a guarantee that the contractor will enter into a contract to perform the proposal pursuant to the plans and specifications.
- E. The certified check, cashier's check or surety bond shall be returned to the contractors whose proposals are not accepted and to the successful contractor on the execution of a satisfactory bond and contract as provided in this article.
- F. The surety bond provided pursuant to subsection D of this section shall be executed and furnished as required by title 34, chapter 2, and the conditions and provisions of the surety bid bond regarding the surety's obligations shall follow the form required under section 34-201, subsection A, paragraph 3.
- G. If a bid that is satisfactory to the board is received, it shall let a contract to the lowest responsible bidder, on the contractor giving performance and payment bonds that follow the form and include the provisions required by title 34, chapter 2, article 2.
- H. If the bids received for construction or reconstruction are not satisfactory to the board, a second call shall be made. If they are again rejected by the board, it may authorize the state engineer to construct or reconstruct the item as it deems most advantageous.
- I. In determining the lowest responsible bidder under this section, the department and the board may consider the time of completion proposed by the bidder if the department and the board determine that this procedure will serve the public interest by providing a substantial fiscal benefit or that the use of the traditional awarding of contracts is not practicable for meeting desired construction standards or delivery schedules and if the formula for considering the time of completion is specifically stated in the bidding information.
- J. This section does not prohibit a change to a construction contract that either:
  1. Does not alter the scope of the work under a contract and the cost of the change does not exceed ten per cent of the contract amount or fifty thousand dollars, whichever is greater.
  2. Does alter the scope of the work if the cost of the change does not exceed ten per cent of the contract amount or fifty thousand dollars, whichever is greater, and the changed work is within twenty per cent of the total project length.
- K. If a project is funded completely with private monies, the private entity is not required to comply with subsections A through J of this section if the private entity complies with all of the following:
  1. Before advertising for bids, submits to the department a bond that is issued by a surety insurer authorized to do business in this state and that is in an amount equal to one hundred twenty-five per cent of the anticipated construction cost of the project, including construction management and contractor costs.
  2. Solicits sealed bids from at least four contractors who are prequalified by the department to perform a contract of the anticipated dollar amount of the construction.
  3. Awards the contract to the best bidder taking into account price and other criteria as provided in the bid documents.
  4. Obtains bonds from the selected contractor that provide the same coverage as performance and payment bonds issued under title 34, chapter 2, article 2.
  5. Uses department construction standards.
  6. Pays all costs of department reviews of the contract and inspections of the project.
- L. For the purposes of this section, a project is funded completely with private monies if all of the following apply:
  1. The contractor is paid entirely with monies from private entities.

2. The private entities hire a competent construction manager and contractor who do not have an affiliation with each other.
3. The private entities either pay all costs of design or reimburse the department for all costs of design.

#### 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.

(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 in sequential phases or concurrent phases.

(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 advice 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.

#### 28-7363. Design-build method of project delivery

A. Notwithstanding any other law, the department may use the design-build method of project delivery on a project if the department makes a determination in writing that it is appropriate and in the best interests of the department to use the design-build method of project delivery for that project, except that:

1. The department shall not enter into a contract to operate any structure, facility or other item pursuant to this article.

2. Each design-build project shall be a specific single project.

3. The department shall not commence any design-build project after December 31, 2025. For the purposes of this paragraph, a project is commenced on the date the department solicits the contract for the project. If the department solicits a design-build contract on or before December 31, 2025, the contract may be executed and services and construction under the contract may be rendered in whole or in part after December 31, 2025.

B. The estimated cost of the project shall not include the cost to procure any right-of-way or other cost of condemnation. The cost to procure any right-of-way or other cost of condemnation remains at all times the responsibility of the department. The department shall obtain all necessary rights-of-way.

C. The department is responsible for preparation and acquisition of all environmental documents, including the scope of any remediation and required clearances.

D. If construction of a design-build project involves railroad facilities, the railroad shall approve the use of the design-build delivery method before the department awards the design-build contract.

E. To ensure fair, uniform, clear and effective procedures that will deliver a quality project on time and within budget, the director, in conjunction with the appropriate and affected professionals and contractors, may adopt procedures for procuring a project using the design-build method of project delivery.

F. The provisions of sections 28-6923 and 28-6924 relating to bid, performance and payment bonds and to change orders, progress payments, contract retentions, definitions and authority to award contracts apply to department design-build projects for transportation facilities pursuant to this article.

#### 28-7364. Design-build criteria

The department shall use the following criteria as the minimum basis for determining when to use the design-build method of project delivery:

1. The extent to which it can adequately define the project requirements.
2. The time constraints for delivery of the project.
3. The capability and experience of potential teams with the design-build method of project delivery.
4. The suitability of the project for use of the design-build method of project delivery in the areas of time, schedule, costs and quality.
5. The capability of the department to manage the project, including the employment of experienced personnel or outside consultants.
6. The capability of the department to oversee the project with persons who are familiar with the design-build method of project delivery.
7. Other criteria the department deems relevant.

#### 28-7365. Design-build; two-phase solicitation

A. If the department determines that the design-build method of project delivery is appropriate, the department shall establish a two-phase procedure for awarding the design-build contract. The department shall limit each solicitation for a design-build contract to a specific single project.

B. During phase one, and before solicitation, the director shall appoint a selection team of at least three persons. At least one-half of the selection team shall be architects or engineers who are registered pursuant to section 32-121. The selection team members may be either department employees or outside consultants. The selection team shall also include at least one person who is a senior management employee of a licensed contractor who is not involved in the project. Any architect or engineer who is serving on the selection team and who is not a department employee shall not be otherwise involved in the project. The department shall prepare documents for a request for qualifications.

C. The request for qualifications shall include all of the following:

1. The minimum qualifications of the design-builder.
2. A scope of work statement and schedule.
3. Documents defining the project requirements.
4. The form of contract to be awarded.
5. The selection criteria for compiling a short list and the number of firms to be included on the short list. At least three but not more than five firms shall be included on the short list.
6. A description of the phase two requirements and subsequent management needed to bring the project to completion.
7. The maximum time allowable for design and construction.
8. The department's estimated cost of design and construction.

D. The selection team shall evaluate the design-build qualifications of responding firms and shall compile a short list of firms in accordance with technical and qualifications-based criteria. The number of firms on the short list shall be the number of firms specified in the request for qualifications, except that, if a smaller number of firms responds to the solicitation or if one or more of the firms on the short list drop out so that only two firms remain on the short list, the selection team may proceed with the selection process with the remaining firms if at least two firms remain or the selection team may readvertise as the selection team deems necessary.

E. During phase two, the department shall issue a request for proposals to the design-builders on the short list. The request shall include:

1. The scope of work, including programmatic, performance and technical requirements, conceptual design, specifications and functional and operational elements for the delivery of the completed project, which shall all be prepared by an architect or engineer, as appropriate, who is registered pursuant to section 32-121.
  2. A description of the qualifications required of the design-builder and the selection criteria, including the weight or relative order, or both, of each criterion.
  3. Copies of the contract documents that the successful proposer will be expected to sign.
  4. The maximum time allowable for design and construction.
  5. The department's estimated cost of design and construction.
  6. The requirement that a proposal be segmented into two parts, a technical proposal and a price proposal. Each proposal shall be in a separately sealed, clearly identified package and shall include the date and time of the submittal deadline. The technical proposal shall include a schedule, schematic design plans and specifications, technical reports, calculations, permit requirements, applicable development fees and other data requested in the request for proposals. The price proposal shall contain all design, construction, engineering, inspection and construction costs of the proposed project.
  7. The date, time and location of the public opening of the sealed price proposals.
  8. Other information relevant to the project.
- F. If stated in the request for proposals, in order to inform each firm whether the firm's concept is responsive to the request for proposals, the department may enter into a separate confidential discussion with each firm on the short list to discuss alternative technical concepts that the firm may propose.
- G. The department shall proceed as follows:
1. The selection team shall review the technical proposals and score the technical proposals using the selection criteria in the request for proposals. The technical review team shall then submit a technical proposal score for each design-builder to the department. The technical review team shall reject any proposal it deems to be nonresponsive.
  2. The department shall announce the technical proposal score for each design-builder, shall publicly open the sealed price proposals and shall divide each design-builder's price by the score that the selection team has given to it to obtain an adjusted score. The design-builder selected shall be that responsive and responsible design-builder whose adjusted score is the lowest.
  3. If a time factor is included with the selection criteria in the request for proposals package, the department may also adjust the bids using a value of the time factor established by the department. The value of the time factor shall be a value per day. The adjustment shall be based on the total time value. The total time value is the design-builder's proposed number of days to complete the project multiplied by the factor. The time adjusted price is the total time value plus the bid amount. This adjustment shall be used for selection purposes only and shall not affect the department's liquidated damages schedule or incentive and disincentive program. An adjusted score shall then be obtained by dividing each design-builder's time adjusted price by the score given by the technical review team. The department shall select the responsive and responsible design-builder whose adjusted score is the lowest.
  4. Unless all proposals are rejected, the board shall award the contract to the responsive and responsible design-builder with the lowest adjusted score. The board reserves the right to reject all proposals.
  5. The department shall award a stipulated fee equal to two-tenths of one per cent of the department's estimated cost of design and construction to each short list responsible proposer who provides a responsive, but unsuccessful proposal. If the department does not award a contract, all responsive proposers shall receive the stipulated fee. If the department cancels the contract before reviewing the technical proposals, the department shall award each design-builder on the selected short list a stipulated fee equal to two-tenths of one per cent of the department's estimated cost of design and construction. The department shall pay the stipulated fee to each proposer within ninety days after the award of the contract or the decision not to award a contract. In consideration for paying the stipulated fee, the department may use any ideas or information contained in the proposals in connection with any contract awarded for the project, or in connection with a subsequent procurement, without any obligation to pay any additional compensation to the unsuccessful proposers. Notwithstanding the other provisions of this paragraph, an unsuccessful short list proposer may elect to waive the stipulated fee. If an unsuccessful short list proposer elects to waive the stipulated fee, the department may not use ideas and information contained in the proposer's proposal, except that this restriction does not prevent the department from using any idea or information if the idea or information is also included in a proposal of a short list proposer that accepts the stipulated fee.