ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION

STATEMENT OF QUALIFICATIONS PACKAGE
FOR CONTRACT NO. 09-30

March 2009

STATEMENT OF QUALIFICATIONS PACKAGE
FOR

CONTRACT NO. 09-30
I-10/SR 303L SYSTEM TRAFFIC
INTERCHANGE (PHASE I)
TRACS # H7139 01D

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PUBLIC ADVERTISEMENT

FOR PUBLICATION March 11, 2009 & March 18, 2009
IN THE TRIBUNE NEWSPAPERS.
(Mesa Tribune, Chandler Arizonan & Tempe Daily News)

ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION

PUBLIC NOTICE
DESIGN OF1-10/303L
SYSTEM TRAFFIC INTERCHANGE.
IN MARICOPA COUNTY

ECS CONTRACT NO. 09-30
TRACS NO. H7139 01D

Statements Due: April 1, 2009

The ARIZONA DEPARTMENT OF TRANSPORTATION is accepting Statements of Qualifications from firms to design and prepare construction plans, technical specifications, quantity computations and related construction documents including: structural selection reports, structural design, traffic design, foundation investigations (roadway and bridge) and roadway drainage reports.

Statements of Qualifications will be received until 4:00 p.m. Arizona Time on the above referenced date at ADOT Engineering Consultants Section, 205 South 17th Avenue, Room 293E, Mail Drop 616E, Phoenix, Arizona 85007. No Statements will be accepted after the time specified.

A Pre-Submittal Conference has been scheduled by the Project Manager for Monday, March 23, 2009 1:00 in the ADOT Auditorium, 206 S. 17th Avenue, Phoenix, Arizona, 85007. You must have an ID for admittance in to the building. All questions to the Project Manager must be addressed at this time. Following the Pre-Submittal meeting, no further contact regarding this project will be allowed with ANY ADOT personnel except for those in Engineering Consultants Section. "Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Nina Stanley at 602-712-7851. Requests for accommodations must be made 48 hours in advance of the event, to allow time to arrange the accommodation."

For further information contact ADOT Engineering Consultant Section, (602) 712-7525. Statement of Qualification packages for Contract 09-30 are available on the ECS web-site: www.azdot.gov/Highways/ECS

SECTION II

INFORMATION COPY TO CONSULTANTS

ARIZONA DEPARTMENT OF TRANSPORTATION
ENGINEERING CONSULTANTS SECTION

INFORMATION COPY TO CONSULTANTS

REQUEST FOR STATEMENTS OF QUALIFICATION FOR
CONSULTANTS INTERESTED IN DESIGN OF
1-10/303L SYSTEM TRAFFIC INTERCHANGE.

IN MARICOPA COUNTY

ECS CONTRACT NO. 09-30

TRACS NO. H7139 01D

Statements Due: April 1, 2009

Statements of Qualifications expressing interest in the project will be received until 4:00 P.M. (Arizona Time) on the date shown above, at the office of Engineering Consultants Section, 205 South 17th Avenue, Room 293E, Mail Drop 616E, Phoenix, Arizona 85007. NO Statements will be accepted after the time specified.

Statements will be accepted from any firm or corporation who is properly registered with the Arizona Board of Technical Registration and who has a principal or officer responsible for this contract that is properly registered with the Arizona Board of Technical Registration at the time the Statements of Qualifications are due.

The selected consultant will provide professional engineering services to design and prepare construction plans, technical specifications, quantity computations and related construction documents including: structural selection reports, structural design, traffic design, foundation investigations (roadway and bridge) and roadway drainage reports.

The consultant may be required to perform services including, but not limited to survey, geotechnical engineering, structural engineering, noise modeling, environmental engineering, landscape architecture, landscape, aesthetics, erosion control, drainage design, roadway design, utilities and public involvement.

A Pre-Submittal Conference has been scheduled by the Project Manager for Monday, March 23, 2009 at 1:00 in the ADOT Auditorium, 206 S. 17th Avenue, Phoenix, Arizona, 85007. You must have an ID to sign in at the front desk. Persons with a disability may request a reasonable accommodation such as a sign language interpreter, by contacting Nina Stanley at 602-712-7851. Requests for accommodations must be made 48 hours in advance of the event, to allow time to arrange the accommodation.

Any questions of an administrative or contractual nature that were not addressed at the Pre-Submittal meeting must be submitted in writing and directed to the attention of Nina Stanley at the address below.

Nina Stanley, Contract Specialist
Engineering Consultants Section (ECS)
205 S. 17th Avenue, Room 293E, Mail Drop 616E
Phoenix, AZ 85007
Phone 602-712-7851
FAX 602-712-7424

Questions will be received until 4:00 PM on March 27, 2009. A fax is also acceptable. No further questions will be accepted after the time specified.

All consultants will be notified of the consultant's request for information and the Department's response to the question. Information will be posted on the ECS Website as well as faxed to those firms that have registered for project updates.

Any violation of the above contact restrictions may be grounds for rejection of the consultants SOQ.

The Engineering Consultants Section Statement of Qualifications format for Contract No.09-30 shall be followed when expressing interest in this project. The Statement of Qualifications package, or information regarding same, may be obtained from the address shown above, telephone (602) 712-7525. **Statements of Qualifications not following the correct format will be rejected**.

In order to qualify for selection, a firm must have on file with the Department a current "Prequalification Statement" or submit same with the Statement of Qualifications. Prequalification Statement forms may be obtained from the address shown above, telephone (602) 712-7525.

The Department may select one or more firms from among those submitting Statements of Qualification for further consideration. Previous experience in will be a factor in the selection.

Within two weeks after receiving notice of selection, the selected consultant and its sub-consultants are required to understand and comply with the Advance Agreement Checklist as detailed in SECTION IX and submit financial documentation to ADOT's Office of Audit and Analysis as detailed in SECTION X of the SOQ Package.

Please be aware that the items outlined above represent the information needed to begin the audit review process. Additional information and supporting documentation may be requested.

Failure to comply with Audit requirements within the established deadlines may be considered failed negotiations.

Questions in regards to ADOT's Audit requirements or related information may be directed to ADOT's Office of Audit and Analysis at 602-712-7491.

All material submitted in accordance with this solicitation becomes the property of the State of Arizona.

Lobbying certification/disclosure certification statement will be required in the introductory letter from those submitting Statements of Qualifications.

The right is reserved by the Department to reject any and all Statements of Qualification.

Professional Liability Insurance will be required.

The Boiler Plates for all Engineering Consultant Section Contracts are not negotiable.

Partnerships (joint-ventures) will not be considered.

Reviewing the successful Proposal(s) would be allowed but copying is not permitted.

Inclusion of work hour and/or plan sheet estimates in the SOQ will not be allowed.

SECTION III

STATEMENT OF QUALIFICATIONS FORMAT INSTRUCTIONS

ENGINEERING CONSULTANTS SECTION
STATEMENT OF QUALIFICATIONS FORMAT INSTRUCTIONS
CONTRACT NO. 09-30

Provided for your use is the format for submission of a **STATEMENT OF QUALIFICATION**.

1. **(7) COPIES OF THE STATEMENT OF QUALIFICATION ARE REQUIRED BY ADOT**.

2. **There is a TOTAL PAGE LIMIT of (14) pages. The proposal may include clear report covers, covers, dividers, table of contents, tables, figures, maps, etc., but these must fit within the 14 page limit. A page shall be 8 1/2 X 11 inches, blank, or printed on one side only. Fold out pages are not allowable.**

3. **The SOQ proposal must follow the format outlined below:**

	FORMAT CONTENT	MAXIMUM POINTS	TOTAL NUMBER OF PAGES
	FRONT COVER **(Optional, but if included will count as a page)**		
PART A	INTRODUCTORY LETTER		
PART B	EVALUATION CRITERIA **May include information to support Criteria.**		
	1. Project Understanding & Approach	40	
	2. Project Team	35	
	3. Firms Capability	20	
	4. Location of Work	5	
PART C	CONSULTANT FIRM INFORMATION PAGE		
	BACK COVER **(Optional, but if included will count as a page)**		
		TOTAL POINTS	**TOTAL PAGES**
	TOTAL POINTS	100	14

4. **Any amendments issued on the SOQ and included in the SOQ, as required, will NOT be counted as pages.**

5. **Submissions failing to follow all instructions outlined above will be rejected and the Consultant notified in writing of the reason(s) for rejection.**

ENGINEERING CONSULTANTS SECTION
Statement of Qualifications
Format and Evaluation Criteria
for Contract No. 09-30

The following describes more specifically, the content of each part.

PART A, INTRODUCTORY LETTER

The introductory letter should be addressed to:

Arizona Department of Transportation
Engineering Consultant Section
205 South 17th Avenue
Room 293E, Mail Drop 616E
Phoenix, Arizona 85007

The introductory letter should contain the following items:

- An expression of the firm's interest in being selected for the project.
- A statement that the firm is pre-qualified with ADOT, or that the necessary pre-qualification information is being submitted with the proposal.
- A statement confirming the commitment of the key personnel identified in the submittal to the extent necessary to meet ADOT's quality and schedule expectations.
- Provide name and Professional Engineers registration number of the principal or officer responsible for this contract that is properly registered with the Arizona Board of Technical Registration at the time the Statements of Qualifications are due.
- A summary of key points regarding the firm's qualifications.
- A statement that the Consultant certifies, by signing and submitting this proposal to the best of his or her knowledge and belief, that no Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned for the purpose of lobbying (Refer to Section V).

PART B, EVALUATION CRITERIA

The information that should be included in the discussion of qualifications is outlined here.

1. Project Understanding and Approach

   a. Discuss generally the tasks involved in this project. Identify any special issues or problems that are likely to be encountered. Demonstrate clearly and concisely your understanding of the technical and institutional elements with which the consultant must deal.

   b. Outline your proposed approach for dealing with the tasks and issues of this project. Provide a tentative schedule indicating the duration and functional relationship of major tasks and key events. A graphical depiction may be included with the evaluation criteria.

   c. Explain how your firm will use Partnering in this project. (Relates to Construction Administration only.)

2. Project Team

Identify your proposed project team and its collective qualifications for this particular project. In particular, discuss the following:

a. Project Principal. Identify the person who (1) will be responsible for ensuring that adequate personnel and other resources are made available for this project; (2) will handle contractual matters, and; (3) will be ultimately responsible for the quality and timeliness of the consultant's performance. State that person's position and authority within the firm. Discuss previous similar projects for which this person has performed a similar function.

b. Project Manager. State who will actively manage this project. Identify any projects that person will be involved with concurrently and time committed to each project. List recent similar projects for which this person has performed a comparable function. Discuss relevant experience, professional registrations, education and other components of qualifications applicable to this project.

c. Project Engineer(s) and/or Other Key Personnel. Identify other members of the project team including subconsultants that provide special expertise or will perform key tasks. Describe their anticipated roles. Discuss their relevant experience, registration, education and other elements of qualification applicable to this project.

d. Construction Cost Estimator. Specify who will be responsible for construction cost estimating and that persons relative experience on projects similar to the one being submitted on.

3. Firm Capability

a. Discuss recent relevant experience of the firm. Projects listed should be similar in nature to the current project and to the extent possible involve team members proposed for this project.

b. Discuss quantitatively how this project would impact the current and anticipated workload of the office, which will perform this work. If "staffing up" will be necessary, discuss which areas and how that would be accomplished.

c. Describe any special equipment, software or other resources your firm has which will enhance your ability to accomplish this project. If you propose to use CADD, describe the applicable training and experience of your staff and identify any previous projects for which you have used CADD.

d. Describe your internal procedures for developing, monitoring and maintaining project schedules and budgets.

e. Describe your internal quality control procedures.

f. Describe any notable expertise, increase in capacity or other special capabilities of your subconsultants that are critical to your proposal.

g. Describe how your quality program would enhance the development of this project.

h. Describe your internal procedures for providing partnering education and development. (If applicable)

4. Location of Work

Describe where the key elements of this work will be performed by the Prime Consultant and the Subconsultants. ECS will award points based on the following criteria:

Less than 50% of all work done in state	0 points
At least 50% but less than 95% of all work done in state	1 point
At least 95% of all work done in state	3 points
100% of all work by the Prime and Subconsultants must be performed in State. Prime must be project convenient (within 35 miles of principal job site).	5 points

PART C, CONSULTANT FIRM INFORMATION SHEET

Complete the form provided or a facsimile thereof and include as a part of your submittal.

ENGINEERING CONSULTANTS SECTION
Proposal Evaluation Form

Questions, which the review panel will generally be seeking to answer in their evaluation, are listed here. The maximum points available for each category are indicated, though the relative weighting of items within each category is up to the discretion of the individual reviewers.

1. PROJECT UNDERSTANDING AND APPROACH (Maximum 40 points)

- Does the consultant understand the nature and scope of the project and the major tasks and issues that will need to be addressed?
- Has the consultant correctly identified any special problems that are likely to be encountered?
- Does the consultant appreciate the interrelation and relative importance of the various project issues?
- Has the consultant's understanding of the project been expressed clearly and concisely?
- Has the consultant proposed logical approaches for dealing with the project tasks and issues?
- Does the schedule incorporate all the major tasks and events? Does it reflect the interrelationship of important project elements and events? Is the proposed timing realistic?
- Does the consultant understand its responsibilities for the project?

2. PROJECT TEAM (Maximum 35 points)

- What is the level of ability and experience of the proposed project manager? What is the person's record of accomplishing similar projects in the past in terms of (1) quality of work?
  (2) Meeting schedules, (3) responsiveness to special needs and concerns of the client? Is this individual familiar with specific ADOT standards and procedures?
- Does the person identified as ultimately responsible for the consultant's performance have the authority necessary to commit firm resources, and to act on behalf of the consultant regarding contractual matters and disputes? What is this person's experience and record of performance on past projects of similar type and magnitude? Has this individual been responsive to ADOT and/or other clients in the past?
- Do other key members of the project team (including subconsultants) provide the range and level of expertise necessary to deal with the scope of this project? Are these individuals familiar with specific ADOT standards and procedures? Have they worked together as a team before?
- Specify who will be responsible for construction cost estimating and that persons relative experience on projects similar to the one being submitted on.

3. FIRM CAPABILITY (Maximum 20 points)

- What level of experience <u>relevant to this project</u> does the consultant have? Are the firm's employees with the relevant experience participating in this project? Is the consultant familiar with ADOT standards and procedures? Has the firm shown a particular commitment to this type of work?

3. FIRM CAPABILITY (continued)

- Has the consultant provided quantitative data indicating that qualified personnel will be available for this project? Does the consultant realistically have the ability to add qualified staff if needed for this project or other projects that happen to come on line before this project is completed?

- Will this project benefit from the use of CADD? If so, does the consultant have the type and amount of CADD equipment appropriate for this project? Is the consultant's staff suitably trained and experienced in the use of CADD? Has the consultant successfully used CADD on past ADOT or similar projects?

- Does the firm have other special equipment or software that will be beneficial to this project? Are current staff members familiar with its use? Has it been used successfully before on ADOT or other similar projects?

- Is the consultant's approach for developing and maintaining the project budget and schedule sound? Has the consultant used these procedures successfully on ADOT or similar projects in the past? Are proposed measures to avoid or make up slippage on the schedule realistic?

- Is the consultant's quality control program suitable? Has it been used successfully by the consultant on ADOT or similar projects in the past?

- If one or more subconsultants are critical to the consultant's proposal, do these firms have the technical expertise, available personnel and record of performance appropriate for their anticipated roles?

I. CONTRACT NO. 09-30

STATEMENT OF QUALIFICATIONS/SELECTION PANEL COMMENT FORM

FIRM NAME_____ #_____ PANEL MEMBER_____ #_____

1. PROJECT UNDERSTANDING AND APPROACH

What did you like about the firm's understanding and approach?

_____
_____
_____

What did you dislike about the firm's understanding and approach?

_____
_____
_____

What did you think about the way the firm handled special problems and/or special situations?

_____
_____
_____

What did you think about the schedule?

_____
_____
_____

What parts of the understanding and approach did you think were well done?

_____
_____
_____

What suggestions would you make to the firm to improve this section for the next time?

_____
_____
_____

SCORE (40 Maximum) _____

I. PANEL COMMENT FORM
PAGE TWO

CONTRACT NO. 09-30

FIRM NAME_____ **#**_____ **PANEL MEMBER**_____ **#**_____

2. PROJECT TEAM

Team Strengths:

_____
_____
_____

Team Weaknesses:

_____
_____
_____

How are the team member's qualifications geared to this specific project?

_____
_____
_____

SCORE (35 Maximum) _____

3. FIRM'S CAPABILITIES

Firm's strong areas as related to this project:

_____
_____
_____

Firm's weak areas as related to this project:

_____
_____
_____

I. PANEL COMMENT FORM
Page Three

CONTRACT NO. 09-30

FIRM NAME_____ #_____ PANEL MEMBER_____ #_____

3. FIRM'S CAPABILITIES, CONTINUED

How did the firm fit the subconsultant's qualifications/duties into overall picture?

_____
_____
_____

SCORE (20 Maximum) _____

(SCORES ARE TO BE ENTERED AND TOTALED ON SCORE SHEET)

==========

OTHER:

Any comments on the format and presentation of the SOQ?

_____
_____
_____

Any other comments or suggestions?

_____
_____
_____

SECTION IV

CONSULTANT FIRM INFORMATION PAGE

PART C - CONSULTANT FIRM INFORMATION PAGE

CONTRACT NO.: _____

CONTACT PERSON: _____

E-MAIL ADDRESS: _____

CONSULTANT FIRM: _____

ADDRESS: _____

_____

_____

CITY, STATE ZIP: _____

TELEPHONE: _____

FAX NUMBER: _____

ADOT CERTIFIED DBE FIRM? _____

AFFIRMATIVE ACTION ON FILE WITH ADOT? _____

SUBCONSULTANT(S)	TYPE OF WORK	ADOT CERTIFIED DBE FIRM

NOTE: The Consultant Firm Information Page <u>must be a separate full page and is included in the total page count.</u> This page is not evaluated by the Selection Panel, but is used by Engineering Consultants Section for administrative purposes.

SECTION V

LOBBYING CERTIFICATION

Lobbying Certification

The Consultant certifies, by signing and submitting this proposal (see statement in "Introductory Letter"), to the best of his or her knowledge and belief, that:

(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.

(2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. Copies of Form-LLL "Disclosure Form to Report Lobbying', are available at ADOT Engineering Consultants Section, 205 S. 17th Avenue, Mail Drop 616E, Room 293E, Phoenix, AZ 85007.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, and U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The proposer also agrees, by submitting its proposal, that it shall require that the language of this certification be included in all subcontracts and lower tier subcontracts which exceed $100,0000 and that all such subcontracts and lower tier subcontractors shall certify and disclose accordingly.

The Department will keep the Consultants certification on file as part of their original proposals. The Consultant shall keep individual certifications from all subcontractors and lower tier subcontractors on file. Certifications shall be retained for 3 years following completion and acceptance of any given project.

Disclosure forms for the Prime Consultant and or their subcontractors and lower tier subcontractors shall be submitted to the Contract Manager at the date Statements of Qualifications are due, when said subcontracts exceed $100,000. During the performance of the contract the Consultant and any affected subcontractors shall file revised disclosure forms at the end of each calendar year quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. Disclosure forms will be submitted by the Contract Manager to the Federal Highway Administration for further processing.

SECTION VI

ADOT EMPLOYEE POST EMPLOYEE EMPLOYMENT RESTRICTIONS

SUPPLEMENTAL SERVICES RESTRICTIONS

FIFE SYMINGTON
Governor

LARRY S. BONINE
Director

ARIZONA DEPARTMENT OF TRANSPORTATION

INTERMODAL TRANSPORTATION DIVISION
ENGINEERING CONSULTANTS SECTION
205 South 17th Avenue - Room 293E, Mail Drop 616E
Phoenix, Arizona 85007

THOMAS G SCHMITT
State Engineer

March 7, 1996

Engineering Consultants Section

INFORMATION BULLETIN 96-04

TO: CONSULTANTS

FROM: ENGINEERING CONSULTANTS SECTION

SUBJECT: ADOT Employee Post Employment Restrictions

The purpose of this bulletin is to provide guidance to consultants in the employment of current or former ADOT employees to work on contracts administered by the Engineering Consultants Section. The following guidelines and policy are intended to avoid actual or perceived conflicts of interest. The reference to "current ADOT employee" applies to both full time employees and temporary employees.

1. A current ADOT employee cannot be employed by a consultant to work on active ADOT contracts.

2. A current ADOT employee cannot be included in a Statement Of Qualifications proposal for an ADOT consultant contract as an owner, an individual, or as a member of the consultants team. If an employee resigns to comply with this rule their last day of ADOT employment must be prior to the date that the proposals are due.

3. If a current or former ADOT employee is employed by a consultant which has an active ADOT contract for which the employee was a decision maker in the selection process or negotiated/approved billings or contract modifications, the employee is prohibited from working on these contracts (Policy and Implementation Memorandum 92-12).

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor M. Mendez
Director

Debra Brisk
Deputy Director

August 18, 2004

REVISED
INFORMATION BULLETIN NO. 04-05

TO: ADOT Project Managers/Monitors, Resident Engineers And Consultant Engineering Firms

FROM: Engineering Consultants Section

SUBJECT: CONFLICT OF INTEREST
SUPPLEMENTAL SERVICES RESTRICTIONS

The purpose of this bulletin is to provide guidance to firms supplying supplemental service employees to ADOT under contracts administered by the Engineering Consultants Section (ECS).

The following restrictions are intended to avoid actual or perceived conflicts of interest. The reference to "ADOT contract employee" applies to both full time and part time contract employees.

1. A current ADOT contract employee cannot be included in a Statement of Qualifications proposal for an ADOT consultant contract as a member of the consultant's team. Exceptions would be:

    a. if the contract employee resigns to comply with this rule their last day of ADOT contract employment must be prior to the date that the proposals are due; or

    b. if the employee's contract is in it's third year and within 4 months of the contract completion date; or

    c. if the Department exercises it's option not to extend the existing contract.

2. If a current or former ADOT contract employee is employed by a consultant which has an active ADOT contract for which the contract employee was a decision maker (for example: involved in the final scope preparation, involved in the selection process or negotiated/approved billings or contract modifications), the employee is prohibited from working on these contracts.

As of this date, a copy of this information bulletin will be included in each ECS Statement of Qualifications package.

If a waiver is requested from the above restrictions, a statement must be submitted to ECS describing the nature of their involvement prior to proposal submittal or work assignment. Resolution of potential conflicts of interest will be determined by ECS in conjunction with the applicable Deputy State Engineer.

SECTION VII

PROJECT SUMMARY
REFERENCE MATERIAL AVAILABILITY

REFERENCE MATERIAL
FOR
CONTRACT NO. 09-30

I-10/SR 303L System Traffic Interchange (Phase I)

The following documents regarding this project will be available at the following location for the Consultant to review:

Ftp://ftp.azdot.gov
Username: ECS
Password: Ecs_01 (Case Sensitive)

1) 30% Project Plans
2) 30% Preliminary Retaining Wall Report
3) 30% Preliminary Bridge Selection Report
4) 30% Initial Utility Report
5) 30% Initial Traffic Report
6) Initial Drainage Report Volume 1 & 2
7) 30 % Geotechnical, Pavement, Materials Report
8) 30% Draft Noise Analysis Technical Report
9) 30% Cross Sections

Should the Consultant desire to obtain copies of these documents, the cost of reproduction shall be borne by the Consultant.

SECTION VIII

SCOPE OF WORK

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
VALLEY PROJECT MANAGEMENT GROUP

SCOPE OF WORK

303 MA 104 H7139 01D
NFA
(SR303L)
I-10/SR303L System Traffic Interchange (Phase I)

NEW FREEWAY CONSTRUCTION

January 2009

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Dictionary Of Standardized Work Tasks **2.36**

SECTION 100 - GENERAL INFORMATION

NOTE: This scope of work is presented in two parts. The Project Scope of Work is contained in this section. It includes information specific to this project.

The section Dictionary of Standardized Work Tasks is presented as a section within the scope of work. It includes information that is common to consultant design contracts. The description of work tasks is presented in Dictionary of Standardized Work Tasks. Not all the work tasks described are necessary on every project.

110 Location

State Route Loop 303 (SR303L) is a 40-mile long planned new freeway in the western and northwestern portions of the Greater Phoenix Metropolitan Area. SR303L is part of the Regional Transportation Plan Freeway Program (RTPFP) adopted by the Maricopa Association of Governments (MAG) in November 2003. It extends from the future SR801 near MC85 north to Interstate 10 (I-10), across US60 (Grand Avenue), and then to the northeast to connect with Interstate 17 (I-17). When completed, SR303L will serve the cities of Goodyear, Glendale, Surprise, Peoria and Phoenix and unincorporated portions of Maricopa County and will provide a regional highway link to/from the north and west sections of the Valley. The RTPFP funds the installation of a six-lane freeway facility, with three general purpose lanes and no HOV lane (3+0 concept) in each direction of travel.

This project I-10/SR303L TI (Phase I) segment of the SR303L Freeway improvements is within the City of Goodyear limits in Maricopa County, Arizona. The project limits for the I-10/SR303L TI (Phase I) section are from approximately MP 103.00 to MP 105.62 on SR303L and MP 122.98 to 126.28 on I-10.

See attached Location map in Appendix A.

120 Description

The I-10/SR303L TI (Phase I) project is the initial phase of construction of the I-10/SR303L System Interchange. The ultimate System Interchange is a five-level directional interchange. SR303L is a major element of the Maricopa Association of Governments (MAG) adopted Regional System in the northwest portion of Maricopa County. Traffic demand is causing the existing SR303L corridor to become congested. Future growth and traffic projections indicate the congestion will worsen and the need for a regional freeway facility in the northwest valley. The I-10/SR303L TI will provide direct connectivity between Interstate 10 and SR303L servicing the needs of the City of Goodyear, City of Glendale and the City of Surprise.

The RTP provides funding for the I-10 to US60 segment of SR303L early in Phase 2 (FY2011 to FY2015) while the segment south of I-10 is listed for funding in the latter part of Phase 3 (FY2016 to FY2020).

A detailed description of project improvements is included in Section 400.

Work on this project includes the following:

A. The Design firm shall design and prepare construction plans, technical specifications, quantity computations and related construction documents including: structural selection reports, structural design, traffic design, foundation investigations (roadway and bridge) and roadway drainage reports. **All of the above shall be in English units.**

B. The Consultant shall perform all supplemental surveys as needed for the design of the proposed roadway, drainage, bridge and traffic improvements.

C. The Consultant shall delineate the right-of-way needed for the ultimate freeway facility. ADOT will prepare the right-of-way plans.

D. Traffic control requirements will be addressed by reference to the Manual of Uniform Traffic Control Devices (MUTCD), 2003 edition (ADOT has not adopted Revision 1 to the 2003 MUTCD edition).

E. The Consultant shall perform a traffic noise impact analysis based on the final roadway horizontal and vertical alignment to determine final sound barrier locations and heights.

F. The Consultant shall incorporate in the design all mitigation measures identified in the Draft Environmental Assessment for SR303L I-10 to US60 (September 2008). The Final Environmental Assessment is anticipated in (February 2009).

G. The Consultant shall review and include as appropriate the measures identified in the Visual Prioritization Report for I-10/SR303L TI (anticipated February 2009).

H. The project stakeholders for the design effort shall include at a minimum the Federal Highway Administration (FHWA), City of Goodyear, Flood Control District of Maricopa County (FCDMC), ADOT and other agencies or interested stakeholders.

I. The Consultant shall prepare a Construction Feasibility Memorandum evaluating the I-10/303L TI Phase I and Phase II components. The evaluation shall include project interface locations and constructability of Phase I and Phase II bridges, walls and slopes associated with the future fly-over ramps.

J. The Consultant shall provide post design services as necessary for successful completion of the construction project.

130 Purpose

The purpose of this project is to improve regional traffic flow in the west and northwest portions of the Greater Phoenix Metropolitan Area.

140 Construction Cost

This construction project is included in the ADOT Regional Freeway Transportation Plan FY 2009-2013 Transportation Facilities Construction Program, which includes $13.8 Million in FY2009 for design and $250 Million in FY2011 for construction.

150 Organization

The Arizona Department of Transportation (ADOT) retains design consultants to perform a variety of engineering services.

160 Length of Services

The length of service is estimated to be 600 calendar days. This begins with the notice to proceed, and includes all reviews by the team and stakeholders through the award of contract. Post design services shall be by a contract modification.

170 Schedule

The consultant shall develop a plan for the design and pre-construction activities necessary for delivering the project in a timely manner consistent with the length of service described in Section 160. The plan shall include a list of activities, estimated duration and resources as well as a CPM schedule and other information as appropriate. The Consultant shall complete the project development process so that bid advertisement for this project shall be no later than December 31, 2010.

171 Project Schedule

The consultant shall provide a CPM schedule compatible to ADOT's Primavera scheduling system. It shall include the 20 milestones/flags requested by ADOT. An initial schedule shall be submitted within 6 weeks of the notice to proceed. The schedule submitted shall be customized to reflect the exact needs of the project. Work elements for which ADOT has responsibility shall be included in the schedule.

172 Project Schedule Updates

The consultant shall status activities in the schedule in accordance with a schedule furnished by ADOT. Changes to the schedule logic will be submitted to the ADOT project manager for approval. If the milestones show negative float, the consultant shall include a narrative of corrective solutions to put the design schedule back on time for delivery.

173 Monthly Progress Meetings

The consultant shall arrange and attend a regularly scheduled monthly progress meeting with the ADOT Project Manager and project team members. The consultant shall record "minutes" of the progress meeting. The "minutes" shall be distributed to the team within 10 calendar days of the meeting.

180 Responsibility Chart

Appendix B is a chart indicating the division of responsibilities between the consultant, ADOT and other stakeholders. This chart is intended as a "checklist", in the event of conflict the written Scope of Work shall take precedence.

190 Environmental Documents

The Draft Environmental Assessment (EA) for SR303L I-10 to US60 (September 2008) should be used as a reference. Public Hearings were held October 21 and October 22 to present the findings of the Draft EA to the public. The Final EA is expected to be available February 2009. Mitigation measures listed in the Environmental Assessment documents shall be incorporated into the project design.

SECTION 200 - DESIGN REFERENCES

Design references developed and published by ADOT and other agencies and adopted by ADOT for use in the design of this project are listed in the ADOT Project Development Process Manual (2008), AASHTO LRFD Bridge Design Specifications (2007) with 2008 Interim Revisions, ADOT Bridge Design Guidelines, ADOT Bridge Hydraulics Guidelines, MUTCD (2003Ed.), ADOT Traffic Control Design Guidelines, Signing and Marking Standards (2004), Traffic Signal and Lighting Standards (2004) and the ADOT Roadway Design Guidelines (Jan. 2007).

The following are current or latest edition of Manuals, Guidelines or Policies that may be required by the consultant: A Policy on Geometric Design on Highways and Streets, AASHTO (2004); Roadside Design Guide AASHTO (2006); ADOT Guidelines For Highways on Bureau of Land Management and U.S. Forest Service Lands (2008); ADOT Landscape Design Guidelines for Urban Highways; ADOT Erosion and Pollution Control Manual for Highway Design and Construction (2005); ADOT Post-Construction Best Management Practices Manual for Highway Design and Construction (2008); ADOT Maintenance and Facilities Best Management Practices Manual (2008); Application Procedures for Designation of Parkways, Historic and Scenic Roads in Arizona (1993); ADOT CADD Standards & Specifications..

The Consultant is advised that while possession of all of these documents is not necessary to successfully complete the project, the Consultant is responsible for designing in accordance with the applicable documents and current revisions and supplements thereto. The following documents were produced for this project and will be available to the selected design Consultant.

210 Miscellaneous Reports and Studies for this project

A. Design Concept Report –
   1. 303L, I-10 to US60 Draft DCR September 2008, Final pending (Feb. 2009)
   2. I-10/SR303L Change of Access Report April 2008

B. Environmental Assessment –
   1. 303L, I-10 to US60 Draft EA September 2008, Final pending (Feb. 2009)
   2. I-10/SR303L Draft Noise Analysis Report October 2008
   3. Initial Site Assessment (ISA) SR303 I-10 to US60 ADOT 2002
   4. Hazardous Material Inventory SR303/White Tanks ADMP Update 2003

C. Stage II (30%) Design – prepared by Parsons Brinckerhoff, including:
   1. Project Plans and Cross Sections
   2. Roadway Geometry & Calculations Book
   3. Initial Traffic Report
   4. Initial Drainage Report
   5. Initial Utility Report
   6. Preliminary Retaining Wall Report
   7. Preliminary Geotechnical/Pavement Design/Materials Report
   8. Preliminary Bridge Foundation Evaluation
   9. Preliminary Bridge Selection Reports for:
      - I-10 SR303L EB OP
      - I-10 SR303L WB OP
      - I-10 Sarival Avenue TI OP

- SR303L Thomas Road TI UP
- SR303L McDowell Road UP
- SR303L I-10 EB FR UP
- SR303L I-10 WB FR UP
- I-10/SR303L Ramp EN
- I-10/SR303L Ramp SE
- I-10/SR303L Ramp WN I-10 WB FR UP
- I-10/SR303L Ramp WN McDowell Road UP
- I-10/SR303L Ramp WN SR303L NB FR UP
- I-10/SR303L Ramp SW SR303L SB FR UP
- I-10/SR303L Ramp SW I-10 WB FR UP

10. Visual Prioritization Report (Aesthetic Guidelines) (February 2009)

220 AASHTO Publications

ADOT references and publications shall control the work, and any necessary supplementation should be provided by appropriate AASHTO and/or FHWA references. The ADOT Project Manager will provide guidance and direction.

SECTION 300 - DESIGN CRITERIA

Design of this project and preparation of contract documents will be guided by the Design Criteria presented in the ADOT Roadway Design Guideline Manual. This document was prepared to establish uniform design polices, design procedure guidelines, and criteria. Deviation from the policies and criteria may be permitted with the approval of ADOT. These design criteria will serve as the basis for referencing the project design standards and guidelines referenced in Section 200.

301 Supplemental Design Criteria

The design criteria listed in this section and the Project Design Guidelines may be supplemented by Project Design Memorandums provided by ADOT during the course of the project.

310 General

- Design Year - 2030

- Design Speed -

SR303L:	65 mph (min.)
I-10	65 mph (min)
System Ramps	
Ramp Body	55 mph (min)
Mainline Gores (On Ramp)	55 mph (min)
Mainline Gores (Off Ramp)	60 mph (min)
Service Interchange Ramps:	
- Exit Gores:	60 mph (min.)
- Entrance Gores:	55 mph (min.)
- Ramp Body:	50 mph (min.)
- @ Crossroad Intersection:	35 mph (min.)
Crossroads:	45 mph (min.)
Frontage Roads	45 mph (min)
Detours:	
- Crossroads	45 mph (min.)

- Pavement Design Life - 20 years

- Drainage – See Initial Drainage Report and Roadway Design Guidelines

320 Geometry

In accordance with the Roadway Design Guidelines, the following are specific guidelines to be used:

Slope Guidelines:		3:1 Max
Maximum Mainline Gradient:		3%
Minimum Vertical Clearance:		
Structures	16'-6"	
Sign Structures	18'-0"	
Maximum Superelevation		0.06ft./ft.

Lane Width:	12-ft
Shoulder Width:	
I-10	12-ft inside; 12-ft outside
303L	8-ft inside; 10-ft outside +2-ft offset to barrier

330 Drainage

Refer to Chapter 600 of ADOT's Roadway Design Guidelines.

340 Traffic

- Signing Permanent (Freeway Urban - Conventional Highway)
- Signing Temporary (Traffic Control during Construction)
- Pavement Marking (Signing and Marking Standards)

350 Other Features

- Guardrail/Barrier Type – (Std C-10 Series)
- Fencing Type – (Std C-12 Series)
- Retaining Walls – (Std B-18 Series(June 1992 publication number 31-002) or alternate proprietary retaining wall systems (if appropriate))
- Sound Barrier Walls – (Std 8.01 and 8.02 Series or alternate proprietary retaining wall systems (if appropriate))

SECTION 400 - DESIGN WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for the design work and preparation of construction documents outlined in this section in accordance with the standard design tasks listed in the Dictionary of Standardized Work Tasks. The Consultant shall perform all work in accordance with the most current policies and procedures, unless otherwise directed.

401 Design Features

The Consultant shall be responsible for the design development and construction document preparation for Phase 1 of the I-10/SR303L Interchange as specified in Sections 110 and 120. The Consultant shall utilize the Stage II (30%) engineering drawings and reports noted in Section 210 as the framework for this project. The Consultant shall implement the necessary Mitigation Measures noted in the Final Environmental Assessment. The Final Environmental Assessment is anticipated in February 2009.

The project begins on I-10 approximately 2700 feet west of Citrus Road (MP122.98) and extends east of Sarival Ave. to (MP 126.28). SR303L begins north of Van Buren (MP103.00) and extends north of Thomas Road (105.62). SR303L mainline construction will begin north of the Ramp SW and Ramp WN gores. The I-10/SR303L TI (Phase I) project is the first phase of construction of the I-10/SR303L System Interchange. The ultimate System Interchange is a five-level directional interchange. I-10 will remain at its current elevation of one level above ground through the project limits while being realigned 250 feet to the north. The realignment will accommodate maintenance of traffic on I-10 during reconstruction of the facility and will minimize impacts to adjacent residential development in the southeast quadrant of the proposed interchange. From the north, SR303L is at-grade at Indian School Road transitioning to partially depressed at Thomas Road to fully depressed at McDowell Road. The SR303L freeway remains fully depressed one level below grade from McDowell Road to I-10, elevating over the Roosevelt Irrigation District (RID) Canal to the south of I-10 resulting in a profile one level above grade at Van Buren Street. Half diamond traffic interchanges are added on I-10 at Citrus Road and Sarival Avenue and are connected by two-lane one-way at-grade frontage roads. This split diamond interchange configuration replaces the existing I-10 Cotton Lane interchange that is removed under this project. Half diamond interchanges are also located on SR303L at Van Buren Street and Thomas Road. These interchanges are also connected by two-lane, one-way, at-grade frontage roads. This split diamond interchange configuration connects with the Citrus Road/Sarival Avenue frontage roads and with McDowell Road to provide local circulation and access to existing and future development north and south of I-10. All directional ramps are two-lane ramps. Ramps SW and WN are depressed one level below ground. Ramps ES and NE are elevated one level (25 feet) above ground. Ramps NW and SE cross over I-10 and are elevated two levels above ground (50 feet) at I-10. Ramps EN and WS are elevated three levels above ground (75 feet) crossing over Ramps NW and SE. Both I-10 and SR303L have widened medians to accommodate an ultimate freeway to freeway HOV south to east and west to north connection. The HOV ramp is elevated one level over McDowell Road and two levels (50 feet) at I-10.

The RTP provides funding for the I-10 to US60 segment of SR303L early in Phase 2 (FY2011 to FY2015) while the segment south of I-10 is listed for funding in the latter part of Phase 3 (FY2016 to FY2020). As a result, this project, I-10/SR303L TI (Phase I), will implement full directional connections to and from SR303L to the north of I-10 and provide an interim connection to Cotton Lane to the south of I-10 via the frontage road system. More specifically this project will reconstruct I-10 from the Citrus Road Bridge eastward to Station 6648+/- approximately 1700 feet east of Sarival Avenue. It will match I-10 improvement projects currently under construction or programmed for construction prior to this project at

either end that close the median and add additional traffic lanes. Between the system directional ramp gores I-10 will be constructed to its ultimate width to accommodate four general purpose lanes and one HOV lane (4+1) in each direction. Additional I-10 widening to accommodate directional ramp auxiliary lanes is included. SR303L mainline construction will start at the directional ramp gores and extend northward to Station 410. The SR303L section will include the initial basic 3+0 roadway with outside-in construction and include the ultimate auxiliary lanes. The I-10 split diamond interchanges at Citrus Road and Sarival Avenue and the frontage road system including frontage road structures over future SR303L is included. Citrus Road Bridge will be retained; Sarival Road structures will be replaced. The Thomas Road half diamond TI will be constructed along with the two-lane one-way frontage road system extending south connecting with the I-10 split diamond system. From the frontage road intersections, interim roadways will extend south to connect to existing Cotton Lane. The design shall also consider future SR303L extension to the south and directional ramp connections to I-10 and future drainage system requirements within the project limits.

The ultimate drainage facilities include a regional drainage channel paralleling the west side of SR303L The channel outfalls into two in-line cascading basins (McDowell Road Upper and Lower Basins) located south of Thomas Road along the east side of the Arizona State Prison Perryville Complex. These basins are connected to a third basin (I-10 Basin) lying between I-10 and McDowell Road west of SR303L. This basin also stores inflows from the I-10 West Channel which drains areas north of I-10 and west of Citrus Road. The I-10 Basin outfalls to a concrete channel paralleling the west side of the future SR303L within the Cotton Lane Corridor. Other minor off-site basins are located along the north side of I-10. On-site drainage utilizes trunk lines to connect to either regional basins or on-site basins within the I-10/SR303L interchange. A pump station will be required to drain the lower portions of SR303L and depressed directional ramps.

The I-10/SR303L (Phase I) project will construct the regional drainage channel from the north project limits to the McDowell Road Upper and Lower Basins as well as the I-10 West Channel west of Citrus Road along the north side of I-10, a portion of the I-10 Basin, outfall structures crossing I-10 and the regional drainage channel south to Van Buren Street. On-site basins will be used as retention basins to drain the depressed directional ramps. The I-10 Basin outfalls will be blocked, and the McDowell Road Upper, Lower and I-10 Basins will function as retention basins until the regional channel to the south is constructed. The pump station is not included in this phase. Basin connecting culverts and I-10 cross culverts are included in I-10/SR303L TI (Phase I) construction.

Significant utility relocations are required in the I-10/SR303L TI (Phase I) project. The RID Canal will be relocated and placed within a box culvert beneath the I-10 and Cotton Lane/SR303L crossing. Fiber optic lines are also located within the RID right of way. The existing sewer line in McDowell Road will require a lift station and power and fiber optic lines located along Cotton Lane require relocation. Additional utilities are encountered in Citrus Road, Sarival Road, Cotton Lane and McDowell Road.

The project will include signing, pavement marking, freeway lighting and conduit for the future installation of a Freeway Management System (FMS). Local access TI ramp intersections will be signalized as well as the McDowell Road frontage road intersections. Local access on-ramps will be ramp metered. Ramps SW and EN will be constructed as two lane ramps but marked as single lane.

The Consultant shall coordinate closely with the ADOT Valley Project Manager and other members of the project team, including but not limited to:

- ADOT technical groups

- ADOT CCP
- Federal Highway Administration
- City of Goodyear (COG)
- Flood Control District of Maricopa County (FCDMC)
- Roosevelt Irrigation District
- Perryville Prison
- Arizona State Land Department (ASLD)
- Arizona Department of Environmental Quality (ADEQ)

The Consultant will be required to coordinate with the SR303L Management Consultant and the design consultants for the widening of I-10 on both the east and west end of this project.

403 Scoping Documents

The following scoping documents will be available:

Final Environmental Assessment Pending (February 2009)
Final DCR Pending (February 2009)
Final Change Of Access Report Pending (February 2009)

The Consultant shall prepare a Construction Feasibility Memorandum evaluating the I-10/303L TI Phase I and completion of the ultimate (Phase II) TI components. The Construction Feasibility Memorandum shall be submitted within eight weeks of notice to proceed. The Memorandum shall include an evaluation of Phase I and Phase II flyover bridges, project interface locations and constructability. The objective of the evaluation is to identify the required features of the future Phase II TI project improvements to be designed and constructed as a part of this project. The anticipated Phase II improvements may include but not be limited to pier foundations, lighting foundations and retaining walls. A review of the proposed Phase II pump station location and wet well installation shall be performed. Items constructed under Phase I should improve future constructability, minimize throwaway and result in design refinements to the Phase II NW and WS directional ramps and structure types. The Phase I structure types have been identified as a part of the 30 percent Bridge Selection Report. ADOT Bridge Group has identified at least two bridge alternative types for the future Phase II flyover structures of I-10 for consideration during the evaluation. The two types are Hybrid CIP/PT Box and AASHTO Girder with outrigger and Segmental Precast/PT Box. The evaluation shall include an estimate of construction cost for the Phase II bridge alternatives. Refinements to the TI geometrics that optimize ramp and structure layout shall be submitted to Loop 303 Corridor MC, Parsons Brinckerhoff for review. The Memorandum shall discuss construction phasing of the TI (Phase I and Phase II) and structure maintenance. Recommendations of the analysis will be reviewed by ADOT VPM, Bridge Group and PCD as well as Parsons Brinckerhoff prior to setting final geometrics.

405 AASHTO Design Criteria Report – Not Applicable

410 Surveys and Mapping

The photogrammetric survey and mapping for this project will be provided by ADOT using the NAD 1983 and NAVD 1998 datum. All information will be developed in English units. The grid adjustment factor (GAF) of 1.00016 shall be used to convert the GDACS horizontal control point values (grid values) to ground coordinates for use on the project.

The Consultant shall use the DTM provided by ADOT to prepare roadway and drainage cross sections. If additional surveys are required to design this project, the Consultant shall provide complete field surveys that are suitable for contract document preparation and meet the technical requirements of ADOT and the State Board of Technical Registration. The technical requirements of ADOT are as specified in Section 200, Design References, of this Scope of Work.

The Consultant shall also obtain topographical surveys necessary to complete the project design. The Consultant shall obtain any permits (e.g. ADOT Phoenix Maintenance District, City of Goodyear, Flood Control District of Maricopa County, State Land Department, etc.) that may be required prior to beginning field work. A traffic control plan may be required by each agency to obtain a permit for this survey work.

The Consultant shall be responsible for confirming the right-of-way limits shown on the Stage II (30%) documents within sixty (60) calendar days after Notice-to-Proceed. The ADOT Right-of-Way Section On-Call Consultant shall be responsible for setting right-of-way markers. The Consultant shall note the locations in the project plans. The horizontal and vertical datum should be consistent between the construction plans and the right-of-way plans.

The consultant shall be responsible for staking the project center line for review by the project team. This work shall be completed prior to the date the Project team personnel are scheduled to conduct a field review of the project.

415 MATERIALS DESIGN

416 Geotechnical Investigation

The consultants shall prepare a geotechnical investigation work plan including any necessary access roads for the geotechnical work on the new alignment to prepare the Final Geotechnical Report, including bridge foundation and retaining wall recommendations, Final Pavement Design Summary and Final Materials Memorandum. Soil testing is to include Agronomy Testing providing Soil Type and PH data necessary for Landscape Design per Section 455 A.3.

The Consultant shall review the Preliminary Bridge Foundation Evaluation and preliminary roadway geotechnical boring plan included as Appendix C to the document and prepared as part of the Stage II (30%) design. Preliminary geotechnical field investigations were performed during the Stage II (30%) plan development. The Consultant shall implement the final geotechnical investigation plan based upon this information.

The final design shall include two (2) sacrificial test shafts at strategic locations within the footprint of the TI such that they are (a) within ADOT/MCDOT right-of-way, and (b) not in conflict with the foundation locations of the various structures. The Consultant shall coordinate with VPM, Materials Group and Bridge Group to determine the scheduling of the test shaft activities. The locations shall be chosen such that the soil conditions are representative of the type and variation anticipated to be encountered within the depth of the production shafts. One boring at the center of the each proposed shaft location shall be performed prior to the test shaft being excavated. This boring shall extend at least 20-ft below the proposed test shaft tip elevation and shall include Standard Penetration Test (SPT) sampling every 5-ft intervals. Eight (8) pressuremeter tests in each boring shall be performed in accordance with ASTM D4719 using mono-cell Menard G-AM pressuremeter system or equivalent pressuremeter system

acceptable to the Materials Group. In addition to the standard 5-ft interval, a SPT shall be performed immediately following each pressuremeter test to obtain N-values and physical samples for soil identification.

The test shafts shall be of representative diameter and lengths based on a safety factor of 2.5 during design using the allowable stress design approach in accordance with 17th Edition of AASHTO (2002). At this time it is anticipated that the test shaft diameters will be approximately 8- to 10-ft and ranging in depths from 140- to 160-ft below existing grades. In one of the test shafts, a load test shall be performed using the O-cell technique. The load test shaft shall be drilled after the successful conclusion of the first test shaft to permit appropriate modifications in construction based on observations of the first test shaft.

In the load test, two levels of O-cells shall be used to define the skin and tip resistances in various formations. It is anticipated that there will be multiple O-cells at each level. The location and the number of the O-cells shall be determined by the final designer based on anticipated shaft capacities in skin and tip resistance such that the ultimate capacities of the soils are determined. The test shaft shall be instrumented with strain gages and other appropriate instrumentation (e.g., telltales) to measures strains and stresses. At a minimum, the load test shall include four (4) vibrating-wire strain gages per level with an average of 1-level every 10-ft depth of the test shaft. The sacrificial load test shaft shall be designed using the procedures and detailing as for a production shaft with the appropriate reinforcement cage and appropriate concrete strength. Use of super-plasticizers shall not be allowed. The load test shaft shall be drilled within 1% plumbness and caliper logged. Integrity test shall also be performed on the load test shaft using the cross-hole sonic logging and gamma-gamma logging procedures. For the test shaft without the load test, caliper logging shall also be performed. Concreting curves shall be prepared for both shafts using truckloads not exceeding 8-cubic yards in volume. Lean concrete backfill for test shaft without load test is acceptable. Both shafts shall be terminated at least 5-ft below anticipated finished grade to prevent conflicts with future surface facilities.

A comprehensive report on the test shaft program that includes at a minimum information on construction of test shafts, boring logs, concreting logs, integrity tests, performance of load test, data and interpretation of load test and recommended shaft capacities shall be the deliverable. The complete test shaft and load test program shall be reviewed and approved by the Materials Group."

417 Earthwork

The Consultant shall evaluate and recommend options to minimize waste/balance earthwork by minimizing drainage basin excavation or increasing embankments where required for ultimate TI concept. The consultant should coordinate with the SR303L Management Consultant as borrow is expected to be required for adjacent projects.

419 Pavement Design

The consultant shall be responsible for preparation of the Pavement Design and Materials Memoranda.

420 Environmental Studies

The Draft EA for SR303L I-10 to US 60 was issued September 29, 2008. The Final Environmental Assessment is anticipated in February of 2009. The Consultant shall be responsible for including any mitigation measures that are cited in these documents for incorporation into the design of the project.

The Consultant should refer to the Final EA for additional information. Activities (i.e., geotechnical investigations, survey, etc.) that require soil or vegetation disturbance may not begin until the appropriate environmental clearance (i.e., cultural resource, hazardous material, or biological evaluation) has been obtained by ADOT. ADOT's Environmental Planning Group (EPG), in cooperation with the affected federal, state or local agency, will issue the required clearance. Stage II (30%) Plans refined the concepts provided in the DCR and Final Environmental Assessment; the consultant will need to coordinate with ADOT EPG, VPM and FHWA to determine the need of an amendment to the Final EA.

The Consultant shall coordinate with the ADOT EPG and ADOT Right-of-Way Section as necessary regarding refinements to the project design. Updated environmental clearances may be required for additional right-of-way and/or temporary construction easements and any changes in the scope of work. A minimum of a clearance memorandum will be required at design completion.

422 Noise Analysis Technical Report

A study of the present and future noise environment adjacent to the project was conducted during preparation of the EA. Additionally; a Draft Noise Analysis Technical Report was prepared for the I-10/SR303L interchange which identifies potential sound barrier locations. The Consultant shall update the noise analysis and noise mitigation requirements based on the final horizontal and vertical alignments of I-10, SR303L, Ramps and frontage roads. The Consultant shall ensure that predicted noise levels are not increased, that noise levels do not approach or exceed Noise Abatement Criteria (NAC), and that appropriate noise mitigation is implemented with the project design. The Consultant shall coordinate with the Valley Project Management, Environmental Planning Group and Communication and Community Partnership Section to determine if a public meeting is necessary to present the results of the update noise analysis. If noise mitigation is required, the Consultant shall meet with ADOT Project Manager and EPG Noise Specialist to determine appropriate mitigation at each site specified. The consultant shall design and prepare construction plans for walls in accordance with current ADOT policies and procedures, if required.

424 Archeological Testing and Recovery

ADOT is developing a Programmatic Agreement (PA) with the SHPO and other consulting parties to address how cultural resources will continue to be considered to avoid or reduce adverse impacts as project planning continues. The consultant will be required to carry out additional survey, archaeological testing, data recovery, or other tasks stipulated in the PA.

425 Public Information Meetings

Two public information meetings will be held for this project. The purpose of the meetings shall be to inform the public of the scope and status of the project. The meetings are to be coordinated through ADOT Communication and Community Partnership Section with input from EPG and VPM.

429 Hazardous Materials Survey

An Initial Site Assessment (ISA) was performed during development of the EA. Reports ISA SR303 I-10 to US60 ADOT 2002 and Hazardous Material Inventory SR303/White Tanks ADMP Update 2003, ADOT identified numerous potential sites. During the development of final plans, ADOT EPG will

review the plans for undetermined impacts and potential to encounter hazardous materials and mitigation requirements.

430 Utilities and Railroad

During preparation of the Stage II (30%) Design, utility designation was performed to determine known existing utilities. Known utility companies within the project area were contacted to confirm existing utility locations and potential relocation concepts. A listing of the utility companies, preliminary utility conflicts and relocation concepts are included in the Initial Utility Report. The Consultant shall verify all utility conflicts and finalize all utility relocations. The Consultant will be required to perform design work and coordination necessary to facilitate all utility conflict resolutions.

The Consultant shall conduct monthly utility coordination meetings with utility companies and agencies. The Consultant shall also coordinate with and inform the utility companies of the permits and licenses required by ADOT and other agencies necessary to complete the utility relocations.

All existing utility "pothole" work shall be completed by ADOT Utility & Railroad section. The Consultant shall coordinate with ADOT Utility & Railroad for all utility potholing necessary to identify potential utility conflicts and complete the project design.

The major project utility impacts include: overhead power, communications, sewer lines and irrigation canal. The consultant shall coordinate with the Roosevelt Irrigation District (RID) and their consultant who will design the RID box culvert crossings of I-10 and Cotton Lane/SR303L. Information on maintenance dry-up times and restrictions is provided in the Initial Utility Report. As part of this coordination, the consultant shall include AT&T and their consultant. AT&T has fiber optic lines in the bank of the RID Canal. The Consultant shall also coordinate with the City of Goodyear, Arizona Department of Administration (ADOA) - Department of Corrections, Litchfield Park Service Company (LPSCO) and the respective Home Owner Association (HOA) groups regarding their existing sewer lines. The Consultant shall coordinate with RID and SUNCOR regarding wells that may be impacted by this project. The relocations shall be performed to allow for project advertisement as identified in Section 170.

440 Plans and Documents

The Consultant shall prepare plans and documents for construction of the roadway improvements.

445 Bridge Design

Design and construction plans will be required for the following structures:

- I-10 SR303L OP EB
- I-10 SR303L OP WB
- I-10 Sarival Avenue TI OP
- SR303L Thomas Road TI UP
- SR303L McDowell Road UP (ADOT)
- SR303L I-10 EB FR UP (ADOT)
- SR303L I-10 WB FR UP
- I-10/SR303L Ramp EN (ADOT)

- I-10/SR303L Ramp SE (ADOT)
- I-10/SR303L Ramp WN I-10WB FR UP (ADOT)
- I-10/SR303L Ramp WN McDowell Road UP
- I-10/SR303L Ramp WN SR303L NB FR UP
- I-10/SR303L Ramp SW SR303L SB FR UP
- I-10/SR303L Ramp SW I-10 WB FR UP

ADOT Bridge Group will provide final bridge plans on the project for the structures noted (ADOT) above. The consultant shall coordinate the design of the roadway, drainage, traffic, freeway management system, and other features with the bridge designs and ADOT Bridge Group. Provisions for utilities within the bridge structures shall be included in the design per the requirements indicated in the Preliminary Bridge Selection Report and Initial Utility Report. The Consultant shall coordinate with the Project Manager to determine coordination with ADOT Bridge Group.

446 Bridge Selection Report

The consultant shall prepare an Addendum to the Preliminary Bridge Selection Report when there is any change in the bridge superstructure, bridge substructure, width of structure or length of the structure for the following structures: I-10 SR303L EB OP, I-10 SR303L WB OP, I-10 Sarival Avenue TI OP, SR303L Thomas Road TI UP, SR303L McDowell Road UP, SR303L I-10 EB FR UP, SR303L I-10 WB FR UP, Ramp EN OP, Ramp SE OP, Ramp WN I-10WB FR UP, Ramp WN McDowell Road UP, Ramp WN SR303L NB FR UP,
Ramp SW SR303L SB FR UP, and Ramp SW I-10 WB FR UP for ADOT approval. The Final Bridge Selection Report sections for ADOT designed bridges noted above in Section 445 will be prepared by ADOT. The Addendum to the Preliminary Bridge Selection Report shall be based upon the bridge concepts included in the Stage II (30%) Preliminary Bridge Selection Report and ADOT review comments received during the Stage II (30%) review period. Designs shall accommodate future construction of Ramps NE, NW, ES and WS.

450 Roadway Drainage Design

The Consultant shall prepare the SR303L onsite and offsite drainage design and reports in accordance with the Initial Drainage Report, Stage II (30%) plans, the ultimate on-site drainage concept (4+1 lane arrangements on SR303L remainder of I-10/SR303L TI) and ADOT review comments received during the Stage II (30%) review period and updated off-site drainage concept. The ongoing SR303L/White Tanks ADMP and FCDMC Camelback Basins CAR which are expected to be completed in early 2009 will revise earlier studies which were the basis for the Draft Drainage Reports and 30% plan submittal. This may impact off-site basin storage requirements. Offsite drainage flows will be collected along the west side of SR303L in the regional drainage channel which begins at the north project limits and runs to the McDowell Road Upper and Lower Basins as well as the I-10 West Channel running along the north side of I-10 from west of Citrus Road to the I-10 Basin. Basin outfall structures crossing McDowell Road and I-10 as well as the regional drainage channel from I-10 south to Van Buren Street are included in the project. The I-10 Basin outfalls will be blocked, and the McDowell Road Upper, Lower and I-10 Basins will function as retention basins until the regional channel to the south is constructed.

The freeway on-site drainage system shall be designed to account for the ultimate freeway cross section. The storm drain system shall be designed for the interim and ultimate freeway conditions to ensure the ultimate drainage system can be implemented with minimum reconstruction. For Phase 1 the On-site

basins will be used as retention basins to drain the depressed directional ramps. The pump station used to drain SR303L when constructed under I-10 is not included in this phase, however; culverts connecting the on-site basins are included in I-10/SR303L TI (Phase I) construction. The designer is to minimize the on-site drainage requiring pumping.

453 Section 404 Permit

The Consultant will review the jurisdictional delineation prepared as a part of the Stage II (30%) plans and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for floodplains and floodways in the project vicinity. The regional drainage channel and basin system along I-10 and SR303L will impact numerous FEMA Flood Zones. The Consultant will be responsible for preparing a Conditional Letter of Map Revision (CLOMR) for each impacted flood zone for ADOT to pass on to the City of Goodyear for submission to FEMA for review, comment and approval. The consultant shall be responsible for assembling the required data. The responsibility for generation and accuracy of the data is with the technical unit responsible for providing that technical design.

455 Landscape Architectural Design and Erosion Control

A. The Consultant shall coordinate with ADOT Roadside Development Section (RDS) and the Project Manager to insure the following elements are incorporated into the project plans:

1. Pipe sleeves located to facilitate future placement of landscape irrigation lines across the freeway mainline, ramps, driveways, frontage roads and cross streets.
2. Safely accessible utility connections for a future landscape irrigation system to the extent specified by RDS and approved by the Project Manager, typically consolidated in one location, every mile at major crossroads.
    a. 120V, both metered and non-metered electric service (min. amperage).
    b. 2" and 1-1/2" water services, terminating with approved meter-stop.
    c. Adequate, relatively flat area for placement of utility devices and ingress/egress of a maintenance vehicle.
3. Topsoil plating resources located, quantified, analyzed and categorized using current topsoil investigation procedures shall be performed by the Consultant. Plan views should show topsoil plating areas, with potential topsoil stockpiling sites (See also E[c] below). Special provisions should prescribe necessary amendments and depths of amendment incorporation, and should reference the topsoil investigation report to direct the Contractor in capturing and amending the soils.

B. Consultant shall be responsible for the development and incorporation into the plans elevations, details, cross-sections, construction specifications and cost estimates of various aesthetic rustication patterns and icon concepts provided by ADOT Roadside Development Section and approved by the Project Manager for application to bridges, piers, abutments walkways, slope paving, fencing, gates and other structures.

C. The Consultant shall be responsible for the assembly and delivery of electronic base drawing files conforming to ADOT Roadside Development Section CADD Base File Criteria, and to the extent possible reflective of design changes which have occurred to date, for the development of subsequent landscape and irrigation construction documents.

D. The Consultant shall be responsible for the preparation of the Storm Water Pollution Prevention Plan (SWPPP) to meet the requirements of Section 402 of the Arizona Pollutant Discharge Elimination System (AZPDES). This shall include the preparation of:

1. The SWPPP Standard Sheet and the preparation of temporary and permanent erosion control plans, details, special provisions and cost estimates for the project, all in accordance with the ADOT Erosion and Pollution Control Manual for Highway Design and Construction and recommendations from ADOT Roadside Development Section.

E. The Consultant shall be responsible for completing all necessary plans, specifications and estimates required to site potential Contractor staging area, including community sensitive equipment yards and batch plants. Additionally, a plan for temporary onsite storage of adequately sized topsoil stockpile sites, as well as various earth, waste and demolition components.

460 TRAFFIC ENGINEERING DESIGN

461 Traffic Data - Not Applicable

462 Traffic Control Plans

The Consultant shall develop work zone traffic control and sequence of construction plans, specifications and estimates. Traffic control plans shall be prepared for construction of the new SR303L freeway and for the reconstruction of I-10. I-10 access via Citrus Avenue Sarival Road half diamond TIs shall be implemented prior to closure of the I-10 Cotton Lane TI.

463 Roadway Lighting, Traffic Signals and FMS Infrastructure

The Consultant shall comply with ADOT's current lighting and traffic signal policies. The roadway lighting, traffic signal and FMS infrastructure designs shall be based upon the concepts included in the Stage II (30%) plans.

The Consultant shall provide a complete set of roadway lighting construction documents including, but not limited to:

a) Provide gore lighting at all on and off ramps of constructed traffic interchanges (Citrus Avenue, Sarival Road and Thomas Road). High mast lighting will be used through the directional interchange area. The consultant shall coordinate median lighting limits and stationing with adjacent I-10 widening consultants.
b) Underdeck lighting will be provided for on the I-10/SR303L EB and WB structures as well as Sarival Avenue, and McDowell Road UPs.
c) Sign lighting

The Consultant shall prepare signal plans, specifications and estimates in accordance with ADOT Standards. Traffic signals will be provided at interchange ramp connections (Citrus Road TI, Sarival Avenue TI, Thomas Road TI) plus the McDowell Road SR303L frontage road intersections.

The consultant shall coordinate with the local electric utility to provide electrical service in accordance with the requirements of Section 430 of this Scope of Work.

Traffic signal funding, maintenance and energy costs will be discussed with the City of Goodyear. An IGA for traffic signal and lighting maintenance will be developed and executed with the City of Goodyear. The consultant shall coordinate with ADOT Valley Project Management Group and provide the necessary design data to support the IGA.

The Consultant shall prepare plans, specifications and estimates to include three-3-inch longitudinal conduits and the necessary pull boxes along the east side of SR303L from McDowell Road to the north project limits and on both sides of I-10 from the Citrus Road Ramps to I-10 east project limits to accommodate future FMS facilities. The consultant shall coordinate with the adjacent I-10 widening consultants on locations. The plans shall also include sleeves under mainline, ramps and crossroads, mainline loop detectors, loop detectors on entrance and exit ramps, and two-lane ramp meters at Citrus Road, Sarival Avenue and Thomas Road entrance ramps in accordance with the current ADOT Freeway Management System Design Guidelines. The Consultant shall coordinate the design of the FMS infrastructure features with ADOT Transportation Technology Group. The Consultant shall also coordinate with ADOT to determine the future FMS electrical service locations.

464 Signing and Pavement Marking Plans

The Consultant shall prepare signing and pavement marking plans for all roadways within and approaching the project limits based on the Stage II (30%) signing and pavement marking concepts. The signing and pavement marking designs shall be compatible with and accommodate the signing necessary for ultimate I-10/SR303L TI facility.

The Consultant shall coordinate with ADOT Traffic Design Section to ensure the signing/pavement marking plans are prepared in accordance with the most current policies and procedures. Any new signs not shown in the ADOT Manual of Approved Signs will be detailed in the plans.

The Consultant shall coordinate with the Design Consultants of the adjacent segments to ensure the project signing and pavement marking design fits into the ultimate guide sign concept for the SR303L corridor.

471 Right-of-Way Requirements Determination

No revisions or additions to the new right-of-way limits and easement requirements, as shown in the Stage II (30%) submittal will be allowed without the approval of the ADOT Project Manager. Within sixty (60) days of Notice-to-Proceed, the Consultant shall confirm the right-of-way limits shown in the Stage II (30%) documents.

472 Right-of-Way Acquisition

The Consultant shall determine the requirements for additional right-of-way. A preliminary identification of right-of-way was made with the Stage II submittal. ADOT will process acquisition of right-of-way.

The Consultant shall determine the requirements of new right-of-way and easements, including, but not limited to, new roadway right-of-way, slope easements, drainage easements, temporary construction easements, access control right-of-way.

480 Cost Estimates

The Consultant shall prepare combined and detailed estimates. The estimates shall be provided in E2C2 format and per the December 2005 Construction Segment Cost and Description Notebook Guidelines.

485 Specifications

490 Special Provisions

The Consultant shall prepare Project Specifications including Special Provisions for items, details, and procedures not adequately covered by ADOT's Standard Specifications and Stored Specifications.

495 Contracts and Specification Process

600 POST-DESIGN SERVICES

The Consultant shall provide post-design services as listed in Section 600 of the Dictionary of Standardized Work Tasks.

SECTION 700 - MATERIAL FURNISHED BY ADOT

750 Environmental Studies

The Draft Environmental Assessment for SR303L, I-10 to US60 was issued September 2008. The Final Environmental Assessment is anticipated in February 2009.

770 Final Design Concept Report

The Final Design Concept Report for SR303L I-10 to US60, I-10/SR303L Change of Access Report, and I-10/SR303L TI (Phase I) 30% plans and reports will be provided to the Consultant.

SECTION 1000 – CONTRACT ADMINISTRATION

The work in this contract shall be administered in accordance with section 1000 of the Dictionary of Standardized work Tasks. Additional information is provided below

1027 Site Visit

Not applicable

1050 Value Analysis

This project will have a "Value Analysis" review. The Consultant shall provide project information and participate on the VA team.

1060 Reviews and Submittals

The consultant shall hold monthly progress meetings. Construction phasing and maintenance of traffic meetings will be required.

1062 Stage I Design Submittal

Not Applicable

1063 Stage II Design Submittal

Not Applicable

1064 Stage III Design Submittal

As per Dictionary of Standard Work Tasks

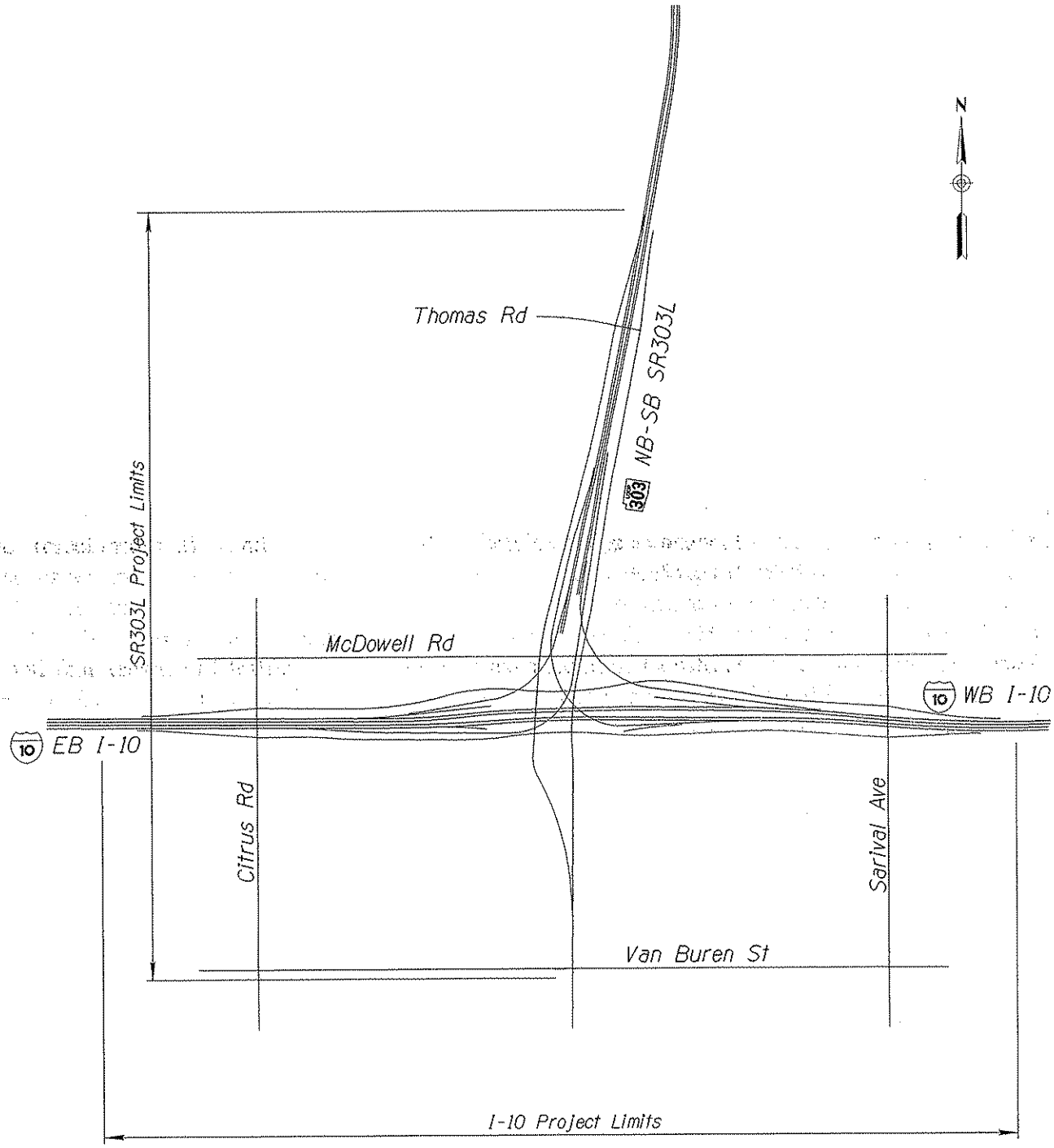
1065 Stage IV Design Submittal

As per Dictionary of Standard Work Tasks

1066 Final Submittal

As per Dictionary of Standard Work Tasks

APPENDIX A
LOCATION MAP



RESPONSIBILITY CHART
APPENDIX B

	ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
A	**AERIAL MAPPING (complete)**	410			
	1. Geodetic Control			X	
	2. Photogrammetric Control & Panels			X	
	3. Aerial Photography			X	
	4. Plotter Compilation			X	
	a. Planimetric Map			X	
	b. Contour			X	
	c. Topographic Map			X	
B	**CONTROL SURVEYS (complete)**	410			
	1. Geodetic Control			X	
	2. Horizontal		X	X	
	3. Vertical		X	X	
	4. Topographic Map			X	
	5. Utility Locations		X		
	6. Right-of-Way		X		
	7. Roadway Cross Sections		X		
	8. Drainage Cross Sections		X		
	9. Structures Surveys	N/A			
C	**ENVIRONMENTAL (complete)**	420			
	1. Environmental Analysis Document	421		X	
	2. Air Quality Technical Report	422		X	
	3. Noise Analysis Technical Report	422	X		
	4. Cultural Resources Survey	423		X	
D	**MATERIALS INVESTIGATION**	415			
	1. Provide Soil Survey	416	X		
	a. Roadway		X		
	b. Lateral Ditches		X		
	c. Earthwork	417	X		
	d. Retention/Detention Ponds		X		
	2. Provide Bridge Foundation and Retaining/Sound Wall Foundation Investigations	416	X		
	3. Provide Testing and Analysis	417	X		
	4. Provide Pavement Design	419	X		
	5. Materials Memorandum	419	X		

RESPONSIBILITY CHART
APPENDIX B

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
E		**DESIGN TRAFFIC DATA**	460			
	1.	Gather Statistics	N/A			
		a. 2-Way ADT	N/A			
		b. Turning Movements	N/A			
		c. 24 Hour Traffic Counts	N/A			
	2.	Prepare Traffic Data Sheets	N/A			
	3.	Prepare Equivalent 18 Kips	N/A			
	4.	Prepare Traffic Analysis	N/A			
	5.	L.O.S. Analysis	N/A			
	6.	Comp. Traffic Control Device Plan	467	X		
F		**RIGHT-OF-WAY**	470			
	1.	Develop Requirements	471	X		
	2.	Secure Title Search	472		X	
	3.	Prepare R/W Plans and Legal Descriptions	472		X	
	4.	Prepare Transfer Documents	472		X	
	5.	Provide Appraisals	472		X	
	6.	Negotiate Right-of-Way	472		X	
	7.	Condemnation Proceedings	472		X	
	8.	Testify in Court (by contract modification)	472	X	X	
	9.	R/W Cost Estimates	472		X	
	10.	Relocation Assistance	472		X	
	11.	Property Management	472		X	
	12.	Clearance Letter	472		X	
G		**CONSTRUCTION PLANS**				
	1.	Plot Design Survey	410	X		
	2.	Roadway Plans	440	X		
	3.	Drainage Design	450	X		
	4.	Bridge Design	445	X	X	
	5.	Roadway Lighting Plans	463	X		
	6.	Traffic Signal Plans	463	X		
	7.	Signing & Pvmt Marking Plans	464-465	X		
	8.	Utility Adjustment Plans	433	X		X
	9.	Maintenance of Traffic Requirements	462	X		
	10.	Landscape Architectural Design	455	X		
	11.	Architectural Design		X		
	12.	Plumbing and Mechanical Design	N/A			
	13.	Electrical	N/A			

RESPONSIBILITY CHART
APPENDIX B

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
H		**SECTION 404 PERMIT**	453			
	1.	Coordinate with Permitting Agencies		X	X	
	2.	Prepare Permit Application		X	X	
		a. Forms			X	
		b. Sketches		X		
		c. Hydraulic Calculations		X		
		d. Supporting Documents		X		
	3.	Process Permit Application			X	
I		**UTILITY & RAILROAD**	430			
	1.	Utilities Conflict Identification	431	X		
	2.	Prior Rights Information			X	
	3.	Conduct Utility Pre-Design Conference		X	X	
	4.	Review Utility Adjustment Plans		X		
	5.	Secure Utility Relocation Schedule		X		
	6.	Secure Utility Agreements			X	
	7.	Process Relocation Schedule & Agreement			X	
	8.	Clearance Letter		X	X	
J		**COST ESTIMATES**	480			
	1.	Prepare Construction Cost Estimates		X	X	
	2.	Prepare R/W Cost Estimates			X	
K		**SPECIAL PROVISIONS**				
	1.	Roadway Construction Plans		X		
	2.	Bridge Plans		X	X	
	3.	Signing & Pavement Markings		X		
	4.	Traffic Signal Plans		X		
	5.	Preparation for pre-bid conference		X		
	6.	Attend pre-bid conference		X		

RESPONSIBILITY CHART
APPENDIX B

		ITEM	SCOPE SECTION	CONSULTANT	ADOT	OTHERS
L		**CONTRACTS AND SPECIFICATIONS PROCESS**	490			
	1.	Respond to questions on Final		X		
	2.	Final Revisions		X		
	3.	Addenda to Final, as required		X		
	4.	Preparation for pre-bid conference		X		
	5.	Attend pre-bid conference		X	X	
M		**POST DESIGN SERVICES**	600			
	1.	Respond to questions on project under construction		X	X	
	2.	Review and approve shop drawings		X	X	
	3.	Provide contact person		X	X	
N		**VALUE ANALYSIS**	1050			
	1.	Roadway Construction Plans Review		X	X	X
	2.	Bridge Construction Plans Review	N/A			
	3.	R/W Plans Review				
O		**SUBMITTAL REVIEWS**	1060			
	1.	Roadway Construction Plans Review		X	X	X
	2.	Bridge Construction Plans Review		X	X	X
	3.	Design Concept Report Submittal	N/A			
	4.	Environmental Reports	N/A			
	5.	Stage I Design Submittal	N/A			
	6.	Stage II Design Submittal	N/A			
	7	Stage III Design Submittal	1064	X	X	X
	8	Stage IV Design Submittal	1065	X	X	X
	9.	Final Design Submittal	1066	X	X	X

APPENDIX C
DISTRIBUTION LIST
PLANS - SPECIAL PROVISIONS - COST ESTIMATES (Stage I, II, III & IV)

The following is the distribution of reports, plans, estimates and special provisions as specified in Paragraph 1060 of the Scope of Work.

PLANS - SPECIAL PROVISIONS - COST ESTIMATES (Stage I, II, III & IV)

Location	Title	No. of copies
Bridge Group	Bridge Design Leader	1
Contracts & Specifications	Transportation Engineer	1
Phoenix Construction District	District Engineer	2
Phoenix Construction District	Resident Engineer	1
Phoenix Construction District	Regional Traffic Engineer	1
Environmental Planning	Manager	1
FHWA	Area Engineer	1
Materials Pavement Design Section	Sr. Pavement Design Engineer	1
Materials Geotechnical Design Section	Geotechnical Section Engineer	1
Valley Right-of-Way Project Management	Liaison	1
Roadside Development	Manager	1
Roadway Design Section	Engineer-Manager	1
Valley Project Management Section	Project Manager	1
Roadway Drainage Section	Engineer-Manager	1
Traffic Design	Traffic Engineer	1
Traffic Electrical Design	Traffic Engineer	1
Utilities & Railroad	Engineer-Manager	1
City of Goodyear	Design Coordination Engineer	1
Flood Control District of Maricopa County	Liaison	1
Management Consultant	Design Manager	1
Utility Companies	Utility Coordinators	Various

CROSS SECTIONS, if required

Phoenix Construction District	District Engineer	1
Phoenix Construction District	Resident Engineer	1
Materials Pavement Design Section	Sr. Pavement Design Engineer	1
Materials Geotechnical Design Section	Geotechnical Section Engineer	1
Roadway Design Section	Engineer-Manager	1
Valley Project Management Section	Project Manager	1
City of Goodyear	Design Coordination Engineer	1
Flood Control District of Maricopa County	Liaison	1
Utility Companies	Utility Coordinators	Various

AASHTO REPORT, if required

Roadway Group	Assistant State Engineer	N/A
Statewide Project Mgmt Section	Project Manager	N/A

APPENDIX C
DISTRIBUTION LIST

Location	Title	No. of copies
DRAINAGE REPORT		
Roadway Drainage Section	Engineer-Manager	2
Phoenix Construction District	District Engineer	1
Roadway Design Section	Engineer-Manager	1
Valley Project Management Section	Project Manager	1
City of Goodyear	Design Coordination Engineer	1
Flood Control District of Maricopa County	Liaison	1
Management Consultant	Design Manager	1
FOUNDATION REPORT, if required		
Bridge Group	Bridge Design Leader	3
Materials Geotechnical Design Section	Geotechnical Section Engineer	3
Phoenix Construction District	District Engineer	1
Valley Project Management Section	Project Manager	1
GEOTECHNICAL REPORT		
Materials Geotechnical Design Section	Geotechnical Section Engineer	3
Materials Pavement Design Section	Sr. Pavement Design Engineer	1
Phoenix Construction District	District Engineer	1
Valley Project Management Section	Project Manager	1
Utility Companies	Utility Coordinators	Various
MATERIALS DESIGN REPORT/PAVEMENT DESIGNS		
Contracts & Specifications	Transportation Engineer	1
Phoenix Construction District	District Engineer	1
Phoenix Construction District	Resident Engineer	1
Materials Geotechnical Design Section	Geotechnical Section Engineer	1
Materials Pavement Design Section	Sr. Pavement Design Engineer	3
Roadway Design Section	Engineer-Manager	1
Valley Project Management Section	Project Manager	1

APPENDIX D
FINAL COST PROPOSAL

APPENDIX E
PAYMENT REPORT

APPENDIX F
EVALUATION SCHEDULE

PHASING AND EVALUATION SCHEDULE FOR DESIGN PROJECTS

On consultant design contracts, the project design milestones are after the Stage II (30%), Stage III (60%), and Final (100%) design submittals. Contract Constructibility will also be evaluated by District personnel. Evaluations at these milestones provide indications of how the design is progressing and what steps have been taken to assure effective and efficient practices during construction. The evaluations should be completed after all major issues of a design submittal have been resolved. When this schedule is followed the evaluation document is an extension of the design submittal review process.

It is recommended that the letter of transmittal to the design consultant from the Project Manager be similar in content to the attached sample transmittal.

RECOMMENDED EVALUATION FILING DATES

Stage II Design Submittal (30%)	**5 DAYS after all major design submittal review issues have been resolved**
Stage III Design Submittal (60%)	**5 DAYS after all major design submittal review issues have been resolved**
Stage IV Design Submittal (95%)	**5 DAYS after all major design submittal review issues have been resolved**
Final Design Submittal (100%)	**5 DAYS after all major design submittal review issues have been resolved**
Contract Constructibility (Partnering Close-out form will be used)	**5 DAYS after construction is complete and project has been accepted.**

Notes: 1. A design submittal evaluation should not be more than six weeks after the design submittal date.

EVALUATION MEASUREMENTS/COMMENTS

The following measurement standards for performance evaluation factors may be used:

"5" rating is for outstanding performance which exceeds the Scope of Services. Examples are design and/or construction cost savings, substantial time savings, unprecedented level of community involvement, error free plan submittals, etc. The award of this rating will be infrequent, as Consultants are selected on their qualifications and are expected to produce the best product possible.

"3" rating is for performance which has met the Department's expectations based on the Scope of Services. Examples are within scope, budget, and on time; acceptable communication and coordination; minimal changes to plan submittals, etc.

"1" rating is for unsatisfactory performance which has not met the Department's expectations based on the Scope of Services. Examples are not meeting schedules, exceeding the design and/or construction budgets, major revisions required on plan submittals, poor communication and coordination, etc.

NOTE: Additional comments are required in the space provided for the ratings.

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
STATEWIDE PROJECT MANAGEMENT GROUP

DICTIONARY
OF
STANDARDIZED WORK TASKS

June 27, 2008

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1026	Consultant Personnel	2.73
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1050	Value Analysis	2.75
1051	Value Analysis Team	2.75
1052	Design Team Responsibilities	2.75
1060	Reviews and Submittals	2.76
1061	Environmental Reports - N/A	2.77
1062	Stage I Design Submittal	2.77
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DICTIONARY OF STANDARDIZED WORK TASKS

SECTION 400 - DESIGN WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for providing the engineering services required to accomplish the work products identified in the Project Scope of Work. The services may include the tasks of data preparation, data interpretation, and document preparation including scoping documents, reports, corridor management plans, contract plans, special provisions, construction estimate, and post-design services.

402 Partnering Process

The Consultant and subconsultants shall participate in a Partnering Process consisting of the following items:

- Scope Clarification Meeting
- Design Partnering Kick-Off Workshop
- Participation in the Partnering Evaluation Program (PEP)
- Construction Partnering Workshop
- Project Close-Out

405 AASHTO Design Criteria Report

Any changes to the design criteria which result in the need for a design exception shall be submitted to the Roadway Design Group for approval. The request shall describe the deficiencies not previously approved which are not being corrected, and the justification for the design exception. The report shall be developed consistent with the Design Exception and Design Variance Process Guide that can be found in the Roadway Design Section website under design memorandums (dated 1/16/2007). ADOT will forward the design exception request to FHWA, if necessary. The Consultant is responsible for providing copies for ADOT and FHWA. The request shall be submitted a minimum of fifteen (15) calendars days prior to the Stage II design submittal, in accordance with Section 1060.

410 Surveys and Mapping

The Consultant shall review data provided by ADOT. Any field surveys required shall be suitable for contract documents preparation and meet the technical requirements of ADOT and the State Board of Technical Registration.

A. All surveys and mapping for projects utilizing existing roadway(s) shall be referenced and tied directly to the existing as-built roadway centerline. The centerline shall be re-established in its original position by locating, marking, staking and referencing the PC, PT, TS, SC, CS, ST, PI (if possible), and a minimum of fifty (50) feet station intervals along the curves and one hundred (100) feet station intervals on tangents. The use of offset baselines for re-establishing or defining the existing centerline is not permitted unless approved in advance by ADOT. The centerline stationing of the project shall be on ADOT's established field stationing.

B. Completed surveys shall be submitted in permanently bound books (3-ring binders are not acceptable) with the final plans. The surveys shall include locations, stakes and references of control points, (including the beginning and ending points of the project), PC's, PT's, TS's, SC's, CS's, ST's, and PI's (if possible) of curves, POT's with a maximum interval of one thousand (1,000) feet, and bench marks on alternate sides of the roadway with a maximum interval of five hundred (500) feet. Any survey data provided must be certified by an Arizona Registered Land Surveyor. Any coordinates used shall comply with the Arizona State Plane Coordinate System.

C. Surveys may include, as applicable:

1. Base line control

2. Control for aerial mapping

3. Right-of-Way surveys

   a) Section corner and land ties

   b) Existing right of way monumentation

   c) Staking of new right of way for appraisal purposes

   d) New right of way monumentation

   e) A "Results of Survey" map

4. Topographic surveys

5. Roadway drainage surveys

6. Utility locating - set control points with coordinates and elevations at five hundred (500) ft. maximum intervals adjacent to the road and along the utility lines (See Section 430)

7. Centerline staking, centerline of each roadway, as applicable for field review (lath stakes at PC, TS, SC, CS, ST, PT, and PI (if possible) at approximate two hundred (200) ft. intervals, and at selected locations if required to define the approximate limits of construction).

8. Centerline and edge elevations of existing pavement at fifty (50) ft. intervals

9. Ties to Arizona State Plane Coordinates

10. Final alignment staking

11. Crossroads tie-ins, turnouts and driveways

12. Above ground utilities

D. The Consultant shall obtain any permits that may be required prior to beginning field work. A traffic control plan may also be required. Preparation of surveys shall conform to applicable documents referenced in Section 200 of the scope of work, including (but not necessarily limited to) procedures, record-keeping requirements, equipment use, and safety precautions.

E. Unless otherwise directed by the ADOT project manager, the Consultant shall be responsible for selecting a scale that results in good plan clarity. The following scales are suggested:

1. 1" = 500' (Drainage map and R/W key sheet)

2. 1" = 50' (Construction Plans and R/W maps)

3. 1" = 30' (Landscape and Irrigation Plans)

4. 1" = 20' (Intersections, urban streets, and other items of considerable detail)

F. The Consultant may be responsible for setting R/W markers. R/W markers shall be set by an Arizona Registered Land Surveyor after acquisition of R/W, or, in some instances, after construction. All R/W drawings and legal instruments shall be approved and sealed by an Arizona Registered Land Surveyor.

G. The Consultant may be responsible for delineating the R/W so that utility companies may prepare relocation plans. Delineation with strips of plastic flagging attached to lath located at intervals shall provide a clear delineation of the R/W; this work shall be completed immediately prior to the date that utility company personnel are scheduled to conduct a field survey of the project.

H. Completed surveys and maps shall be recorded in an acceptable format. Upon final approval, the books, maps and CADD files, shall be submitted to the ADOT project manager.

In addition to the CADD requirements stated in section 1040, all designers of ADOT projects shall provide the following information, if applicable to the project, to the Engineering Survey Section:

- Ground Adjustment Factor (G.A.F.):
- Contour Interval (C.I.):
- Project Scale:
- Horizontal and Vertical Datums:
- Arizona Zone:
- Hard copy of reports including any plots

Based on the Scope of Work, the consultant should select the items, from the list below, to be included with the project information previously described:

a. Hard Copies shall consist of the following:

- Field notes
- Sketches
- Transit and Level books

- Plots
- Reports

b. (.DGN) file containing graphical representation of the project (i.e. Planimetrics and contours).

c. (.3D) file containing graphical representation (i.e. breaklines and random points) to produce the DTM.

d. (.DTM) containing Engineering Surveys approved features that make up a correct surface representation.

e. (.ALG) file containing the project alignments (.RPT) file including curve data from the alignment.

f. ASCII (.CSV) files shall contain the following:

1. File Header information:
   - Project GAF
   - Project Datums
   - Arizona Zone
   - Basis of Alignment
   - Basis of Stationing
   - Basis of Horizontal Control
   - Basis of Elevation
   - Basis of Bearing
2. All Project Control
3. Section Corners
4. R/W Monumentation
5. Structures
6. Edge of pavement
7. Centerline and driving stripes
8. Other features as requested

Note: Two (.CSV) files shall be submitted, one containing the RAW survey data and another containing the Edited survey data.

g. All film negatives used to map a project

h. Scanned images and/or diapositives used to map project

i. Aerotriangulation files used to control photography

j. Orthophotos produced for the mapping project

k. Record of Survey: When requested, Record of Survey shall be in electronic (.DGN / .PDF) format with a stamped original.

l. Pictures: Upon Request pictures shall be taken for all structures including end of pipes and headwalls, caps, and any unnatural terrain feature in a (.JPG or .BMP) file format (check scope of work).

If unclear about items needed for your project, please contact the Engineering Survey Section.

ADOT PROJECT MANAGER:
All survey and photogrammetry projects shall be submitted to the Engineering Survey Section through the ADOT and Consultant Project Manager, for verification of deliverables and archiving purposes. A notification of findings shall be sent to the Project Manager after completion of project review.

415 Materials Design

416 Geotechnical Investigation

Geotechnical requirements contained in the Materials Preliminary Engineering and Design (MPE & D) Manual and AASHTO Manual (Reference Section 200 of the scope of work) on Subsurface Investigations shall be considered as minimum requirements. These requirements are not intended to preclude innovative methods of Geotechnical investigations and testing the Consultant may propose. Laboratories selected by the Consultant to perform construction materials testing and analyses must meet the requirements of ADOT's "System for the Evaluation of Testing Laboratories." The Geotechnical Investigation will include appropriate reports, as required, for bridge and retaining/sound barrier wall designs and pavement design.

Prior to submitting a proposal for geotechnical services, the ADOT Project Manager will schedule a meeting with the prime designer, the geotechnical consultant and the ADOT Geotechnical Design Section project team member. Project geotechnical issues will be discussed at this meeting and a consensus geotechnical work plan will be developed. Any subsequent changes due to access limitations, environmental restrictions, etc., will be reviewed and approved by the ADOT Geotechnical Design Section team member prior to the changed work being performed.

The Consultant Geotechnical Engineer is responsible, but not limited, for the following:

A. The Consultant shall perform a Geotechnical investigation of the project in accordance with the requirements of ADOT - the MPE & D and Materials Testing Manuals. (Reference Section 200 of the scope of work).

B. The Consultant shall secure an access permit from the appropriate agency, if required, which may at a minimum require the preparation of an equipment access plan, description of equipment types, a plan of the test hole locations, etc. The Consultant shall adhere to all traffic control requirements when taking samples on existing roadways. A traffic control plan may be required.

C. The results of the Geotechnical investigation shall be contained in the Geotechnical Report and the Bridge Foundation Report, if applicable. The Geotechnical investigation shall include all necessary sampling and laboratory testing and analyses of materials.

Upon approval of the Geotechnical report, the Consultant may proceed with preparation of the pavement and/or foundation designs and the Materials Design Memorandum.

D. The Consultant's Geotechnical investigation shall include, but not be limited to the following as appropriate:

1. Roadway structural section requirements and the availability of structural section materials

2. Location and depths of topsoil

3. Soil shrinkage/swell characteristics

4. Slope stability in embankment/excavation locations

5. Groundwater pH and resistivity conditions requiring design considerations

6. Design values for active, at rest, and passive soil pressures

7. Allowable design loads or pressures for each foundation type

8. Design methods for shallow and deep foundations

9. Potential imported borrow site(s) meeting the requirements for the material(s) required (see also Section 417)

10. Design alternatives based on Geotechnical findings

E. The Consultant shall include in the Special Provisions all notes related to materials found on the final construction plans and not already covered by the Specifications.

F. The Geotechnical Consulting Engineer shall submit the following CADD requisites to ADOT Materials Group:

1. One (1) Electronic Copy of the final Geotechnical Design sheets submitted on CD-ROM.
2. One (1) half-size (11"x17") print of the Geotechnical sealed and signed final design sheets.

417 Earthwork

The Consultant shall attempt to achieve an approximate earthwork balance for the project consistent with good engineering practice based upon the type of material and with consideration given to environmental mitigation measures unless otherwise directed. This may be accomplished by: a) refining roadway geometry (alignment and/or profile) utilizing ADOT Standard Drawings C-02 for slopes; b) adjustment of ditch widths and/or back slope rates to obtain excavation of additional suitable material; c) flattening of embankment slopes or creation of 'false cuts' to dispose of excess material; or combinations of a), b) and c). Adjustments shall not adversely affect water quality and must be coordinated with the project

team, including the USFS coordinator, if applicable. Cost of additional right-of-way and environmental concerns must be weighed in determining the most feasible solution for the project.

When a project requires borrow or waste sites, the Consultant shall investigate and recommend the site requirements as outlined under paragraphs A, B, C and/or D below:

A. Current ADOT Borrow Pits

The investigation shall begin with a review of current borrow pit information available in the ADOT Material Section. "Current" in this context means that ADOT has or is expected to have licenses for any recommended pits that will not expire until after the estimated construction completion date. Note that ADOT is not necessarily licensed for wasting at all current borrow pits. The results of the investigation shall be included in the Consultant's Geotechnical investigation (see Section 416).

B. Commercial Borrow Pits

Commercial borrow pits are an acceptable alternative to ADOT borrow pits. If recommended, the analysis and test results of the commercial borrow materials shall be included in the Consultant's Geotechnical investigation (see Section 416).

C. New Borrow Pits

The licensing of new borrow pits for ADOT use is a lengthy process and should be considered only in the absence of acceptable current ADOT or commercial borrow pits. If the location, testing and environmental analysis of any new borrow pit is required to complete the design of the project, this work will be added to the contract by contract modification. The analysis and test results shall be contained in a separate report submitted by the Consultant not later than the Stage III submittal.

D. Waste Sites

If it is determined that a designated waste site is required, the Consultant shall investigate and recommend the nearest site where material can be wasted. (See Section 455)

418 Special Materials

In the case where a special material(s), i.e. a material with characteristics and design values out of the normal range, is required to meet exacting design requirements, the Consultant shall coordinate with the ADOT Project Manager, Materials Section, and/or the Engineering District before changing the design or researching the location of such material(s).

419 Pavement Design

A. The Consultant shall prepare a pavement design in accordance with the requirements of the ADOT MPE & D Manual.

B. New pavement design shall conform to the approved AASHTO method. Structural overlay design shall conform to the Structural Overlay Design for Arizona (SODA) method.

C. The Consultant's proposed pavement design recommendation shall be included in the Pavement Design Summary as described in the ADOT MPE & D Manual, section 505.00. "Materials Section Design Report Standard Items" shall be used in the preparation of the pavement design report.

D. The Material Design Memorandum shall contain the Consultant's final recommendations for the proposed pavement design, including recommendations for special provisions and construction procedures, as described in the ADOT MPE & D Manual section 505.00, including the use of "Material Section Design Report Standard Items".

420 Environmental Studies

Activities that require soil and/or vegetation disturbance such as Geotechnical investigations, surveys, etc. may not begin until the appropriate environmental clearance (i.e., cultural resources, hazardous materials, or biological evaluations) is issued. The project's environmental footprint shall consider all utility relocation work required for the project. ADOT Environmental and Enhancement Group, in coordination with the affected federal, state and local agencies and jurisdictions, will issue the required clearance.

425 Public Information Meetings and Public Hearings

The Consultant shall provide staff and/or materials for public information meetings as outlined below if they are found to be necessary. ADOT will be responsible for advertisement and will make arrangements for the public information meeting. ADOT will provide a moderator and any liability insurance required.

A. Public Information Meetings

The Consultant and staff shall be available, at five (5) workdays notice, to attend meetings or make presentation at the request of ADOT. The purpose of these meetings shall be to inform the public of and answer questions regarding the scope, details, and anticipated schedule of the project. Such meetings and presentations may be held at any hours between 8:00 AM and 12:00 midnight on any day of the week, except legal holidays. The Consultant will be responsible, as applicable, for the preparation of graphics, hand-out materials, minutes of the meetings, audiovisual displays and similar material for such meetings. All such materials shall prominently identify ADOT. The Consultant shall expect to work with the team to finalize the agenda for any public meetings.

B. Public Information News Releases

The Consultant and staff shall be available, with one workday of notice, to support the ADOT preparation of newspaper articles, newsletters, flyers, radio and TV announcements, etc. and to assist ADOT with responses to verbal and written questions from the media and the general public. The purpose of these news releases shall be to provide the media and public with the latest information on the project scope, details and schedule of the project.

430 Utilities and Railroads

A. General

All work shall be performed in accordance with ADOT's *Guide for Accommodating Utilities on Highway Right-of-Way* and *Utility Coordination Guide for Design Consultants.*

B. Definitions

Utility - A facility which transmits or distributes communication, cable television, electricity, heat, gas, oil, crude products, water, sewer, waste or any other similar commodity which directly or indirectly serves the public.

Utility Company - A municipality, public service corporation, utility district, etc., which owns and operates utilities that serve the general public. Unless otherwise noted, the procedures to be used with railroad companies will be the same as those used with utility companies.

Prior Rights documentation - Documents showing that the utility company's facility predates the acquisition of the property for highway purposes, or that it occupies an easement or other compensable land right. Such documents provide verification that the State is obligated to compensate the utility company for the cost of relocations or adjustments required to accommodate the highway project.

U & RR - Utility and Railroad Engineering Section of the Arizona Department of Transportation.

C. Previous Information

The Consultant shall use all available utility location information including that obtained during the DCR phase; this information, and additional information gathered later, shall be shown on the plans prior to submittal to the utility companies for review.

D. Identification of Utilities

1. By Design Consultant - The Design Consultant shall contact and coordinate with all the utility companies serving the project area to obtain utility facility location records and as-built information.

2. By Locating Consultant - The Design Consultant shall prepare and furnish a base map with ground controls at intervals of no more than five hundred (500) feet together with a description of the desired area to U & RR for horizontal utility designation. This mapping will be used by the locating consultant for identification and horizontally locating all utilities. This will be accomplished prior to the completion of Stage II plans. The map shall be presented on CDs using current ADOT CADD standards. The Design Consultant shall provide a list of requested potholes to U & RR, for use by the Locating Consultant, for utilities that may conflict with the project. This pothole data will be obtained prior to completion of the Stage III plans.

3. Railroad information - The design Consultant shall request U & RR to make the initial contact with the railroad company to obtain railroad information if railroads are involved in the project prior to the design kickoff meeting.

431 Utilities Conflicts and Adjustments

A. The Consultant shall determine all utility conflicts which require the utility to be relocated or adjusted and shall advise U & RR and the utility company.

B. The Consultant shall advise U & RR of upgrades or betterments requested by utility companies.

C. When property is acquired for a highway project, private utility issues are resolved as part of the right of way acquisition. The Consultant shall coordinate these and any private utility issues with the ADOT Right of Way Coordinator and Project Manager.

D. The Consultant shall arrange and conduct utility coordination meetings to facilitate identification and resolution of conflicts based on project needs as requested by the ADOT Project Manager and the U & RR Coordinator.

E. The Consultant shall be responsible for reviewing relocation plans produced by utility companies to assure that all utility conflicts with project plans and with planned utility relocations are eliminated, that proposed utility installations conform to ADOT's *Guide for Accommodating Utilities on Highway Right-of-Way* and that the plans meet ADOT permit requirements.

F. The Consultant shall solicit submittal of and verify that prior rights documentation submitted by utility companies represent the correct relocation area and shall submit this reviewed documentation to the U & RR coordinator. The request for prior rights shall take place after the Stage II submittal. Complete prior rights documentation shall be submitted to U & RR no later than the Stage III submittal.

G. Only U & RR will authorize utility companies to start design for relocation of their facilities where they have prior rights and want reimbursement for their design.

H. The Consultant shall prepare draft Utility Special Provisions and submit them to U & RR for comment. This includes Section 107, Force Accounts and Line Item Specifications. Specifications shall be drafted starting at Stage III and progress with the project to the PS&E Stage.

I. With each stage submittal listed below the Consultant shall submit a Utility Report. The Report shall detail the recent events with regard to the progress of the utility conflicts and mitigation effort. The efforts made shall be in accordance with a sequence of events established in the *"Utility Coordination Guide For Design Consultants"*.

Within the first thirty (30) days after Notice to Proceed (NTP) the Consultant shall prepare a Utility Report containing a list of all utility companies in the project area, the utility company contact person and their phone number for submittal to U & RR.

At Stage II the Utility Report shall contain an update of the listing provided in item 1 above plus an initial cost evaluation. All right of way necessary for utility relocations shall also be identified.

At Stage III the Utility Report shall contain all of the above plus a list by prior rights of who is responsible for payment of relocation work, a list of the mitigation measures by utility, a summary of the meetings held with each utility company - what was discussed and when, what actions were taken to arrive at the selected mitigation measure, what pothole data were requested and provided, a copy of all correspondence between the Consultant and each utility company, a preliminary estimate of ADOT's cost for utility relocations and betterment requests by utility company for work to be included into the ADOT project. Final mitigation measures shall be approved by the Utility and Railroad Engineering Section.

At Stage IV the Utility Report shall contain all of the above plus any changes to what was previously presented, a notification of approval of utility company relocation plans as to conformity with the project design and standard ADOT procedures and practices, a construction schedule for each utility, a final cost estimate for each utility with approved prior rights, a final cost estimate for each utility desiring betterments be included in with the project design and the Final Utility Clearance Letter.

J. The Consultant is to work closely with the utility company and the U & RR coordinator to determine the relocation requirements of the utility facility. The Consultant shall inform ADOT Right of Way on or before the Stage II submittal if new right of way is required which exceeds what is needed for the highway improvements.

K. ADOT's Roadside Development Section (landscape and irrigation), Transportation Planning Division (Traffic Counter Systems) and Transportation Technology Group (FMS) shall be treated as utilities and consulted about their needs during the project development process. New electric service drops and water connections for planned landscape irrigation systems, lighting, traffic signals and FMS facilities shall be included in the scope of the project.

432 Utility Plans

A. The Consultant shall indicate all existing utilities in plan view on the Stage II plans; this should include utility poles, pedestals and other aboveground appurtenances with an indication of overhead line direction and all underground utilities, including drainage facilities.

B. The Consultant shall indicate potential areas of conflict between utility facilities and project improvements. The Consultant shall work with the utilities to resolve all conflicts. Project plans are to be adjusted as much as possible to avoid utility conflicts without impacting the needs of the project or public safety. Vertical locations of underground utilities shall be shown in profiles and on cross sections or details at Stage II at approximate normal elevation. Pothole data will be made available to utility companies no later than Stage III plans.

C. The Consultant shall furnish copies of the Stage II, III, IV and PS&E project plans to U & RR and each utility which has facilities in the area. The Consultant shall furnish copies of cross sections to U & RR and, upon request, to the utility company. Cross section plans will be required when existing utility facilities have been installed parallel to the roadway centerline within ADOT's right

of way. Cross section plans shall show the location and depth of utilities running parallel to the roadway centerline. The size of the plans, 1/2 size or full size, shall be as requested by the utilities. In all cases, plans shall be scaleable, i.e., full size or true half-size. The Consultant shall send plans to the utility companies, receive the comments and responses, and provide U & RR copies of all correspondence to and from the utility companies. Utility comments and their resolutions shall be included on the appropriate Stage Comment Resolution Form and distributed to all team members ten working days after the Comment Resolution Meeting.

D. The Consultant shall include utility relocation plans no later than the Stage IV submittal.

433 Utility Relocations and Adjustments

Where a utility relocation may be required:

A. The Consultant shall identify possible alternatives (including joint use of trenches) to minimize the number of utility conflicts and minimize the cost of mitigating conflicts.

B. The Consultant shall notify U & RR promptly upon determination that relocation of a utility company facility is required. Where the utility relocation is to be included as part of the project and where the ADOT contractor will perform the work, the Consultant shall provide U & RR with design cost details, drawings and a summary of the construction costs for the work to be billed. The Consultant shall use input and drawings supplied by the utility company to the extent possible.

C. U & RR will determine, by examination of prior rights documentation provided by the utility company, the utility's rights to occupy the area of conflict and who is responsible for the cost of the relocation. U & RR will notify the utility company to relocate at its own expense, or will obtain the necessary cost estimates and prepare the necessary utility agreements to allow for payment of utility relocation work when it is at ADOT expense.

D. At the request of the utility and/or the U & RR coordinator, utility adjustments or installations may be included in the plans and specifications for work to be performed by ADOT's contractor. This may require a JPA or Utility Agreement between the utility and ADOT. The Project Manager will prepare a JPA and the U & RR coordinator will prepare a Utility Agreement. The decision to include this work shall be determined no later than the Stage III submittal date. Initial cost estimates shall be provided with the Stage III submittal to assist programming and budgeting efforts.

1. Utilities with prior rights--ADOT is responsible for cost:

   a. Consultant shall advise U & RR of utility company's request for work to be included with ADOT's contract.

   b. Consultant shall provide an estimate of the cost, or review and comment on cost estimates provided by the utility company.

   c. Consultant shall cooperate with each utility company to ensure that adequate information is included in the bid package.

2. Additions, betterments, and utilities lacking prior rights--utility company is responsible for cost:

   a. Consultant shall advise U & RR of utility company's request, and shall advise the utility company that approval of its request is subject to concurrence by ADOT.

   b. Consultant shall provide an estimate of the cost, or review and comment on cost estimates provided by the utility company.

   c. Consultant shall cooperate with utility company to ensure that adequate information is included in the bid package.

   d. The Consultant shall provide U & RR and the Project Manager the actual cost of design and expenses for utility relocation and adjustments for inclusion in the JPA or Utility Agreement.

434 Utility Special Provisions and Clearance Letter

A. Special Provisions

The Consultant shall prepare Special Provisions and submit them to each affected utility company and U & RR for comment at Stage III, IV and at PS&E.

The Utility Special Provisions shall include the following:

1. List of utility companies in the area, and contact person's name and telephone number.

2. A statement that there are no utility conflicts or a list of utilities that are in conflict.

3. Work to be performed by utility companies in conjunction with the contractor during project construction.

4. Completion date or schedule for each utility conflict to be resolved by each utility company.

5. Work to be performed for each utility company by the Contractor.

Utility license, permit, insurance, or right of entry requirements.

Indication of all workday windows or any restrictions required by the utility the contractor should be aware of for construction scheduling purposes, including utility outage/shut-down limitations.

Indicate special conditions, locations or clarifications in direction related to utility facilities or work that might affect a contractor's bid or schedule.

B. Clearance Letter

The Consultant shall prepare a Utility Clearance Letter prior to Stage IV and submit it at Stage IV, together with copies of correspondence from utility companies verifying the information, to U & RR for review and concurrence; this shall include the Consultant's final review and submittal of Section 107 or other Special Provisions related to utility work.

1. If there are no conflicts:

   A statement that there are no utility conflicts with the project shall be used only when there are no utility facilities needing adjustment or when all adjustments have been completed prior to writing the Clearance Letter.

2. If adjustments are needed:

   The Clearance Letter shall list each utility company separately, showing:

   a. The name of the company, address, contact name and phone number.

   b. The nature of required adjustment

   c. The status of Agreements and applicable permits (City, County, Forest, State Land, etc.)

   d. The status of the utility adjustment

      (1) Completed

      (2) To be done by contractor during construction

      (3) To be done by utility company during construction, with estimated completion date or number of working days required following milestone achievement

      (4) In progress, with estimated completion date

435 Establishing Utility Service Connection

Utility service connections are required to facilitate operation of lighting, signals, irrigation controllers, pump stations and FMS systems, etc. The Consultant is responsible for securing establishment of service connections prior to construction.

A. Steps for securing service:

   Consultant shall determine service need(s) based upon concept and preliminary work; this shall be done shortly after Stage II submittal.

   Consultant shall determine which utility serves the area and who the utility's coordinator is; this shall be done within thirty (30) days after NTP.

Consultant shall meet with the utility's Coordinator to review the project's proposed construction and determine how service can be brought to the desired location(s). Preferred location for service Load Centers and meters is just inside ADOT right of way and outside Controlled Access; this shall be done shortly after the Stage III submittal.

Consultant shall prepare a service request letter on ADOT letterhead for ADOT signature to the utility with a copy to U & RR that contains the following:

a. Number of electrical services required

b. The address of each service

c. The required voltage/volume/pressure of each service

d. The load breakdown for each service

e. A brief description of the work required

f. Who is responsible for signing the utility's service agreement and who will pay connection/extension charges.

g. Who is responsible for paying the utility bills and to whom and where to send the monthly billings

The Consultant shall receive and review the service agreement from the utility company which will provide service at the location(s) requested in the service request letter.

The Consultant shall forward service agreements to the ADOT utility coordinator to complete the agreement signing process and prepare the applicable payment agreement.

The Consultant shall include the name and phone number of the utility contact person responsible for arranging the new service in the Special Provisions with instruction to the Resident Engineer to contact the utility for scheduling the work when service is desired.

Consultant shall place the service address on the plans adjacent to the appropriate Load Center and/or meter.

Consultant shall show the location of the utility service source so the contractor will know where to excavate to/from.

The service agreement shall be signed shortly after the Stage IV (95%) submittal

B. The Consultant shall assist in the development of exhibits for transfer of right of way to utilities with prior rights.

440 Roadway Design

The Consultant shall prepare design plans on ADOT standard sheets and construction documents for the roadway improvements including but not limited to the following:

A. Face sheet and List of Standard Drawings (ADOT will provide these sheets for incorporation into the design plans)

B. General notes

C. Design sheet and index

D. Typical roadway and detour sections

E. Roadway and detour plans and profiles

F. Intersection plans and profiles, including staking plans

G. Cross road and frontage road plans and profiles

H. Retaining wall and sound barrier wall plans and profiles

I. Earthwork quantities

J. Details

K. Special provisions

L. Annotated cross sections

L. Arizona State Plane Coordinate Ties

NOTES:

Standard plan sheet size is 22" x 34" (ANSI "D" Size) with borders as specified by ADOT. All plan sheets shall be suitable for plotting at true half scale.

Cross sections will not be part of the plans, but will be reviewed and made available to contractor's bidding on the project. Therefore, the cross sections must be suitable for reproduction. Horizontal and vertical scales shall be the same. Preferred scale: 1"=10', (1"=5' or 1"=20' are also acceptable if special conditions warrant). Each cross section shall show the plotted finished grade roadway template(s) including the subgrade superimposed on the plotted natural terrain (dashed line) and shall include as a minimum the following annotation: centerline finished grade elevation and station value of controlling roadway template on each cross section, R/W limits indicated with symbol. Slope rates (X:1) should be shown on the cross sections, on each side of the controlling roadway, on the last slope that connects to the existing ground. Connecting slopes from adjoining roadways, such as median slopes, should have both

connecting slopes annotated, if applicable. The slope rate information may be provided separately in a station by station listing as an alternative. Construction phasing, temporary roadways and detours shall be shown on cross sections, if applicable. CADD computer generated cross sections shall be plotted with a 1" grid and shall have an appropriate horizontal and vertical tick marks (10 tick marks per inch) with 1" datum annotations (elevation on vertical and distance on horizontal) and shall be plotted on vellum paper suitable for reproduction. The final submittal shall be on standard 22"x 34" sheets submitted with a copy of the work on CD as stated in section 1040. Cross sections shall normally be prepared at one hundred (100) foot intervals, as a minimum, with additional sections at breaks in the terrain unless otherwise directed by the ADOT project manager. Cross sections shall be included in all submittals to utility companies and as requested by other members of the team.

3. All designs shall conform to the latest Americans with Disabilities Act Accessibility Guidelines Title I and II.

4. The Consultant shall provide the various ADOT Technical Sections involved in the design of this project with roadway base sheets as required.

445 Bridge Design

The Consultant shall prepare design and construction documents for structural design including, but not necessarily limited to:

A. General plan

B. General notes and quantities

C. Foundation sheets

D. Abutment details

E. Pier details

F. Superstructure sheets

G. Screed elevations

H. Special details (if applicable)

I. Stage construction sequencing details (if applicable)

J. Pile records (if applicable)

K. Special provisions and cost estimates

In addition to the general CADD requirements (See section 1040), the consultant shall use the following identification labeling in ALL CADD files:

a. Structure Number (4 digit number)
b. Structure Name (i.e. Apprentice Wash Bridge)
c. Type of work category:
   - Major Structure – New Bridge
   - Bridge Replacement
   - Minor Structure
   - Deck Rehabilitation
   - Hinge, Deck or Joint Repair
   - Barrier Replacement
   - Bridge Widening
   - Scour Protection
   - Seismic Retrofit

446 Bridge Selection Report

During Stage II, prior to preparation of final design and construction documents, the Consultant shall submit a Bridge Selection Report for the new bridge and/or for renovation of the existing bridge. The report shall be prepared in accordance with the ADOT Bridge Designing and Detailing manual. ADOT must approve the report prior to the Consultant beginning the final design of the bridge.

The final structural plans shall reflect the most current design standards, specifications and ADOT policy. Therefore, the Consultant shall be responsible for studying revisions to the plans made during the development of the project and ascertaining how the structural design will be affected. The Consultant shall work with the ADOT project manager, who will give the final authorization, in determining the propriety of modifying the design to accommodate the revised standards, specifications and ADOT policy. The Consultant will be compensated by Contract Modification for any significant redesign resulting from this requirement. A final review of the applicable standards and specifications will be conducted by the Consultant at Stage IV.

450 Drainage Design

451 Drainage Reports

A. The Consultant shall be responsible for preparing the Initial and Final Drainage Reports for drainage.

B. The Consultant shall conduct hydrologic and hydraulic analysis and/or obtain available public information to identify flood plains and probable flood plain impacts. The Consultant shall determine existing and developed conditions, discharges for all pertinent drainage systems, and existing flow patterns; assess possible drainage problems, identify possible solutions, and propose tentative hydraulic improvements.

   Part A of the Initial Drainage Report, hydrologic information, may be submitted and informally discussed with the ADOT Drainage Section prior to detailed hydraulic analysis in order to facilitate

proper progress of the study. The Drainage Report may require additional data as it relates to NPDES, i.e., flow analysis in ditches, intersecting drainage's, etc., in order to adequately design temporary erosion control structures.

Following Part A, Hydrologic Information Review, the Consultant shall conduct hydraulic analyses of proposed flood plain modifications, hydraulic structures, and drainage-related improvements which are proposed. The Consultant will then prepare an Initial Drainage Report consisting of both Part A, Hydrologic, and Part B, Hydraulic, studies and their supporting documentation.

C. The Consultant shall prepare a Final Drainage Report, pursuant to comments and approval of the Initial Drainage Report, based on refined hydraulic structure selections and sizing. The report shall provide analysis of changes to existing flow patterns and the design of channels, culverts and other drainage structures.

D. The Consultant shall submit to ADOT Roadway Drainage Section one electronic copy containing all final drainage reports of the project in digital format (PDF) on a CD-ROM or DVD and one hard copy of the final sealed and signed reports. The reports will include not only the analytical data and computations, but the entire report, including but not limited to texts and graphics.

The Final Drainage Report shall be submitted concurrent with the Stage III Design submittal unless other arrangements are made with the ADOT Project Manager.

452 Drainage Designs

The Consultant shall prepare designs and construction documents for drainage features including, but not limited to:

A. Drainage culverts and underpass structures for cattle/game crossings

B. Catch basins, manholes and connector pipes

C. Drainage Pipe and Concrete Box Culvert Summary Sheets

D. Drainage details

E. Drainage culvert profiles

F. Retention/Detention Basins

453 Section 404 Permit

ADOT with the Consultant, as appropriate, in consultation with the Corps of Engineers, will determine the need for a Section 404 permit. If a permit is required, ADOT will process the permit application. The Consultant shall be responsible for providing ADOT with technical data for the roadway cross drainage-ways (i.e. typical sections, location and approximate areas of cut and fill within each drainage way) to support the determination of need for a permit and/or the permit application.

454 Evaluation of Alternative Pipe Culvert Materials

The Consultant shall be responsible for evaluating all forms of ADOT approved pipe culverts. Evaluation documentation shall be included with the design calculations per Section 1040. Valid designs shall be indicated on the New Pipe Summary Sheet.

455 Landscape Architectural Practice and Design

A. The Landscape Architect shall be responsible for performance of professional services such as investigation, reconnaissance, research, planning, design or responsible supervision in connection with the development of land and incidental water areas where the dominant purpose of such services is the preservation, landscape ecological restoration, enhancement of proper land uses, natural land features ground cover and planting, naturalistic and aesthetic values, the settings and approaches to building, structures, facilities or other improvements, natural drainage and the consideration and the determination of inherent problems of the land relating to erosion wear and tear, light or other hazards.
B. Landscape Architecture services to accomplish the above, may result in the preparation of the following work products including: Reports for Site Analysis and Planning; Visual Analysis; Resource Planning Inventory and Evaluation; Research Information and Documentation; Design and Construction Documents, Specifications, Constructability Reviews, Post Design and Responsible Construction Supervision.
C. Investigation, Reconnaissance Research, Planning, Design and Responsible Supervision. Work may include but not be limited to: Aesthetic evaluations and Visual Quality and Impact Analysis to determine appropriate mitigations; Design of Structure and Wall Aesthetic Treatments; Landscaping and Irrigation Systems and when possible Sustainable Landscaping; Landform Grading and Graphics; Water Conservation Measures, Audits and Water Harvesting; Landscape Ecological planning involving Resource Conservation and Protection; Habitat Mitigation Restoration; Reclamation and Revegetation; Native Plant Inventory, Salvage, Replanting and Establishment; Noxious Weed Control; application of Best Management Practices (BMPs) for Erosion and Sediment Control, Water Quality Protection; Storm Water Pollution Prevention Plan (SWPPP) Index Sheet, Erosion and Sediment Control Plans; preparation of Design Construction Plans Documents, Specifications and Estimates.
D. The Landscape Architect consultant shall be responsible for coordination of work with Roadside Development Section during all design phases. Work completed shall be in accordance with AASHTO, ADOT Design Manuals, Guidelines and Policies.
E. The consultant shall complete and Seal Project Plans, Specifications and Estimates necessary for project design development for use by other team members and for bidding and construction. The consultant may be required to provide Responsible Construction Supervision or Construction Contract Administration.

460 Traffic Engineering Design

461 Traffic Engineering Study

The Consultant shall perform a Traffic Engineering Study which addresses those concerns that are appropriate for the project. The study shall provide all necessary data not already furnished by the

Department. It is expected that the Consultant will make one or more visits to the project site to familiarize themselves with any issues that may have any bearing on the success of the project.

The Traffic Study should also address the items listed below. The items listed are intended only as a guide and are not meant to necessarily limit the scope of the study:

A. Average Daily Traffic

B. Turning movements at each intersection

C. Accident Data and Analysis

D. Access Control

E. Signing

F. Pavement Markings

G. Pass/No Pass Zones

H. Speed Zones

I. Signal Warrants

J. Left and Right Turn Warrants

K. 30th Hour Design Hour Volume

L. Peak Hour Volume

M. Bicycle Activity

N. Pedestrian Activity (ADA Requirements)

O. Parking

P. School Zones

Q. Appurtenances (guardrail, barriers, etc.)

R. Channelization, Turning Templates

S. Signal Phasing & Timing

T. Capacity

Note: The need for these items will vary depending on the nature and locale of the work.

462 Traffic Control Plans

When required by the complexity of the project, the Consultant shall prepare an appropriate phasing plan for the project. The plan shall be consistent with good constructability, taking into account the contractor's probable approach to the work and the cost and inconvenience to local businesses and residents. Phasing and project duration should be coordinated through the Project manager, the Construction District and Contract & Specifications Services.

Once the project phasing has been determined, the Consultant shall prepare a traffic control plan which may be as simple as a few paragraphs in the Special Provisions outlining which setups in Part VI of the MUTCD or the ADOT supplement are to be used or may be a set of detailed plans showing exact configurations of traffic control devices for the project. A summary of quantities and duration along with an estimate of costs and any special provisions shall be provided by the Consultant at each stage of the project beginning with Stage II.

New construction, reconstruction, pavement rehabilitation, overlays, bridge widening or repairs and other similar work generally will have a significant impact on traffic operations and will normally require a set of Traffic Control Plans with quantities, duration, unit prices, and special provisions.

The following categories of projects generally have a low impact on traffic operations and do not normally require traffic plans:

A. Landscaping projects of short duration

B. Signal projects

C. Scour protection projects

D. Fencing projects

E. Sound wall projects

F. Signing projects

G. Lighting and other electrical projects

H. Sidewalk and ADA ramp projects

I. Bike lane projects

J. Rest area construction projects

K. Minor surface treatments (Chip Seals)

Special Provision 701 DETRM can be used for projects that fall into the low impact categories. This special provision provides pre-determined unit prices for all of the likely pay items. There are, however, two lump sum items which must be computed. Item 7010001 is intended to provide a

summary of the anticipated cost of the devices to be used on the project; this item shows in the bid schedule as a fixed price. The second lump sum item, 7010006, allows the contractor to recover his costs for furnishing, placing, and removing the various devices during the construction.

Two other pay items may be included in the bid schedule, when appropriate. Both items require the contractor to provide a bid amount. The items are 7010010, Temporary Concrete Barrier and 7010012, Temporary Impact Attenuation Devices.

Upon final design approval for any and all work that involves Traffic Engineering/Design, the Traffic Engineering Group requires that the following CADD related deliverables be submitted to the Design Project Manager as indicated in the General Specifications for adherence to ADOT's CADD Standards:

a. All SignCad files shall be submitted in ADOT's current version of SignCad (.SGN).
b. All design CADD files associated with Traffic Design, including Traffic Signals, Signing, Pavement Marking, Traffic Control, Pre-Design, HES Projects, and Permit Designs, shall be submitted in ADOT's current version of MicroStation 2D format (.DGN)(2D).

In addition, a copy of the Letter of Transmittal indicating all Traffic related deliverables have been submitted to ADOT shall be forwarded to the Traffic Engineering Project Manager for approval.

463 Intersection Signalization and Roadway Lighting

The designer shall prepare construction documents for installation of traffic signals. Installations for future signals may require only conduits and pullboxes.

The designer shall comply with ADOT's current lighting policy and provide a complete set of roadway lighting construction documents including, but not limited to:

A. Complete freeway lighting including mainline, entrance and exit gore areas, ramps, and crossroads.

B. Underdeck Lighting.

C. Sign Lighting.

The designer shall in accordance with Section 430 of the Dictionary of Standardized Work Tasks and the project scope of work coordinate with the local electric utility to provide electric service. If warranted, the designer shall advise the project manager of the need for an IGA with the local jurisdiction for funding, maintenance, and energy costs.

464 Signing Plans

The Consultant shall prepare designs for signing that are consistent with current signing practice and in conformance with the Manual on Uniform Traffic Control Devices (MUTCD), the Traffic Engineering Design Manual, the Manual of Approved Signs (MOAS), and Traffic Group's Sign Sheeting Guidelines, dated May 31, 1996. Freeway signing within the MAG system shall in addition conform to the MAG network Signing Plan, dated January 1992.

A signing summary shall be provided in the project plans. Non-standard signs shall be detailed on the project plans following the formats given in the above referenced documents. The signing summary, a detailed estimate of costs, and any special provisions shall be included with each submittal beginning with Stage II.

465 Pavement Marking Plans

The Consultant shall prepare permanent pavement marking designs for the roadways within the project limits to show center, edge and lane line striping, stop lines, crosswalks, arrows, legends, and symbols, raised or recessed pavement markers, object markers, delineation or other markings as may be consistent with the needs of the project and in conformance to the requirements of the MUTCD, the Traffic Design Manual, and the Standard Drawings. The Consultant shall confer with the district representative and Traffic Group to determine which types of marking or delineation materials are appropriate for the project. The summary of quantities, a detailed estimate of costs, and any special provisions shall be included with each submittal beginning with Stage II.

466 Intelligent Transportation Infrastructure

The designer shall prepare construction documents for elements to be included in the project for accommodation of the Intelligent Transportation Infrastructure in accordance with the ADOT Freeway Management System Design Guidelines.

470 Right-of-Way

471 Right-of-Way Requirements Determination

The Consultant shall determine the requirements for new right-of-way (R/W) and easements, including, but not limited to, new roadway R/W, slope easements, drainage easements, temporary construction easements, waste site R/W, access control R/W, borrow source R/W and haul road R/W.

The Consultant shall submit to ADOT, in writing, the preliminary R/W requirements on or before the Stage II design submittal and the final R/W requirements on or before the Stage III design submittal. No revisions or additions to the R/W requirements will be allowed after the Stage III submittal without the approval of the ADOT Project Manager.

The new R/W requirements shall be submitted in triplicate to ADOT for review and shall include the following as a minimum:

A. A letter indicating the project name, contract number, project location, originator of report (Firm's Name), submittal date and submittal type (Stage II or III).

B. A plan of sufficient scale and detail to show the existing and proposed roadway R/W and proposed easements.

C. Type of acquisition required:

At the Stage II submittal, the new requirements may be estimates of the final R/W with enough definition to identify all ownership's that will be affected. The preliminary requirements should be large enough to cover all possible R/W needs.

At the Stage III submittal, the new requirements shall be accurately defined with widths, lengths, stations, offsets, etc.

In addition, all R/W plans shall conform to current Right of Way Plans Standards and Manual. When all comments have been addressed, the designers of ADOT projects shall submit the following:

a. Beginning and Ending Mileposts in tenths of a mile.
b. Revised Calculation Book sheets and Point ID sheets, if necessary.
c. An ASCII coordinate electronic file in the following format: Point Number, Northing, Easting and Description using commas as delimiters. Designers of ADOT projects shall ensure that this file is free of extraneous text such as page numbers, headers, batch commands, and the like. The file shall be such that it can be imported into a COGO program without reformatting by ADOT Right of Way Plans Section. Only numeric numbers shall be accepted.
d. One (1) half-size print of the Final Right of Way Plans set.
e. One (1) full-size set of sealed and signed Mylars trimmed to 22" x 34"

472 Right-of-Way Acquisition

If new R/W is required for the project, ADOT will acquire all necessary R/W and easements. Based on the requirements provided by the Consultant, ADOT will:

A. Prepare final R/W plans and associated documents necessary for R/W acquisition (Final plans may be prepared by others)

B. Acquire necessary R/W including easements, material sites and waste sites

C. Obtain the necessary authority to proceed with the various phases of property acquisition

D. Prepare the necessary data for Transportation Board resolutions and project clearance letters

473 Temporary Entry Documents

A temporary entry document for entry to each parcel for any or all of the following activities is required: Geotechnical investigations, and design or construction survey work. The Consultant shall notify ADOT of the need for any temporary entry documents no later than thirty (30) days after the notice to proceed. ADOT will obtain the appropriate owner's signature. The Consultant may not enter any such property prior to approval of the temporary entry documents by ADOT.

480 Cost Estimates

The Consultant shall prepare combined and detailed estimates (cost estimates) in the format recommended by Contracts and Specifications Section. The cost estimate shall include a recapitulation sheet concurrent

with each review submittal. Computer generated estimate forms may be used, provided the format is approved by the Contracts and Specifications Section. At the Stage II review, the Consultant shall prepare a bidding schedule and concurrently with each review submittal thereafter. ADOT will provide the necessary format.

The budgeted cost for the project is indicated in Section 140 of the Scope of Work. The Consultant shall immediately advise ADOT, in writing, if there is any reason to believe the project cannot be constructed within the allocated budget. The Consultant shall identify options to maintain the project within budget, including shortening the project, revising criteria, or phasing changes.

485 Specifications

The Consultant shall be responsible for identifying critical elements of construction, including, but not limited to, construction limits, access requirements, potential night construction, coordination with affected local agencies (police, fire, USFS, etc.), traffic lanes open, scheduling of work time (bar chart format illustrating estimated construction time), utility trench close ups, incentives and liquidated damages, State-furnished materials, critical materials requiring pre-bid purchase, and limitations specifically addressed in the environmental, right-of-way, and utility clearances.

490 Special Provisions

The Consultant shall prepare Special Provisions for items, details, and procedures not adequately covered by ADOT's Standard Specifications and Stored Specifications. Unusual requirements necessary for obtaining permits for hauling materials shall also be included. Special Provisions shall be submitted at the Stage III and Stage IV project reviews. Final Special Provisions shall be sealed by the Engineer in responsible charge. The Consultant shall be responsible for incorporating any specifications provided by ADOT technical sections into the draft and final Special Provisions. ADOT shall review all submittals of Special Provisions and the Consultant will prepare the final Special Provisions.

495 Contracts and Specifications Process

The Consultant shall, under the direction of ADOT, support the Contracts and Specifications process after completion of the Final Submittal stage leading to the complete bid documents as follows:

A. Promptly answer questions relative to the plans, quantities, and Special Provisions.

B. Make any necessary corrections to the plans, typical sections, Special Provisions, quantities, notes, etc. as required.

C. Prepare any addenda required to clarify the work included in the contract documents as requested by the Contracts & Specifications section. The addenda shall be prepared immediately upon request. Addenda may be required based on the project inspection with the assigned ADOT Resident Engineer, questions developed in the pre-bid conference, or conditions discovered by bidders during the bid period.

D. The Consultant shall, prior to the pre-bid conference be prepared to walk the project with the assigned ADOT Resident Engineer to discuss the plans and details.

E. The Consultant shall be prepared to attend the pre-bid conference, if one is scheduled, and present an appropriately-sized display showing the project layout, proposed traffic control and construction phasing, and shall be prepared to discuss other constraints so that the potential bidders will be better able to relate to the intent of the construction of the project. The Consultant shall respond to questions related to the plans, details and special provisions.

F. The Consultant shall be prepared to assist in the analysis of bids, including: determination of reasonableness and justification of cost variances, analysis of original cost estimate compared to contractor bid costs.

SECTION 600 - POST DESIGN SERVICES

ADOT will coordinate all post-design services and will act as the principal initial contact for post-design questions. The Consultant shall be responsible for the post-design services described below. Post-design services will be added to the contract by contract modification.

A. The Consultant shall be available, within twenty-four (24) hours of notification, to respond to questions in the field that may arise relative to the plans, details, or special provisions during construction.

B. The Consultant shall review and approve shop drawings, erection procedure plans, and form work details, review proposals for substitutions or "approved alternates," assist the resident engineer in developing change orders, and provide other engineering services required to facilitate construction of the project.

C. The Consultant shall appoint a responsible member of the firm to be the contact person for all post-design services; this person shall be continually available during the course of construction for review and updating of design plans.

D. The Consultant shall make every reasonable effort to process any material presented for review in a prompt manner.

E. The Consultant may be required to attend the Pre-Construction Partnering Workshop and/or utility coordination meetings.

F. The Consultant shall submit sealed and properly signed required construction modifications (change orders) of the original design in a hard copy as well as in electronic format as stated in section 1040.

G. The Consultant shall prepare the As Built plans for the project based on redlined construction plans provided by the ADOT Resident Engineer. The As Built submittal shall also include electronic files consistent with ADOT's electronic archiving process. The Consultant shall submit the following:

1. Two (2) half-size (11" by 17") prints of the final prepared As Built plans set.
2. One (1) full-size print set of the prepared As Built plans sheets trimmed to 22" x 34".
3. One (1) electronic copy of the CADD design files containing the submitted As Built Plans on compact disk(s) (CD) or DVD(s).
4. Two (2) electronic copies containing the prepared As Built Plans scanned onto CD(s) or DVD(s) in PDF format (Adobe Portable Document Format).
5. The original set containing the field redlines sent by the Resident Engineer.

The cover sheet of each As Built Plan set shall contain the following information transcribed onto the original cover sheet:

- Project Number and Tracs number (if applicable).
- Name of the Construction Company who built the project.
- The name of the Professional Registered Engineer or Certified Professional who oversaw the As Built Plans Procedure.
- The date the process was completed.

- The name of the Resident Engineer (and consulting firm if applicable) who supervised the project field construction.
- The date when the Resident Engineer approved submittal of the field redline information.

SECTION 700 - MATERIALS FURNISHED BY ADOT

710 Surveys and Mapping

ADOT will provide the following materials, as available:

A. Horizontal and vertical control for existing alignments

B. Descriptions and values for Geodetic control

C. Field Survey

1. Planimetric maps
2. Topographic maps
3. Digital Terrain Model
4. Profile maps

D. Control for aerial maps

E. Photogrammetric Mapping (Contour Interval = 2 ft.)

1. 1" = 50' photogrammetric mapping
2. 1" = 100' photogrammetric mapping
3. 1" = 50' Digital Terrain Model
4. 1" = 100' Digital Terrain Model

F. Photo mosaic

G. Aerial photos

H. ADOT State Plane Coordinate Grid Adjustment Factor(s)

720 Materials Investigation

ADOT will provide the following materials:

A. Geotechnical Report if applicable

B. Pavement Design Summary if applicable

C. Materials Design Report if applicable

D. Review of all submitted reports prepared by others for this project.

730 Record Documents

The Consultant shall obtain the following ADOT drawings:

A. Available "as built" plans, of existing conditions

B. Available right-of-way plans of existing conditions

740 Traffic Data

The Consultant shall obtain from ADOT the following design traffic data:

A. Current and design year ADT

B. K, D, and T factors

750 Environmental Studies

In addition to the Final Environmental documents, ADOT will provide, at the Consultant's request, any available environmental data prepared for the project (such as cultural resource surveys and investigations).

760 Base Sheets

ADOT will provide the Consultant with one (1) reproducible copy of each of the following base sheets as required for completion of the project plans. For other compatible CADD systems, these items shall be provided on computer CDs.

A. Roadway Design Section sheet

B. New Pipe Summary sheet

C. Barrier Summary sheet

D. Reinforced Concrete Box Culvert Summary sheet

E. Roadside Development Section sheet

F. Corrugated Aluminum Pipe Extensions Summary sheet

G. Corrugated Steel Pipe Extensions Summary sheet

H. Combination Barrier and Pipe Summary sheet

I. Cell Libraries (CADD only)

J. Font Libraries (CADD only)

K. Face sheet

L. List of Standard Drawings sheets

M. Traffic Design Section sheets

N. Traffic Operations Section sheets

O. Right-of-Way Plans Section sheet

770 Final Design Concept Report

The Final Design Concept Report will be provided to the Consultant.

SECTION 1000 - CONTRACT ADMINISTRATION

1010 Arizona Department of Transportation

ADOT's Project Manager shall:

A. Conduct ongoing reviews of the Consultant's progress in performing the work and ensure timely comments from the technical units.

B. Direct design consensus status and team building meetings with all appropriate partners at the start and on a monthly basis during the project development period.

C. Review the Consultant's billings

D. Review and evaluate the Consultant's requests for extension of time and supplemental agreements

E. Review all correspondence with public agencies prior to the Consultant's mailing of any correspondence

F. Coordinate the distribution of public information

G. Provide a focal-point contact for all questions, requests, and submittals

H. Coordinate project scheduling with the Consultant, ADOT sections, and ADOT Program and Project Management Section.

1020 Consultant

The Consultant shall:

A. Establish, furnish and maintain suitable office facilities to serve as the project office for the duration of the project in the location specified in the Consultant's technical proposal

B. Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project

C. Establish internal accounting methods and procedures for documenting and monitoring project costs

D. Establish and maintain contract administration procedures, which will include supplemental agreements, time extensions and subcontracts

E. Include the complete TRACS number and project name on all correspondence related to the contract.

F. Participate in design consensus, status and team building meetings with all appropriate partners at the start, on a monthly basis during the project development period and as needed to maintain the design schedule. If requested by the ADOT Project Manager, the Consultant shall act as the lead.

The Consultant is responsible for the accuracy and completeness of contract documents and related design prepared under the project. The plans will be reviewed by the project team including representatives of ADOT technical sections for conformity with ADOT procedures and the terms of the contract. Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.

1021 Project Control

The Consultant shall provide data, in the format specified by ADOT, upon request to monitor costs and manpower and to report progress.

The project control system may include features to:

A. Determine and highlight critical path work from initial plans as work progresses

B. Identify progress against schedule for each identified work item

C. Forecast completion dates from current progress

D. Highlight rescheduled work in any area which is out of the required sequence

E. Determine any physical area that requires more resources than originally allocated

F. Forecast future conflicts in any area

G. Provide estimates of time, manpower, and dollars required at the lowest work element tracked, based upon current expenditures versus schedule

H. Provide the capability of random inquiry concerning the status of any work element in terms of schedule, manpower, and dollars

1022 Subcontract Services

Due to the nature and scope of the required services, it may be desirable for the Consultant to subcontract portions of the work. However, the subcontracting firms must be approved in writing prior to initiation of any work. The volume of work performed by the subcontractors shall not exceed 49 percent (49%) of the total contract value.

1023 Project Related Correspondence

The Consultant shall furnish written documentation of communications between the Consultant and any party, pertaining specifically to the project, to ADOT for record keeping within one week of the communication. The Consultant is responsible for recording and distributing to the participants the minutes of all meetings pertaining to the project within one (1) week of the meeting.

1024 Quality Control

The Consultant is responsible for the accuracy and completeness of the plans and related design prepared under the contract and shall check all such material accordingly. The Consultant shall have a quality control plan in effect during the entire time work is being performed under the contract. The plan shall establish a process whereby plans, calculations and documents submitted for review shall be clearly marked as being fully checked by a qualified individual other than the originator. Non-compliance will be sufficient cause for rejection of submittal. Periodic Quality Control audits may be performed by the ADOT Project Manager.

The Consultant shall submit the quality control plan to ADOT for approval within fifteen (15) working days of receipt of written Notice to Proceed. The plan shall comply with the requirements of Section

1025. The plan shall address as a minimum: checking procedures, training of employees in quality requirements, methods of monitoring and documenting quality control activities.

1025 Quality Control Plan Requirements

A. Identification of key personnel and definition of specific responsibilities:

The plan will identify, by name, the specific project personnel and their individual responsibilities relative to the project and the Quality Control process.

B. Technical review process:

Technical review shall be distinguished from checking. Checking is for verification of the accuracy of the documents; technical review is for the verification of the overall design concept of the project. As a minimum, technical review will do the following:

1. Determine the adequacy of the design process to achieve the desired goals
2. Evaluate the general selection and sizing of materials and equipment
3. Determine if all viable alternatives have been considered
4. Determine the practicality of the design concept
5. Determine if legal and physical restraints were considered
6. Determine if the design theory, concepts, and project layout are logical
7. Determine applicability of computer programs used
8. Determine if the technical specifications are sufficiently comprehensive
9. Determine the constructability of the selected design

C. Checking procedures:

The checking process should assure that all documents produced, including, but not limited to, plans, reports, calculations, specifications, special provisions, estimates, and schedules, are thoroughly checked by an individual equally competent to the originator of the document to verify accuracy. The process will address resolution of conflict and assure agreement of computer programs and procedures for checking computer input and output. Checking shall not only confirm the accuracy of calculations, but shall include a thorough review of the proper use of Standard Drawings, Drafting Guide, Project Design Guidelines, and other manuals and documents referenced under Section 200 of the scope of work.

D. Program to train employees in the quality control requirements:

The training program should provide an opportunity for all project staff to become familiar with the design and the quality control process that will be required on the project. Particular attention should be directed to defining specific individual responsibilities and assuring their understanding.

E. Process to monitor and document quality control activities:

A method for monitoring and documenting the required processes is essential to achieve desired results; this process should easily and quickly verify the entire Quality Control process. A checklist should be developed for quick reference and periodic review by the Project Principal and ADOT.

1026 Consultant Personnel

The Consultant's work shall be performed and/or directed by the key personnel identified in the technical/fee proposal presentations by the Consultants. Any changes in the indicated key personnel or the Consultant's officer-in-charge of the work, as identified in the Consultant's proposal, shall be subject to review and approval by ADOT.

1027 Site Visit

The Consultant shall make arrangements to visit the project site, with agency representatives as appropriate (ADOT, FHWA, National Forest and other interested persons), at least two (2) weeks prior to the visit. The visit will be held within fifteen (15) working days of the receipt of written Notice to Proceed, or as otherwise instructed by the ADOT Project Manager. Within seven (7) calendar days of the site visit, the Consultant shall issue to ADOT a brief written report including observations, discussions, and any questions pertaining to the scope or level of effort of the project. The purpose of the site visit is to acquaint key personnel with the details and features of the project to facilitate the design process.

1030 Acceptability of the Work

The plans, design, requested calculations, reports and other documents furnished under the Scope of Work shall conform to "standards-of-the industry" quality. Criteria for acceptance shall be a product of neat appearance, well organized, accurate and complete, technically and grammatically correct, checked in accordance with the approved Quality Control program, and with the designer, maker and checker identified.

1040 Design Documentation

A. If requested, the Consultant shall submit any design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the contract documents to ADOT for review.

B. Structural calculations will only be submitted when requested by the Bridge Group and for specific elements.

C. At the project completion (immediately prior to the bid advertisement), a final set of project documentation sheets, sealed by a Professional Engineer, Landscape Architect, or Architect, registered in the State of Arizona, shall be submitted to ADOT with the record set of plans.

D. Project Documentation shall include, but are not necessarily limited to, the following data:

1. Design criteria used for the project
2. Right-of-Way calculations (including easements)
3. Geotechnical reports for the pavement and/or bridge design
4. Documentation of decisions reached resulting from meetings, telephone conversations or site visits
5. Drainage reports
6. Field survey notes and computations
7. Calculation of quantities

E. Computer-Aided Design and Drafting (CADD) Standards for all Projects related Deliverables. ADOT shall retain all rights and ownership of all Electronic Files and Hardcopy Deliverables throughout the Design Phases.

F. During project construction, and as part of the post-design services rendered by the Consultant, any modification(s), redlines shall be prepared in accordance with the as built procedure stated in section 600 (G). ADOT retains all rights and ownership of the Electronic Files and Hardcopy Deliverables throughout the Construction Phase.

CADD General Specifications

All drawings to be archived shall conform to ADOT drafting and CADD standards, including CADD file naming convention. The current ADOT approved version of Bentley's MicroStation software will be used. All graphic files shall be provided in MicroStation's native design file format (.dgn), and contain data in vector format only. Digital Terrain Model (.dtm) files shall be produced with Bentley's InRoads/Site/Survey Select CAD compatible file formats. Raster data shall not be accepted unless otherwise stated by ADOT. Use of non-MicroStation vector format and subsequent translation of graphic files to the .dgn format shall not be acceptable. No zipped files will be accepted. Reference files are not to be copied into the plan sheets master file. All electronic "design sheets" will be delivered in a typical "Plan View" (dependant upon sheet contents) in view 1. ADOT cells are not to be modified unless approved by ADOT.

All final Consultant project Electronic CADD data files may be delivered through a File Transfer Protocol (FTP) Site. Alternatively, two (2) copies of the electronic files shall be submitted on CD-ROM/DVD (multiple CDs /DVDs shall be allowed). All final project documentation, electronic files (.DGN, ASCII, .ALG, .DTM, .SGN, .XLS project wide reference files, etc.) and hard copy, shall be packaged separately, suitably labeled and delivered to the assigned ADOT primary Project

Manager, and/or to the Technical Leader as identified.

All deliverables shall contain an electronic Index of Files and a letter of transmittal to the designated areas and all CDs/DVDs must be labeled with the information stated below:

Identification Label for CD/DVD and Case:

- Prepared By:
- Federal Project Number:
- Route:
- Milepost (Beginning/Ending):
- Prefix (Rt, Co, MP) and TRACS Number:
- Project Name:
- Type of Files:
- Creation Date:
- Disc (#) of (total #)

In addition to the requirements stated above in the General Specifications, all designers of ADOT projects shall provide the information requested by the individual areas. If unclear about items needed for your project, please contact the Design Project Manager.

1050 Value Analysis

"Value Analysis", also know as "Value Engineering" consists of those tasks performed by a Value Analysis Team in accordance with the Value Analysis Program Manual as referenced in Section 200 of the Scope of Work and available from the ADOT Value Analysis Section. Any studies or other activities of a similar nature shall not be referred to as "Value Analysis" or "Value Engineering."

The design team is encouraged to recommend value analysis for ADOT standards and specifications, as well as for elements of the project.

1051 Value Analysis Team

The value engineering study will be performed by a value analysis team consisting of ADOT personnel, personnel from consultants or outside agencies, or some combination of these sources. The design team shall cooperate fully with the value analysis team, providing necessary background information for the study. At the discretion of the Project Manager, the design team may be requested to assign one of its representatives to the value analysis team.

1052 Design Team Responsibilities

A. The design team, upon notification of the approval of a value analysis, shall compile appropriate data for analysis and make a presentation to the value analysis team, in accordance with the Study Plan prepared by the Value Engineer. The design team shall communicate and cooperate fully with ADOT's Value Engineer and the value analysis team.

B. It is expected that the elements necessary for a value study can be assembled and delivered by the design team with minimum expenditure of effort and time under its normal design procedures in approximately four (4) working days. The design team will be allowed to budget thirty-two (32) man-hours for data compilation, the presentation, and study response, if appropriate. If the design team is requested to furnish a representative to participate as a member of the value analysis team, additional hours may be necessary. Although costs for value analysis activities are not identified as a separate expense item for accounting purposes, the design team shall report the hours expended and estimated costs of labor and materials to the ADOT Value Engineer for cost tracking and value analysis program evaluation purposes.

C. In accordance with the Program Manual, the findings and recommendations of the value study will be forwarded to the ADOT Project Manager for review. The Project Manager will review the value analysis recommendations with the project team and respond to the Value Analysis section as soon as practical indicating acceptance, possible acceptance pending further investigation, or rejection of each recommendation. The design team shall implement the approved recommendations of the value study. If significant effort is required, the additional work will be added to the Scope of Work by contract modification.

1060 Reviews and Submittals

A. Review and coordination of the Consultant's work by ADOT will continue through the project development process. The Consultant may continue the design work while design submittals are being reviewed by ADOT. Doing so however in no way relieves the Consultant of the responsibility to incorporate review comments into the design, nor does it entitle the Consultant to any additional design fees as a result of making changes due to review comments.

B. Partnering Workshops

1. If requested by ADOT, the Consultant shall participate in joint progress meetings and consensus sessions with other designers on the corridor.

2 The Consultant shall participate in a Construction Partnering Seminar after the project has been awarded and prior to the start of construction.

C. Submittals for review shall be made when the studies and/or plans have been developed to the following levels of completion:

1. Quality Control Plan

2. Stage I design

3. AASHTO Report

4. Stage II design

5. Stage III design

6. Stage IV design

D. The project may be subject to a constructability review. The Resident Engineer or other assigned District representative will be the leader of the constructability review which would normally occur after the Stage III submittal and before the Stage IV submittal.

E. Copies of review submittals and finalized documents shall be distributed by the Consultant in accordance with the Distribution List maintained by the Statewide Project Management Section (see Appendix C) or as per the ADOT Project Manager's instructions. The appropriate name for each position may be obtained from the ADOT Project Manager upon request one week prior to any submittal deadline. All deliveries shall be by hand or overnight courier. All plans and cross sections shall be half-size black and white sheets and in CD-ROM/DVD containing the CADD (Microstation) design files used to develop the plan sheets as specified in Section 1040.

1061 Environmental Reports - N/A

1062 Stage I Design Submittal

An informal review and discussion of the project shall be held prior to the Stage I review submittal. The meeting shall take place as soon as the Consultant has established pre-initial roadway alignment, typical roadway sections, and a tentative plans layout for the project.

The attendees shall consist of the Consultant, the assigned design team including ADOT staff involved in the project design, the ADOT Project Manager and other concerned personnel invited by the ADOT Project Manager.

A. The following material shall be developed and submitted to the ADOT Project Manager for review:

1. Initial typical roadway sections
2. Initial roadway plan and profile sheets at the scales set in Section 410.
3. Tentative plans layout
4. Initial environmental mitigation measures
5. Request for utility designation services
6. Two copies of all plans and cross sections; one set shall be half-size black and white sheets and the other set in PDF format.

1063 Stage II Design Submittal

A. The following material shall be developed and submitted for review:

1. Typical roadway and detour sections

2. Final roadway geometry and preliminary roadway and detour plan and profile sheets

3. Location of existing utilities and identification of initial utility conflicts

4. Utility report

5. Preliminary R/W and easement requirements

6. Preliminary roadway drainage plans and details and Initial Roadway Drainage Report

7. Bridge Drainage Report

8. Bridge Selection Report

9. If required, draft applications for environmental permits including preliminary input for Section 404 permit

10. Any significant change in engineering data supporting previous environmental decisions or applications

11. Preliminary summary of required environmental mitigation measures

12. Preliminary Landscape Architectural plans with proposed sources of power and water

13. Preliminary development of intersection plans including basic geometry and channelization

14. Preliminary layouts for proposed retaining and sound barrier walls

15. Preliminary construction sequencing plans

16. Final Geotechnical Report

17. Final survey information

18. Initial quantities and cost estimate

19. Preliminary roadway cross sections at one hundred (100) ft. intervals, as a minimum, with additional sections at breaks in the terrain. See Section 440, Roadway Design.

20. Preliminary summary of earthwork quantities

21. Two copies of all plans and cross sections; one set shall be half-size black and white sheets and the other set in PDF format.

B. The Geotechnical Report shall be submitted to ADOT for review and approval a minimum of fifteen (15) calendar days prior to the Stage II Design Submittal.

1064 Stage III Design Submittal

A. The following material shall be developed and submitted for review:

1. Final typical roadway and detour sections
2. Pre-final roadway and detour plan and profile sheets
3. Identification of final utility conflicts and preliminary plans of utility installations and/or re-locations to be included in project construction
4. Pothole data made available to utility companies
5. Utility report
6. Final R/W and easement requirements
7. Pre-final roadway drainage plans and details and Final Roadway Drainage Report
8. Completed applications for environmental permits including final input for Section 404 permit
9. Any significant change in engineering data supporting previous environmental decisions or applications
10. Final summary of required environmental mitigation measures
11. Pre-final intersection plan sheets
12. Final construction sequencing plans
13. Pre-final layouts for retaining and sound barrier walls
14. Preliminary landscape architectural plans, summaries and details, and proposed sources of water and power
15. Preliminary design sheet with index and general notes, summary sheets and special details
16. Preliminary summary sheets
17. Preliminary special details
18. Preliminary bridge structure plans
19. Preliminary retaining wall and sound barrier wall design plans
20. Preliminary traffic control plans

21. Preliminary pavement marking and signing plans

22. Preliminary traffic signal plans

23. Preliminary lighting plans

24. Preliminary erosion control plans, summaries and details

25. Preliminary special provisions including ADOT Stored Specifications

26. Preliminary quantities, cost estimate and bidding schedule

27. Preliminary construction schedule in bar chart format

28. Preliminary roadway cross sections at one hundred (100) ft. intervals, as a minimum, with additional sections at breaks in the terrain. See Section 440, Roadway Design.

29. Preliminary summary of earthwork quantities

30. Preliminary Utility Special Provisions

31. Two copies of all plans and cross sections; one set shall be half-size black and white sheets and the other set in PDF format.

An office review and field review will be held following submittal of the Stage III plans to review the proposed roadway alignments and bridge site. See Section 410 of this Dictionary of Standardized Work Tasks for field review staking requirements.

1065 Stage IV Submittal

A. The following final material shall be completed, checked and submitted for review:

1. Design sheet(s) with index and general notes

2. Summary sheets

3. Special details

4. Typical roadway and detour sections

5. Roadway and detour plan and profile sheets

6. Drainage plans and details

7. Intersection plans and details

8. Construction sequencing plans

9. Traffic control plans

10. Traffic signal plans

11. Signing and pavement marking plans

12. Lighting plans

13. Bridge plans

14. Retaining wall and sound barrier wall design plans

15. Landscape Architectural plans and details

16. Utility installation/relocation plans and details to be included in project construction

17. Utility report

18. Utility Special Provisions

19. Utility relocation schedule and costs

20. Erosion control plans

21. Roadway cross sections (see Section 440, Roadway Design)

22. Final summary of earthwork quantities

23. Quantities, cost estimate and bidding schedule (provide the work done using Microsoft Excel in one hard copy and another in a CD-ROM)

24. Special provisions (provide hard copy and CD-ROM using Microsoft Word)

25. Construction schedule

26. Environmental permits

27. Summary of environmental mitigation measures and disposition

28. Final design calculations

29. Two copies of all plans and cross sections; one set shall be half-size black and white sheets and the other set in PDF format.

NOTE: The ADOT technical reviewer may require checked computations and checked data on the plans for all of these items prior to submittal.

B. ADOT's review of the submittal will include technical content, incorporation of previous comments, and completion of design and details, as well as:

1. Conformance with ADOT requirements

2. Completeness of the contract documents

3. Compatibility of plans, specifications, and special provisions

4. Coordination between disciplines, phases, and outside parties

5. Clarity of the contract documents

6. Consistency of presentation

If additional submittals at this level are required due to noncompliance with the Scope of Work or ADOT's review comments, the work shall not entitle the Consultant to any additional design fees.

The Consultant shall prepare and submit to U & RR Section, a Utility Clearance Letter in the style and manner as outlined in the *Utility Coordination Guide for Design Consultants*. The clearance letter shall be sent before the Final Submittal is made.

1066 Final Submittal

A. The following material shall be submitted for completion of the project:

1. A complete reproducible set of sealed and signed contract document originals necessary to construct the road and/or bridge improvements identified in the contract.

2. A complete sealed and signed reproducible set and one copy of special provisions to cover design items not identified in the ADOT Standard Specifications for Road and Bridge Construction, current edition.

3. The Consultant shall provide a copy, in electronic version, of the CADD design files used to create all plan sheets as specified in Section 1040. The Consultant shall also provide a separate CD/DVD containing all plan sheets, properly sealed by a Registered Engineer, in PDF format. Filenames shall conform to the format provided by ADOT in section 1040 and/or required by any ADOT technical section.

4. Final and complete quantity summaries and cost estimates

5. An estimate of the contract time for the project construction

6. Final survey computations and original field books

7. Approved environmental permits if required

8. A reproducible set of earthwork cross sections by station showing the plotted roadway template superimposed on the plotted natural terrain (see Section 440, Roadway Design)

9. A reproducible set of final earthwork quantities, calculations and overall summaries

10. Return any documents and other materials provided for use on the project

NOTE.- The Consultant Project Manager will make sure that the printed copies comply with the following list:

1. All seals must be of reproducible quality and all signatures in black ink.

2. All final plan sheets shall be trimmed to 22" by 34".

3. All final plan sheets shall be printed on 20 pound vellum not less than 3 mil nor more than 5 mil.

4. Printed plan sheets shall be black printing only.

5. Do not use paste-ups, tape or sticky back.

6. Do not use pencil on final drawings.

All review submittal prints of the construction plans shall be clearly stamped "**PRELIMINARY - NOT FOR CONSTRUCTION**". The percentage of completion and date submitted should be clearly evident. Failure to comply may be cause for rejection of the submittal. Only the final approved plans shall be properly sealed by an Arizona Registered Professional Engineer and issued without the above stamped notation.

SECTION IX

ADVANCE AGREEMENT CHECKLIST

ARIZONA DEPARTMENT OF TRANSPORTATION

ENGINEERING CONSULTANTS SECTION

ADVANCE AGREEMENT CHECK LIST
(See FAR 31.109)

1. Direct Labor

Direct labor will be billed at actual costs, as defined in FAR 31.001, unless a specific classification or individual's billing rate is capped. However, for partners, sole proprietors and Limited Liability Companies (LLCs) where owners may not be paid an hourly wage or salary, direct labor will be billed at rates agreed to by ADOT. (Also see **Compensation for Personal Services**.)

Only the pay rates of those employees who will likely be expected to be directly involved on the Project stated in the Contract can be used in developing cost proposal rates.

2. Home Office Allocations or Similar Allocated Costs

FAR 31.109(h)(14) states, "General and administrative costs (e.g., corporate, division, or branch allocations) attributable to the general management, supervision, and conduct of the contractor's business as a whole." These costs may represent a significant portion of indirect (Overhead) costs.

All Cost Principles addressed in the Contract Cost Allowability Guidelines and Policies ("CCAGP") must be followed by a Consultant/Subconsultant's home office, division or other related entity that allocates costs to the Consultant/Subconsultant (see the CCAGP **A.5. Allocability of Costs**). These costs should be identified and agreed to in advance as to the amounts considered reasonable and allocable to ADOT contracts.

3. Overhead Rates by Type of Engineering Discipline or Specialty

Firms qualified to provide more than one engineering discipline or specialty must be able to substantiate separate overhead rates for each of the following disciplines:

- Construction Administration (CEI)
- Design
- Geotech
- Supplemental Services

4. Compensation for Personal Services

See CCAGP **B.31.205-6 Compensation for Personal Services**.

Compensation for personal services is normally the most significant element of indirect cost. The components of compensation for personal services should be identified and the amounts to be considered reasonable and allocable to ADOT contracts agreed to in advance.

In particular, the following elements of Compensation for Personal Services, if applicable, should be agreed to in advance:

- Both the reasonableness and allocability of compensation paid to partners, sole proprietors, or owners and family members of same, along with highly compensated employees.
- Allowability of bonuses. Under above reference, see 2. *Bonuses and incentive compensation*.

5. Cost of Money

If this item is requested, it must be properly proposed as a separate line item in the Derivation of Costs Proposal, and documented in accordance with 31.205-10. Also see FAR 31.201-1.

6. Bid and Proposal Costs (see FAR 31.205-18) and Selling/Marketing Costs (see FAR 31.205-38)

Bid and proposal costs and selling/marketing costs will be looked at carefully in the preaward review. Any unreasonable and/or unallocable costs being claimed will be disallowed. Adequate documentation will be expected for such claimed costs. Unallowable portions will be expected to be properly identified.

7. Other Direct Costs

It will be expected that Other Direct Costs (any expense/cost other than Direct Labor and Subconsultants) be included in the Overhead cost pool. If a Consultant/Subconsultant proposes Other Direct Costs, it will need to obtain prior approval of its accounting methods by ADOT's Office of Audit & Analysis—External Audit Team before it can include such costs in its Derivation of Costs Proposal submitted to ADOT's Engineering Consultants Section.

7. Other Direct Costs, continued

The list of incidental costs that follow should not be considered to be "all-inclusive". However, the items noted below are specific costs ADOT has identified as being onerous to deal with as Other Direct Costs. Most Consultants/Subconsultants already include such costs in Overhead cost pools.

- Audio/Video equipment and supplies, including VCRs and video cameras
- Cell phones
- Copy machines
- Densometer
- FAX
- Internet/electronic mail
- Mileage for company vehicles
- Office space considered to be "extra". (Exception is for Construction Administration field office.)
- Postage and/or Courier
- Survey supplies
- Telephone calls--both local and long distant

Additional points to consider:

- If a Consultant/Subconsultant does not have separate cost pools (for example CADD and Reproduction Costs), ADOT believes it will be very difficult to adequately substantiate such costs.

- Be aware that if the costs of specific services normally provided by a Consultant/ Subconsultant are included in its Overhead Cost Pool, then any unexpected costs that may be incurred to provide those same services must be charged to an Overhead cost account. Any questions regarding this matter should be directed by ADOT's Office of Audit & Analysis—External Audit Team.

8. Incidental Costs Which Should Normally Be Charged Directly to the Contract

- Lease/rental of vehicles or other specialty equipment. (This cost should be substantiated by evidence of appropriate bidding including support for the bid accepted.)
- Mobilization of equipment.
- Travel and Lodging, including per diem, following ADOT's Travel Authorization Policy.
- Special reproduction costs provided by outside vendors

SECTION X

ADOT CONSULTANT AUDIT CRITERIA

ADOT

Janet Napolitano
Governor

Victor M. Mendez
Director

Arizona Department of Transportation

Intermodal Transportation Division

205 South Seventeenth Avenue Phoenix, Arizona 85007-3213

October 15, 2008

Floyd Roehrich, Jr.
State Engineer

INFORMATION BULLETIN NO. 08-03

TO: Consultant Engineering Firms, ADOT Project Managers & ADOT Office of Audit & Analysis

FROM: Engineering Consultants Section

SUBJECT: Pre-Award Audit Requirement Timeframe

ADOT is striving to be more efficient in working with Consultants to negotiate overhead rates prior to the execution of contracts and to minimize the problems associated with adjusting overhead rates and "true-up" the costs mid-way through the contracts.

Therefore, effective immediately, the procedure below must be followed in order to help ensure that overhead rates can be negotiated prior to contract execution, where applicable.

Within two weeks after receiving a notice of selection, the selected Consultant and its Subconsultants are required to comply with the Advance Agreement Checklist (SOQ Package, SECTION IX) and submit financial documentation to ADOT Office of Audit & Analysis (A&A) as detailed in SECTION X of the SOQ Package.

At a minimum, for overhead-based firms, the following documents must be submitted to A&A within two weeks of contract award.

1. Completed Consultant Audit Questionnaire
   For Consultant Audit Questionnaire and other relevant reference materials, visit A&A website at http://www.azdot.gov/inside_adot/audit/publications.asp
2. Financial Schedules / Statements
3. Schedules of Indirect Costs

Additional information and supporting documentation may be requested by A&A as needed.

Subconsultants that are proposing Unit Rates or Commercial Pricing Rates may have different audit submittal requirements and should contact A&A for clarification.

Failure to comply with audit requirements by the established timeframe may substantially delay the contract execution and may be considered failed negotiations

If you have any questions or require any additional information, contact A&A at (602) 712-7481.

Vivien H. Lattibeaudiere, Ph.D
ECS Director

Arizona Department of Transportation
Engineering Consultants Section
205 S. 17th Ave. Phoenix, Arizona 85007.3213
Phone 602.712.7525 Fax 602.712.7424

Jane Dee Hull
Governor

Mary E. Peters
Director

Victor Mendez
Deputy Director

April 25, 2001

INFORMATION BULLETIN NO. 01-06

TO: ADOT Staff
Consultants

FROM: Engineering Consultants Section

SUBJECT: ADOT CONSULTANT AUDIT CRITERIA

Please be advised that the Department has revised the Consultant Audit Criteria as per the attached.

We would appreciate it if your Chief Financial Officer is made aware of this Information Bulletin.

If you have questions regarding this bulletin, please call (602) 712-7525.

ADOT CONSULTANT AUDIT PROCESS

(effective April 25, 2001)

I. In continuing our process improvement, we have revised our proposal/audit criteria as follows:

- Firms doing a total of less than $50,000 per year work through ECS –

  A. **may** propose on a Unit Price of Work basis.

  B. if a Unit Price of Work is proposed: the audit review will be limited in scope to a determination that the Consultant accounts for labor properly, has no "going concern" problems, and has proposed rates that are "fair and reasonable."

- Firms doing less than $200,000 per year work through ECS -

  A. must maintain a compliant accounting system.

  B. must be aware of cost eligibility and required documentation.

  C. will provide an Overhead Schedule (in proper format), Tax Return, and Trial Balance as well as details of Executive Compensation, Fringe Benefits, and Related Party Transactions for audit review by ADOT Audit & Analysis (A&A).

  Note: Based on A&A's review recommendations, ECS will negotiate rates on Cost Plus Fixed Fee (CPFF) contracts. These contracts will be subject to final audit only for suspected fraud or abuse.

I. In implementing Section 307 of the 1995 National Highway System Designation Act, ADOT is offering Consultants doing over $200,000 per year work through ECS the following review options:

- submission of the Consultant Audit Questionnaire and related documentation;

- submission of an independent Certified Public Accounting (CPA) Overhead Report meeting the American Consulting Engineers Council/American Association of State Highway and Transportation Officials/Federal Highway Agency (ACEC/AASHTO/FHWA) Guidelines for the Consultant's most recent year-end (A&A may review the CPA workpapers);

- submission of a Cognizant Report (as defined in the ACEC/AASHTO/FHWA Guidelines) from another state for the Consultant's most recent year-end.

I. In continuing our process improvement, Incurred Cost/Final Audits for Firms doing over $150,000 per year work through ECS will be treated as follows –

- General – Lump-sum contracts shall not be subject to final audit except on a sample basis to determine the efficiency of the ADOT negotiation Process for its own internal control purposes, or for suspected fraud or abuse. The State Engineer will participate in the decision to audit any lump-sum contracts.

- Overhead – A CPA Report or a Cognizant Report from another state meeting ACEC/AASHTO/FHWA Guidelines is acceptable for Incurred Cost/Final audits. A&A may review the CPA workpapers as provided for in the AASHTO Audit Subcommittee procedures. In the absence of either of these alternatives, A&A will audit the overhead based on submission of the Consultant Audit Questionnaire and related documentation.

- Incurred Costs (Other then Overhead) – Consultants will be audited on a three-year rotation. The audits will cover all open contracts, both those that have been completed during the period and those which are still in progress.

SECTION XI

BOILER PLATE CONTRACT

Contract No.: 09-30
TRACS No.: H7139 01D
Project No.:

A.G. Contract No: KR94-1408ALS

CONSULTANT CONTRACT

This CONTRACT is made and entered into on _____, 20____ by and between the State of Arizona, Arizona Department of Transportation, Intermodal Transportation Division, acting by and through the Director, hereinafter called STATE, and

(Consultants Name and Address Inserted Here)

hereinafter called the CONSULTANT.

The Description and Location of the CONTRACT and related project(s) are as follows:

Description:

I-10/SR 303L SYSTEM TRAFFIC INTERCHANGE (Phase I)

Location:

I-10/SR 303L

RECITALS

1. The STATE desires that design plans be prepared for the above location. The trained personnel needed for the CONTRACT and related project(s) are not currently available within its own organization.

2. The CONSULTANT firm with its principals and employees is considered to be qualified and otherwise capable of performing the work required by this contract in the time allotted.

3. Therefore, pursuant to Arizona Revised Statutes, Section 28-1803(5) it is deemed to be in the public interest to enter into this contract.

AGREEMENT

Therefore, in consideration of these premises and of the mutual clauses and agreements herein contained, and the faithful performance thereof, the CONSULTANT and the STATE contract and agree:

2.01 SCOPE OF WORK

The CONSULTANT shall perform engineering services for the satisfactory completion of the CONTRACT and related project(s) as detailed and described in the following Scope of Work dated January 2009 which is considered to be a part of this CONTRACT.

(Scope of Work Inserted Here)

3.01 CONTRACT SCHEDULE AND COMPLETION DATE

Work on the CONTRACT and related project(s) is scheduled to commence on _ _____. Work is to be completed within 600 calendar days from notice to proceed for an estimated completion date of _____,20_. The STATE assumes no liability for work performed or costs incurred prior to the beginning date or subsequent to the CONTRACT completion date. Extensions of time allowed for completing the CONTRACT may be granted under appropriate circumstances.

3.02 CONSULTANT'S COMPENSATION - LUMP SUM - DESIGN - MULTIPLE PHASES

1. PHASE I - DESIGN - MULTIPLE PHASES

   a. The method of payment for this CONTRACT is Lump Sum. Total compensation for the work performed shall not exceed the sum of $_____ plus approved adjustments. The Negotiated Provisional overhead rate of _____% will be set until receipt the Pre-Negotiation Audit Review. A contract modification will be executed to establish the Negotiated overhead rate for the term of the contract. The Overhead rate, Direct Expenses and Fee are subject to change pending Pre-Negotiation Audit Review. A one time redetermination adjustment in the total amount paid or to be paid on all payment reports shall be made to reflect the established overhead rate and any resulting additional payments, refunds, or credits shall be made promptly. The contract Notice to Proceed date will be the effective date for all redetermination of costs.

   b. The STATE shall pay the CONSULTANT in installments based upon Monthly Progress Reports and Progress and Final Payment Reports submitted by the CONSULTANT, with payments subject to the following limitations:

      (1) Prior to approval of the Stage II Design Submittal, the billed amount shall not exceed 30% of the total contract amount.

      (2) Prior to approval of the Stage III Design Submittal, the billed amount shall not exceed 60% of the total contract amount.

      (3) Prior to approval of the Final Design Submittal, the billed amount shall not exceed 95% of the total contract amount.

   c. The STATE, at its discretion may, by written notification, waive the above limitations. Approval authority shall be the same as for interim payments.

2. PHASE II - POST DESIGN SERVICES

   CONSULTANT'S compensation for work on Phase II, Post Design Services, will begin at construction bid date and will be at specific hourly rates (to include direct labor, overhead and fixed fee) as set forth in the CONTRACT, plus direct expenses approved by the Department. Rates are subject to negotiation prior to execution of this phase. Identification of personnel within each classification may be required by the ADOT Project Manager. Authorization for post-design services will be executed by Contract Modification.

3. Costs are to be identified separately for each project number. Costs for each category must not exceed the amounts budgeted for those specific categories during the contract time frame without prior written approval of the STATE.

4. The CONSULTANT is required to submit a Monthly Progress Report in a format furnished by the STATE showing the status of the work and the degree of completion thereof.

5. The STATE shall not withhold retention on progress payments. However, if satisfactory progress has not been made, the STATE may first retain a maximum of 10% of the current and subsequent billings, or secondly, the STATE may refuse to make full progress payment(s) of such sums which are considered necessary.

6. When all work is delivered, accepted and approved as complete by the STATE, the ADOT Office of Audit and Analysis may prepare a report showing allowable costs incurred. Preparation of this report may require an audit examination of the CONSULTANT'S records. This may also include an examination of subconsultants or subcontractors records.

7. Final payment shall be made as soon as possible after 60 days from the date of acceptance of the audit findings, if applicable, by the STATE and the CONSULTANT.

8. In the event the STATE requires substantial changes in the scope, character or complexity of the work on the CONTRACT, the total compensation as well the fixed fee portion may be re-evaluated and adjusted to a greater or lesser amount by mutual agreement between the CONSULTANT and the STATE.

9. In the event this CONTRACT is terminated by the STATE as herein provided, the CONSULTANT may be paid all the allowable costs incurred, including mobilization and demobilization expense, plus that portion of the fixed fee earned to date of termination as determined by the STATE. Mobilization and demobilization expenses shall include only reasonable costs of marshalling personnel (and equipment if specifically provided for in the contract) for performing this work and of terminating employment of such personnel. No costs will be allowable in connection with termination of employment if incurred later than fifteen (15) days after the date of termination. Costs will be determined as provided in the Federal Acquisition Regulations and may be verified by an audit.

4.01 CONSULTANT AND SUBCONSULTANT PAYMENT

The CONSULTANT shall submit invoices on a regularly monthly basis in accordance with a timetable agreed to in contract negotiations. Invoices should be sent directly to ADOT Project Manager or Project Monitor.

The CONSULTANT will submit invoices for work performed by their Sub-consultants even though the prime CONSULTANT may not have performed working during the preceding month.

On or before the seventh day after the STATE makes a progress payment to the CONSULTANT, the CONSULTANT shall pay the Sub-consultants for the work performed to the extent of each Sub-consultant's contractual interest in the progress payment.

4.02 CONTRACT MODIFICATIONS

1. Contract modifications, defining and limiting the terms of the contract and compensation, must be approved by the STATE, and shall be submitted in the form and format provided by the STATE. The CONSULTANT will be compensated only with prior written authorization by the STATE. Any administrative/technical costs associated with the preparation of said modifications are solely the responsibility of the CONSULTANT.

   a. Supplemental Agreements

   Significant changes in the scope, character, or complexity of the work may be negotiated if it is mutually agreed that such changes are desirable and necessary. Contract changes defining and limiting the work and compensation must be authorized by the STATE. Such supplemental agreement(s) shall be made in writing, and it is expressly understood and agreed that no claim for extra work performed or materials furnished shall be made by the CONSULTANT until authorization to proceed is granted, in writing, by the STATE.

   b. Changes Orders

   The STATE may at any time, by written order, and without notice to sureties, if any, make (or direct) changes within the general scope of this CONTRACT in the services to be performed.

4.03 DELAYS AND EXTENSIONS

The CONSULTANT agrees that no charges or claims for damages shall be made against the STATE for any delays or hindrances during the progress of this CONTRACT. Such delays or hindrances, if any, will be covered by an extension of time for such reasonable period as mutually agreed upon between the parties. It is agreed and understood, however, that permission to proceed with the CONTRACT after the established completion date, shall not be construed as a waiver by the STATE of any of its rights herein.

4.04 LATE SUBMITTAL OF INVOICE

Unless waived by the STATE, in writing, all invoices for work performed under this CONTRACT shall be submitted within 60 days from date of acceptance of the completed portion of the work performed.

4.05 PERFORMANCE EVALUATIONS

The CONSULTANT'S performance will be evaluated periodically in accordance with the schedule set forth in Appendix F of this CONTRACT.

4.06 GENERAL COMPLIANCE WITH LAWS

The CONSULTANT shall comply with all Federal and State laws, and local ordinances and regulations.

4.07 LITIGATION

In the event of litigation between the CONSULTANT and the STATE involving this CONTRACT, the laws and decisions of the State of Arizona shall apply and any such litigation shall be commenced and prosecuted in the appropriate court of competent jurisdiction of the Federal or State Court System within the geographical boundaries of the State of Arizona.

4.08 DISPUTE ESCALATION (Administrative Review)

A written dispute escalation process will be utilized to resolve questions of fact during the course of this CONTRACT. The final determination will be made by the STATE.

4.09 ARBITRATION

The parties agree to use arbitration, after exhausting applicable administrative reviews, to resolve disputes arising out of this agreement where the sole relief sought is monetary damages of $100,000, or less, exclusive of interest and costs.

4.10 TERMINATION, POSTPONEMENT OR ABANDONMENT

1. The right is reserved by the STATE to terminate, indefinitely postpone work, or abandon the CONTRACT. The STATE may terminate this CONTRACT in any one of the following circumstances:

   a. Failure of the CONSULTANT to perform the services as detailed herein and in any modifications to this CONTRACT.

   b. Failure of the CONSULTANT to complete this CONTRACT within the time specified herein and in any modifications to this CONTRACT.

   c. Failure of the CONSULTANT to comply with any of the terms of this CONTRACT.

   d. When, for any reason, the STATE shall determine that such termination is in its best interest.

2. If the STATE contemplates termination under the provisions of paragraphs 1.a., 1.b., or 1.c. above, the CONSULTANT shall have five (5) days in which to cure such failure. In the event the CONSULTANT does not cure such failure, the STATE may terminate the CONTRACT without further consideration.

3. If, after Notice of Termination of this CONTRACT under the provisions of 1.a., 1.b. or 1.c. of this clause, it is determined that the CONSULTANT was not in violation or default, the Notice of Termination shall be deemed to have been issued under the terms of 1.d. of this clause.

4. Termination shall be effected by delivery to the CONSULTANT of a Notice of Termination specifying whether termination is for default of the CONSULTANT or for the convenience of the STATE, the extent to which performance of the CONTRACT is terminated, and the date upon which such termination becomes effective.

5. In the event of termination, the STATE shall be liable to the CONSULTANT only to the extent and as provided in SECTION 3.02 (CONSULTANTS'S COMPENSATION) of this CONTRACT.

6. In the event this CONTRACT is terminated, the STATE shall have the option of completing the CONTRACT, or entering into an agreement with another party for the completion of this CONTRACT according to the provisions and agreements herein.

7. If the STATE exercises this option, all costs and charges incurred by the STATE, together with the cost of completing the work under CONTRACT, will be deducted from any monies due or which may become due the CONSULTANT.

4.11 CANCELLATION OF STATE CONTRACTS

In accordance with Arizona Revised Statutes 38-511, the STATE may cancel any CONTRACT, without penalty or further obligation, made after the effective date of this section by the STATE or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating the CONTRACT on behalf of the STATE or any of its departments or agencies is, at any time while the CONTRACT or any extension of the CONTRACT is in effect, an employee of any other party to the CONTRACT in any capacity or a CONSULTANT to any other party of the CONTRACT with respect to the subject matter of the CONTRACT. The cancellation shall be effective when written notice from the STATE is received by all other parties to the CONTRACT unless the notice specifies a later time.

4.12 SUCCESSORS AND ASSIGNS

The CONSULTANT and all successors, executors, administrators and assigns of CONSULTANT'S interest in the work or the compensation herein provided shall be bound to the STATE to the full legal extent to which the CONSULTANT is bound with respect to each of the terms and agreements of this CONTRACT.

4.13 CONTINUING OBLIGATION

The CONSULTANT agrees that if because of death or any other occurrence it becomes impossible for any principal or employee of the CONSULTANT to render the services required under this CONTRACT, neither the CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, the STATE may terminate this CONTRACT if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect the CONSULTANT'S ability to satisfactorily complete the performance of this CONTRACT.

4.14 INSURANCE

1. Without limiting any liabilities or any other obligations of the CONSULTANT, the CONSULTANT shall provide and maintain the minimum insurance coverage listed below. Coverage will be provided with forms and insurers acceptable to ADOT and maintained at a minimum until obligations under this CONTRACT are satisfied.

a. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the services, and Employers' Liability insurance with a minimum limit of one hundred thousand dollars ($100,000). Evidence of qualified self-insured status shall suffice for this section.

b. Architects' and Engineer's Professional Liability insurance in the amount of one million dollars ($1,000,000) each claim, with said coverage to remain in force and effect for a minimum of one year past ADOT's acceptance of the CONTRACT.

c. Comprehensive General Liability insurance with a minimum combined single limit of one million dollars ($1,000,000) each occurrence. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. Said policy shall contain a severability of interest clause.

d. Commercial Automobile Liability coverage with a combined single limit for bodily injury and property damage of not less than one million dollars ($1,000,000) for all owned, leased, hired and non-owned vehicles. The State of Arizona and the Arizona Department of Transportation must be named as Additional Insureds and Certificate Holder on the policy.

e. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports, or other similar data relating to the work of the CONSULTANT used in the completion of this CONTRACT.

f. The policy required by Sections c. and e. above shall be endorsed to include the STATE and ADOT, its agents and officials and employees as additional insureds and shall stipulate that the insurance afforded CONSULTANT shall be primary insurance and that any insurance carried by ADOT, its agents, officials or employees shall be excess and not contributory insurance to that provided by CONSULTANT.

g. A certificate of insurance acceptable to ADOT shall be issued to ADOT prior to commencement of the CONTRACT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to ADOT.

4.15 INDEMNIFICATION - RESPONSIBILITY FOR CLAIMS AND LIABILITIES

1. For Professional Liability

To the fullest extent permitted by law, the CONSULTANT shall indemnify and hold harmless the State of Arizona, its agents, representatives and employees from and against liability for loss or damage resulting from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant, but only to the extent the loss or damage results from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant.

2. For Other than Professional Liability

To the fullest extent permitted by law, the CONSULTANT shall indemnify and hold harmless the State of Arizona, its agents, representatives and employees from and against liability for loss or damage resulting from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant, but only to the extent the loss or damage results from the negligence of the CONSULTANT, or any subconsultant, or anyone directly or indirectly employed by the CONSULTANT or any subconsultant.

4.16 ANTITRUST VIOLATIONS

The CONSULTANT and the STATE recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact borne by Purchaser or ultimate user: in this case, the STATE. Therefore, CONSULTANT, acting as a Vendor, hereby assigns to the STATE any and all claims for such overcharges.

4.17 LIQUIDATED DAMAGES

(This is an optional provision applied, on an exception basis, primarily to contracts initiated and administered by the Arizona Transportation Research Center - Not applicable to this contract)

4.18 CONSULTANT'S RESPONSIBILITY

The CONSULTANT has total responsibility for the accuracy and correctness of plans and related data prepared under the terms of this CONTRACT, and shall check all such material accordingly for completeness, missing items, correct multipliers and consistency. The plans will be reviewed by ADOT for conformity with ADOT procedures and contract terms. Review by ADOT does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans.

4.19 ACCURACY OF WORK

Acceptance of the work by the STATE will not relieve the CONSULTANT of the responsibility for subsequent correction of any such errors and the clarification of any ambiguities. The CONSULTANT shall make all necessary revisions or corrections resulting from errors and omissions on the part of the CONSULTANT without additional compensation.

4.20 CONSULTANT'S ENDORSEMENT OF PLANS, ETC.

The CONSULTANT'S seal shall be endorsed and affixed to plans, reports and engineering data furnished under this CONTRACT.

4.21 PROFESSIONAL CONDUCT

The CONSULTANT shall comply with the provisions of A.C.R.R.R4-30-301 (which is the official compilation of the Administrative Rules and Regulations for the State of Arizona), entitled Rules of Professional Conduct, Rules of the State Board of Technical Registration for Architects, Assayers, Engineers, Geologists, Landscape Architects and Land Surveyors, which are incorporated herein by reference and hereby made a part of the CONTRACT.

4.22 IMPROPER EXERCISE OF AUTHORITY

It is further understood and agreed that the CONSULTANT shall not in any way exercise any portion of the authority or powers of the State of Arizona, and shall not make a contract or commitment, or in any way represent itself as an agent of the State of Arizona beyond the scope of this CONTRACT unless expressly authorized, in writing, by the STATE.

4.23 CONFLICTS OF INTEREST

1. The CONSULTANT shall not engage the services on this CONTRACT of any present or former STATE employee who was involved as a decision maker in the selection or approval processes or who negotiated and/or approved billings or contract modifications for this CONTRACT.

2. The CONSULTANT agrees that no public or private interest exists and none shall be acquired directly or indirectly which would conflict in any manner with the performance of the CONTRACT.

4.24 ORGANIZATIONAL CONFLICTS OF INTEREST

1. No contract for the construction of a project shall be awarded to the firm that designed the project, or its subsidiaries, affiliates, the parent company or subconsultants, except with the written approval of the STATE.

2. The applicability of the above also applies to a Management and/or General Consultant or any of its subsidiaries, affiliates, the parent company or subconsultants that were involved in any aspect of the design process.

4.24.1 CONSULTANT - CONTRACTOR CONFLICTS OF INTEREST

The CONSULTANT agrees that it shall not perform services on this project for the contractor, sub-contractor or any supplier.

The CONSULTANT shall not negotiate, contract, or make any agreement with the contractor, subcontractor or any supplier with regard to any of the work under this project, or any services, equipment or facilities to be used on this project.

4.25 ORGANIZATION EMPLOYMENT DISCLAIMER

1. The CONTRACT is not intended to constitute, create, give to, or otherwise recognize a joint venture agreement or relationship, partnership, or formal business organization of any kind, and the rights and obligations of the parties shall be only those expressly set forth in the CONTRACT.

2. The parties agree that no persons supplied by the CONSULTANT in the performance of CONSULTANT's obligations under the CONTRACT are considered to be STATE employees, and that no rights of State civil service, retirement or personnel rules accrue to such persons. The CONSULTANT shall have total responsibility for all salaries, wages, bonuses, retirement, withholdings, workmen's compensation, occupational disease compensation, unemployment compensation, other employee benefits and all taxes and premiums appurtenant thereto concerning such persons, and shall save and hold the STATE harmless with respect thereto.

4.26 NONPROCUREMENT DEBARMENT AND SUSPENSION

1. In accordance with 49 CFR 29.505, and by signature on this CONTRACT, the CONSULTANT certifies its' compliance, and the compliance of any subconsultants or subcontractors present or future, by stating that any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor, or any position of authority involving Federal Funds:

   a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal Agency;

   b) does not have a proposed debarment pending;

   c) has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal Agency within the past 3 years; and

   d) has not been indicted, convicted, or had a civil judgment rendered against the firm by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years as specified by 49 CFR paragraph 29.305(a).

   Where the CONSULTANT or subconsultant is unable to certify to the statement in 4.26.1(a) above, the CONSULTANT or subconsultant will be declared ineligible to enter into CONTRACT or participate in the project.

   Where the CONSULTANT is unable to certify to any of the statements as listed in 4.26.1 (b), (c) or (d), the CONSULTANT shall submit a written explanation to the STATE. The certification or explanation will be considered in connection with the STATE's determination whether to enter into CONTRACT.

2. The CONSULTANT shall provide immediate written notice to the Department if at any time the CONSULTANT or any subconsultants or subcontractors, present or future, learn that its Debarment and Suspension certification has become erroneous by reason of changed circumstances.

4.27 COVENANT AGAINST CONTINGENT FEES

The CONSULTANT warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this CONTRACT, and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this CONTRACT. For breach or violation of this warranty, the STATE shall have the right to annul this CONTRACT without liability, or in its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

4.28 SUBLETTING, ASSIGNMENTS AND TRANSFERS

The CONSULTANT firm was chosen to perform the work on this CONTRACT based upon training and qualifications of its members. Therefore, subletting, assignment or transfer of any work to subconsultants and lower tier subconsultants, unless approved in writing by the STATE prior to performance of work, is expressly prohibited.

4.29 SUBCONSULTANTS

1. The CONSULTANT may retain Subconsultants on an "as required" basis, provided that the Subconsultants selected, and the rates to be paid, are identified on each Subconsultant's DERIVATION OF COST PROPOSAL located in the SCOPE OF WORK section, Appendix D of the CONTRACT, or are approved by contract modification, or by Administrative Determination Letter, as applicable. All Subconsultants shall be required to follow the terms and conditions of this CONTRACT.

   a. <u>Subconsultants' Compensation</u>

      Each Subconsultant will be expected to follow covenants set forth in 3.02 2. unless the subcontract is considered a Lump Sum by Task (fixed price) subcontract and not a Costs Plus Fixed Fee subcontract. However, with respect to 3.02 2.b.(5), the Indirect Costs (Overhead) rates for each Subconsultant, when applicable, will be the actual allowable overhead rate or the Negotiated Provisional rate stipulated in each Subconsultant's final DERIVATION OF COST PROPOSAL, as concurred with by the STATE. Each Subconsultant's actual allowable overhead rate or the negotiated provisional Overhead rate is separately determined and may not be the same rate as stipulated for the CONSULTANT.

   b. CONSULTANT'S Responsibility Regarding Subconsultant's Costs

      The Subconsultant's allowable costs shall be governed by 3.02 2. The CONSULTANT shall monitor the billings received from the Subconsultants and ensure that all costs are documented and supported.

Regarding Indirect Costs (Overhead), the CONSULTANT is responsible for determining that the Subconsultants comply with 3.02 2.b.(6) with respect to the actual allowable or negotiated provisional Overhead rates. The Overhead rates for Subconsultants are "actual allowable" or "negotiated provisional", and must be accounted for annually. A Subconsultant may not bill more than its actual allowable Overhead rate or the negotiated provisional Overhead rate. In the event any Subconsultant violates this subsection, the penalties set forth in 3.02 2.b.(6)(a) will be assessed to the CONSULTANT.

All costs of the Subconsultants are subject to audit unless waived by the STATE. The cost to the STATE for Subconsultants shall be in amounts equal to the actual allowable costs paid to the Subconsultants.

2. The volume of work performed by the Subconsultants shall not exceed 49% of the total contract value unless waived by the STATE.

4.30 SUBCONTRACTS

The CONSULTANT agrees to insert in all subcontracts the clauses hereof entitled "Civil Rights," "Affirmative Action," "Ownership of Documents," "Patents and Copyrights", "Anti Lobbying and Disclosure," "Retention of Records" and "Federal Immigration and Nationality Act". The CONSULTANT further agrees to insert in any subcontract exceeding $100,000 the clause hereof entitled "Environmental Protection."

4.31 KEY PERSONNEL

Any substitution or transfer of personnel specifically identified in CONSULTANT'S proposal as assigned to the work of this CONTRACT shall be subject to prior written approval by the STATE.

4.32 EMPLOYMENT OF PERSONNEL OF PUBLIC AGENCIES

The CONSULTANT shall not engage the service of any person or persons then in the employ of the STATE for work covered by the terms of this CONTRACT without the prior written approval of the STATE.

4.33 ANTI-LOBBYING

1. The CONSULTANT agrees to comply with the provisions of Section 1352 of Title 31, U.S.Code (Public Law 101.121) as codified in Title 48, Federal Acquisition Regulations Subpart 3.8 and Subpart 52.203-11. The legislation prohibits federal funds from being expended by a recipient or any lower tier subrecipients of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence a Federal agency or Congress in connection with the award of any Federal contract, cooperative agreement, including the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement. All disclosure statements are to be furnished to the STATE.

2. The CONSULTANT agrees to require all subconsultants and lower tier subconsultants who have agreements exceeding $100,000 to complete the Certification of Federal Contracts (ECS Form 90-1) and, when appropriate, the Disclosure of Lobbying Activities (ECS Form 90-3) prior to execution of the Prime Consultants Agreement with the STATE. Lower tier certifications are to be maintained by the CONSULTANT.

4.34 OWNERSHIP OF DATA

1. The CONSULTANT agrees to maintain (in sufficient detail as will properly reflect all work done and results achieved in the performance of this CONTRACT) tracings, plans, specifications and maps, basic survey notes and sketches, books, records, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, computer programs and documentation thereof, and other graphic or written data generated in connection with the work called for in the CONTRACT; all such information and documentation to be termed "Data" under this CONTRACT.

2. All Data procured hereunder for the work funded by ADOT shall become the property of ADOT and delivered to ADOT upon request, and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE; provided however, that CONSULTANT shall not be required to retain any Data not requested by ADOT within five years from the date of final payment to the CONSULTANT hereunder; and provided further that until such delivery to ADOT the CONSULTANT agrees to permit representatives of ADOT and the Federal Highway Administration to examine and review at reasonable times all Data still in the possession of the CONSULTANT.

3. All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this CONTRACT are the property of the State of Arizona and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE.

4.35 ADOT PRODUCTS

ADOT will provide the consultant with the ADOT developed software for the sole purpose of completing this contract, as set forth in the Site License Contract (which includes a detailed list of Software that will be provided to the consultant). The software is provided to the consultant solely for the purpose of completing this contract and for no other purposes. ADOTdeveloped software including: manuals, electronic information, programs, and associated materials, remains the property of ADOT. Any use of this software for purposes other than the fulfillment of this contract is strictly prohibited. The consultant shall not copy the software or provide, distribute or demonstrate the software to other entities. Upon completion of the contract or when otherwise notified by ADOT, the contractor will return all software, backup copies, manuals, electronic information and associated materials to ADOT.

4.36 RETENTION OF RECORDS

1. The CONSULTANT and any subconsultant/subcontractor/vendor shall keep and maintain all books, papers, records, accounting records, files, accounts, reports, costs proposals with backup data and all other material relating to the CONTRACT and related project(s), and shall make all such material available at any reasonable time during the term of work on the CONTRACT and related project(s) and for five (5) years from the date of final payment to the CONSULTANT for auditing, inspection and copying upon the STATE'S request, or at the request of the Federal Highway Administration or any other authorized representative of the Federal Government.

2. The CONSULTANT shall insert in each of its subcontracts the above requirement and also a clause requiring its subconsultants to include the above requirement in any lower-tier subcontracts or purchase orders.

4.37 REVIEW AND INSPECTION

Representatives of the STATE and the Federal Highway Administration are authorized to review and inspect the CONTRACT activities and facilities during normal business hours.

4.38 PROPERTY OR EQUIPMENT

Except as otherwise provided in this CONTRACT, the lease, rental or purchase of property or equipment to perform the work herein described must have the prior written approval of the STATE. The control, utilization and disposition of property or equipment acquired using FEDERAL/STATE funds shall be determined by the STATE in accordance with the property management standards set forth in 49 CFR Part 18, ADOT Manual - FIN 11.02, and Highways Division Policy and Implementation Memorandum No. 89-04.

4.39 CIVIL RIGHTS

1. The CONSULTANT is required to comply with Executive Order 75-5, "Non-discrimination in Employment by Government Contractors and Subcontractors," which is hereby included in its entirety by reference and considered a part of this CONTRACT.

2. The CONSULTANT is required to comply with Title VI of the Civil Rights Act of 1964, as amended. Accordingly, Title 49, Code of Federal Regulations, Part 21 through Appendix H and Title 23, CFR 710.405 (b) are made applicable by reference and are hereinafter considered a part of this CONTRACT.

3. The CONSULTANT is required to comply with the provisions of Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor Regulations (41-CFR Part 60). Said provisions are made applicable by reference and are hereinafter considered a part of this CONTRACT.

4. The CONSULTANT shall post in conspicuous places available to employees and applicants for employment, the following notice:

> It is the policy of this company not to discriminate against any employee, or applicant for employment, because of race, color, religion, creed, national origin, sex, age, handicapped, or disabled veterans and Vietnam era veterans. Such actions shall include, but are not limited to: employment, upgrading, demotion, transfer, recruitment, or recruitment advertising; laying-off or termination; rates of pay or other compensation; and selection for training, and on-the-job training. Also, it is the policy to insure and maintain a working environment free of harassment, intimidation and coercion.

4.40 AFFIRMATIVE ACTION

CONSULTANT shall take the following affirmative action steps with respect to securing supplies, equipment or services under the terms of this CONTRACT:

1. Include qualified firms owned by socially and economically disadvantaged individuals on solicitation lists.

2. Assure that firms owned by socially and economically disadvantaged individuals are solicited whenever they are potential sources.

3. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by firms owned by socially and economically disadvantaged individuals.

4. Where the requirement permits, establishing delivery schedules which will encourage participation by firms owned by socially and economically disadvantaged individuals.

5. Use the services and assistance of the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as required.

4.41 PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES

The CONSULTANT is required to adhere to the commitment made to participation by ADOT certified Disadvantaged Business Enterprises (DBE) as indicated in the firms Technical Proposal or subsequently agreed to by the STATE during negotiations. The STATE, at its discretion on a case by case basis, may waive the above limitations.

The CONSULTANT must submit the DBE Compliance Report to the Civil Rights Office by the 3rd Friday of each month. The report shall indicate the amount earned by and paid to each DBE working on the project for the preceding month.

4.42 ENVIRONMENTAL PROTECTION
(This clause is applicable if this contract exceeds $100,000.00. It applies to Federal Aid Contracts Only.)

CONSULTANT is required to comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857 (h), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15) which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Violations shall be reported to the Federal Highway Administration and to the U.S.E.P.A. Assistant Administrator for Enforcement. (EN-329).

4.43 ENERGY CONSERVATION
(This clause is applicable to Federal Aid Contracts Only.)

CONSULTANT is required to comply with mandatory standards and policies, as applicable, relating to energy efficiency which are contained in the State Energy Conservation Plan issued by the State of Arizona in compliance with the Energy Policy Conservation Act (P.L. 94-163).

4.44 PUBLICATION PROVISIONS

The CONSULTANT shall provide annual, quarterly or monthly written progress reports requested by the STATE. Prior to completion of the CONTRACT and related project(s), the CONSULTANT shall prepare a final report summarizing activities, conclusions, and recommendations in a form as prescribed by the STATE, and this report shall be a prerequisite for final payment. Publication rights to all reports are reserved by the STATE. The CONSULTANT shall not release information developed under the CONTRACT prior to publication, except upon written approval of the STATE.

4.45 PUBLICATION PROVISIONS (RESEARCH AND UNIVERSITIES)
(Not applicable to this contract)

4.46 PATENTS AND COPYRIGHTS

All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this CONTRACT are the property of the State of Arizona and shall not be used or released by the CONSULTANT or any other person except with the prior written approval of the STATE.

4.47 PATENTS AND COPYRIGHTS (RESEARCH AND UNIVERSITIES)
(Not applicable to this contract)

4.48 FEDERAL IMMIGRATION AND NATIONALITY ACT:

(A) General:

The Consultant, including all Subconsultants, shall comply with all federal, state and local immigration laws and regulations, as set forth in Arizona Executive Order 2005-30, relating to the immigration status of their employees who perform services on the contract during the duration of the contract. The State shall retain the right to perform random audits of Consultant and Subconsultant and Subconsultant records or to inspect papers of any employee thereof to ensure compliance.

The Consultant shall include the provisions of Section 4.48 in all its subcontracts.

In addition, the Consultant shall require that all Subconsultants comply with the provisions of Section 4.48, monitor such Subconsultant compliance, and assist the Department in any compliance verification regarding any Subconsultant.

(B) Compliance Requirements for A.R.S. § 41-4401, Government Procurement, E-Verify Requirement; Sanctions:

By submission of a bid, the Consultant warrants that the Consultant and all proposed Subconsultants are and shall remain in compliance with:

(1) All federal, state and local immigration laws and regulations relating to the immigration status of their employees who perform services on the contract, and
(2) A.R.S. Section 23-214, Subsection A (That subsection reads: "After December 31, 2007, every employer, after hiring an employee, shall verify the employment eligibility of the employee through the E-Verify program.").

A breach of a warranty regarding compliance with immigration laws and regulations shall be deemed a material breach of the contract, and the Consultant and Subconsultants are subject to sanctions specified in Section 4.48.

Failure to comply with a State audit process to randomly verify the employment records of Consultant and Subconsultant shall be deemed a material breach of the contract, and the Consultant and Subconsultants are subject to sanctions specified in Section 4.48.

(C) Compliance Verification:

The State may, at its sole discretion, require evidence of compliance from the Consultant or Subconsultant.

Should the State request evidence of compliance, the Consultant or shall complete and return the State Consultant Employment Record Verification Form and Employee Verification Worksheet, provided by the Department, no later than 21 days from receipt of the request for such information.

Listing of the compliance verification procedure specified above does not preclude the Department from utilizing other means to determine compliance.

The State retains the legal right to inspect the papers of any employee who works on the contract to ensure that the Consultant or Subconsultant is complying with the warranty specified in Section 4.48.

(D) Sanctions for Non-Compliance:

For purposes of this paragraph, non-compliance refers to either the Consultant's or Subconsultant's failure to follow immigration laws or to the Consultant's failure to provide records when requested. Failure to comply with the immigration laws or to submit proof of compliance constitutes a material breach of contract. At a minimum, the Department will reduce the Consultant's compensation by $10,000 for the initial instance of non-compliance by the Consultant or a Subconsultant. If the same Consultant or Subconsultant is in non-compliance within two years from the initial non-compliance, the Consultant's compensation will be reduced by a minimum of $50,000 for each instance of non-compliance. The third instance by the same Consultant or Subconsultant within a two-year period may result, in addition to the minimum $50,000 reduction in compensation, in removal of the offending Consultant or Subconsultant, suspension of work in whole or in part or, in the case of a third violation by the Consultant, termination of the contract for default.

In addition, the Department may debar a Consultant or Subconsultant who is in non-compliance three times within a two-year period for up to one year. For purposes of considering debarment: (1) non-compliance by a Subconsultant does not count as a violation by the Consultant, and (2) the Department will count instances of non-compliance on other Department contracts.

The sanctions described herein are the minimum sanctions; in case of major violations the Department reserves the right to impose any sanctions up to and including termination and debarment, regardless of the number of instances of non-compliance.

Any delay resulting from a compliance verification or a sanction under this subsection is a non-excusable delay. The Consultant is not entitled to any compensation or extension of time for any delays or additional costs resulting from a compliance verification or a sanction under Section 4.48.

An example of the minimum sanctions under this subsection is presented in the following table:

Offense by:			Minimum Reduction in Compensation
Consultant	Subconsultant A	Subconsutlant B	
First			$10,000
	First		$10,000
	Second		$50,000
		First	$10,000
	Third		$50,000 *
* May, in addition, result in removal and debarment of the Subconsultant.			

In Witness whereof the parties hereto have executed this agreement as of the day and year first herein written.

FOR THE STATE

ARIZONA DEPARTMENT OF TRANSPORTATION

_____
Date

By:_____

_____
Title

FOR THE CONSULTANT

FIRM NAME

_____
Date

By:_____

_____
Title