



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CA08-203**

1. Agenda Item Number:
25
2. Council Meeting Date:
March 27, 2008

TO: MAYOR & COUNCIL

3. Date Prepared: March 7, 2008

THROUGH: CITY MANAGER

4. Requesting Department: Public Works

5. SUBJECT: Award a design contract to TriStar Engineering and Management, Inc. for the South Arizona Entry Corridor Improvements, Project No. ST0721-201, in an amount not to exceed \$3,905,411.

6. RECOMMENDATION: Staff recommends that Council award a design contract to TriStar Engineering and Management, Inc. for the South Arizona Entry Corridor Improvements, Project No. ST0721-201, in an amount not to exceed \$3,905,411.

7. BACKGROUND/DISCUSSION: In 2006, the Chandler City Council adopted the South Arizona Avenue Corridor Plan. The plan established new development guidelines for the area along Arizona Avenue, south of downtown to the Santan Freeway, from Palm Lane east to the railroad tracks. As a result, the City identified this major project to improve Arizona Avenue by extending the Chandler Boulevard and Arizona Avenue aesthetics theme south to the freeway; create new urban open space and aesthetic corridors; construct new streets to improve traffic, bicycle, and pedestrian access to the new commercial development; and to replace antiquated water, sewer, and storm drain utilities in roadway corridors.

Project improvements include landscaped medians; new traffic signals; replacement of existing undersized 4" and 6" sewer mains; and a new storm drain improving drainage. Street improvements include construction of a new Washington Street from Fairview to Pecos Road, providing a corridor for residential and pedestrian traffic from downtown to commercial areas near the freeway; construction of a new California Street connection at Fairview Street; reconstruction of the Frye Road and Arizona Avenue intersection; reconstruction of the Fairview Street and Arizona Avenue intersection; a new Morelos Street connection from Washington Street to Arizona Avenue; and the installation of new streetscape and improvements to Washington Street from Fairview to Frye Road.

This complex project involves coordination with many other important Downtown Chandler Projects including City Hall, Museum Site, Fire Administration, Parking Structure, etc. Multiple City Departments are also involved with the project development and implementation. The proposed consultant team fees are in line with the complexity and diversity of this very important downtown project. The proposed design fees represent approximately 11% of the estimated construction costs.

8. EVALUATION: The City selection process was developed in accordance with the state law for selecting design services. Seven (7) Statements of Qualifications were received from qualified firms on August 9, 2007. The selection committee included the following members:

- Bob Bortfeld, P.E., Senior Engineer
- Joshua Plumb, Engineering Project Manager
- Mickey Ohland, Park Development & Operations Manager
- Teri Killgore, Downtown Redevelopment Manager
- David De La Torre, Senior Planner
- Jose Mendez, Registered Contractor
- Charles Payne, Resident
- Ray Dubois, Observer
- Hank Pluster, Observer

The committee conducted interviews and discussions with Tristar, Wood/Patel, and Entellus. Tristar Engineering and Management, Inc. was selected based on qualifications, design capability, current workload, and experience, and is recommended for approval of this contract.

9. FINANCIAL IMPLICATIONS:

Cost: Streets \$ 2,380,411
 Water & Wastewater \$ 600,000
 Parks \$ 750,000
 Planning \$ 175,000

Savings: N/A
 Long Term Costs: N/A

Fund Source:

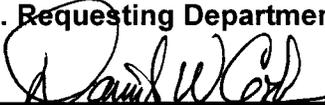
Acct. No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
411.3310.0000.6517.8GG613	General Obligation Bonds	South Arizona Corridor	FY07/08	\$3,730,411
101.1515.0000.5219.000000	General Fund	N/A	N/A	\$ 100,000
101.1290.0000.6611.2ND002	General Fund	Non Departmental Downtown	FY07/08	\$ 50,000
101.1290.0000.5219.000000	General Fund	N/A	N/A	\$ 25,000

10. PROPOSED MOTION: Move that Council award a design contract to Tristar Engineering and Management, Inc. for the South Arizona Entry Corridor Improvements, Project No. ST0721-201, in an amount not to exceed \$3,905,411, and authorize the Mayor to sign the contract documents.

ATTACHMENTS: Location Map, Contract

APPROVALS

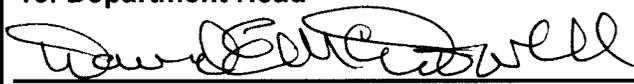
11. Requesting Department


 Daniel W. Cook, Deputy Public Works Director

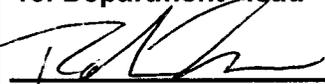
13. Department Head


 R.J. Zeder, Public Works Director

13. Department Head


 Mark M. Eynatten, Community Services Director

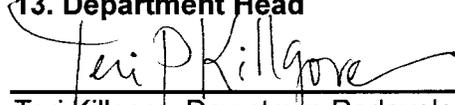
13. Department Head

 For
 Dave Siegel, Municipal Utilities Director

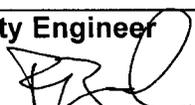
13. Department Head


 David DeLaTorre, Principal Planner

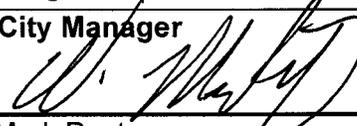
13. Department Head


 Teri Killgore, Downtown Redevelopment Manager

12. City Engineer

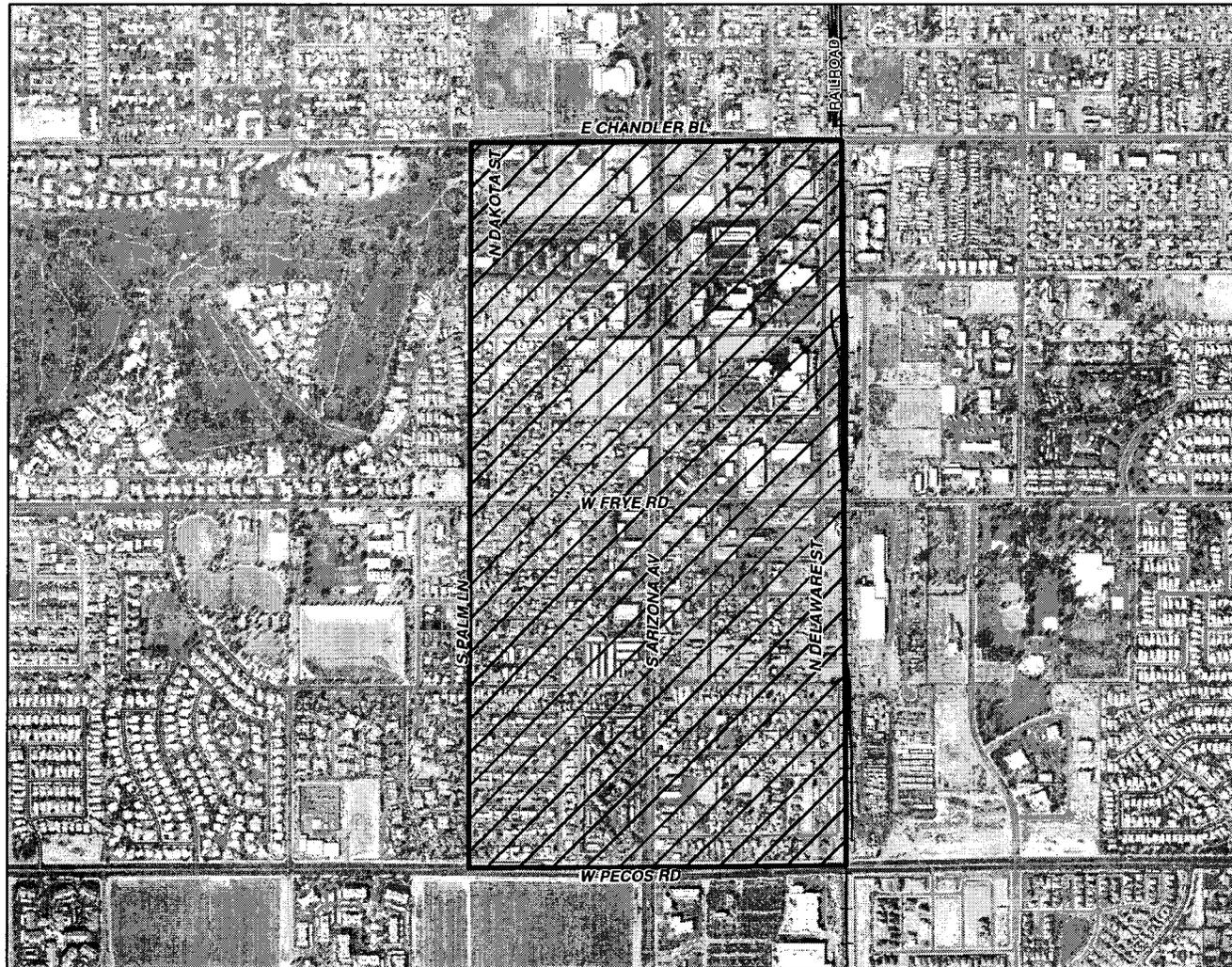
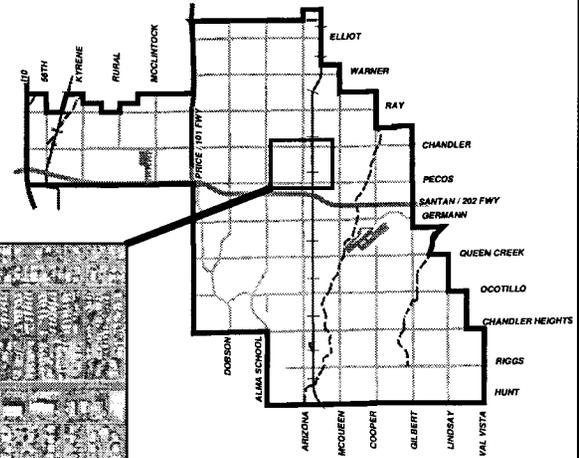
 For
 Sheina Hughes, Assistant Public Works Director/City Engineer

14. City Manager


 W. Mark Pentz



SOUTH ARIZONA ENTRY IMPROVEMENTS PROJECT NO. ST0721-201



MEMO NO. CA08-203

 PROJECT AREA



DESIGN CONSULTANT SERVICES CONTRACT

PROJECT TITLE: **South Arizona Entry Corridor Improvements**

PROJECT NO: **ST0721-201**

This Agreement is made and entered into by and between the City of Chandler, Arizona, a municipal Corporation, hereinafter called the CITY, and **Tristar Engineering and Management, Inc., a Corporation licensed in the State of Arizona**, hereinafter called DESIGN CONSULTANT.

WHEREAS, DESIGN CONSULTANT represents DESIGN CONSULTANT has the expertise and is qualified to perform the services described in this Agreement; and

WHEREAS, the Mayor and City Council/City Manager of the City of Chandler are authorized and empowered by the provisions of the City Charter to execute Agreements for Professional Services;

NOW THEREFORE, for and in consideration of the mutual covenants and conditions hereinafter contained, it is agreed by and between the CITY and DESIGN CONSULTANT, as follows:

1. DESCRIPTION OF PROJECT: The Project known as the South Arizona Entry Corridor Improvements will be an approximately one mile project bounded by Chandler Boulevard to the north, SR202L to the south, Delaware Street to the east, and Palm Lane to the west. The Project is more specifically described in Exhibit A attached hereto and incorporated herein by reference.

2. DEFINITIONS: The CITY's General Conditions for Construction apply to this contract and take priority over any conflicting provisions between the Contract and the General Conditions. Words used in this Agreement which are defined in CITY's General Conditions for Construction Contracts shall have the meaning stated therein. DESIGN CONSULTANT is the Project Designer as defined in said General Conditions.

3. SCOPE OF WORK: DESIGN CONSULTANT shall design the Project all as more specifically described in Exhibit A attached hereto and incorporated herein by reference.

4. PAYMENT SCHEDULE: For services described in paragraph 3 of this Agreement, the CITY shall pay DESIGN CONSULTANT a fee not to exceed a sum of **Three Million Nine Hundred Five Thousand Four Hundred Eleven** dollars (**\$3,905,411**) in accordance with the fee schedule attached hereto as Exhibit B, B-1, and B2 and made a part hereof by reference. Payment will be made monthly on the basis of progress reports. An Application and Certification for Payment Sheet must be provided. In addition, the following must also be included with each application for payment: a clear, detailed invoice reflecting items being billed for; a summary sheet showing percentage of work completed to date; amount/percent billed to date; current status of all tasks within a project; and any/all backup documentation supporting the above items. Work schedule updates shall also be included in the monthly progress payment requests.

5. PERIOD OF SERVICE:

A. Following receipt of a "Notice to Proceed" with the design work, DESIGN CONSULTANT shall complete the design and have all documents ready for bidding within **Seven Hundred Thirty (730)** calendar days of the date indicated on the Notice to Proceed. In the event delays are experienced beyond the control of DESIGN CONSULTANT, the completion date may be extended as mutually agreed upon by CITY and DESIGN CONSULTANT.

B. DESIGN CONSULTANT shall prepare and deliver to CITY record documents within 60 days of the date of receipt of the red line drawings from CITY.

6. OPINIONS OF PROBABLE COSTS (ESTIMATES): Any opinions of probable project cost or probable construction cost provided by DESIGN CONSULTANT are made on the basis of information available to DESIGN CONSULTANT and on the basis of DESIGN CONSULTANT's experience and qualifications, and represents its best judgment as an experienced, licensed and qualified professional. However, since DESIGN CONSULTANT has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s) methods of determining prices, or over competitive bidding or market conditions, DESIGN CONSULTANT does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost DESIGN CONSULTANT prepares.

7. REPORTS & APPROVALS: All work shall be subject to the approval by CITY and each phase of the work will be submitted to CITY in the format prescribed by CITY. When requested by CITY, DESIGN CONSULTANT will attend Council meetings and provide finished documents including correspondence for Council action, supporting charts, graphs, drawings and colored slides of same.

8. STANDARDS OF PERFORMANCE:

A. This design contract has been awarded to DESIGN CONSULTANT based on their proposal that those personnel and consultants listed in Exhibit A-2 attached hereto will perform the portions of the work listed on said Exhibit A-2. DESIGN CONSULTANT shall not deviate nor substitute any of these team members without prior written approval by CITY.

B. DESIGN CONSULTANT shall be responsible for the technical accuracy of its services and documents resulting therefrom, and CITY shall not be responsible for discovering deficiencies therein. DESIGN CONSULTANT shall correct any such deficiencies without additional compensation or cost to CITY, except to the extent any such deficiency is directly attributable to deficiencies in CITY-furnished information.

C. DESIGN CONSULTANT shall be familiar with CITY's Standard Details and Specifications and other relevant CITY regulations. DESIGN CONSULTANT shall ensure there are no conflicts among the Contract Documents including, but not limited to, the CITY's General and Supplementary Conditions for Construction Contracts, the plans and specifications prepared by DESIGN CONSULTANT, any standard details or specifications incorporated therein by reference, and the Construction Contract.

D. Correction of Mistakes: DESIGN CONSULTANT shall be responsible for the completeness and accuracy of the work prepared or compiled under DESIGN CONSULTANT's obligation for this project and shall correct, at DESIGN CONSULTANT's expense, all errors or omissions therein which may be disclosed. Correction of errors disclosed and determined to exist during any construction of the project on architectural or engineering drawings and specifications shall be accomplished by DESIGN CONSULTANT. The cost of the design necessary to correct those errors attributable to DESIGN CONSULTANT and any damage incurred by CITY as a result of additional construction costs caused by such engineering or architectural errors shall be chargeable to DESIGN CONSULTANT and shall not be considered a cost of the Work. The fact that CITY has reviewed or approved DESIGN CONSULTANT's work shall in no way relieve DESIGN CONSULTANT of any of its responsibilities.

9. INDEMNIFICATION

The DESIGN CONSULTANT hereby agrees to defend, indemnify and hold harmless the CITY, any of its departments, agencies, officers, or employees from all damages, claims or liabilities and expenses (including reasonable attorney's fees) arising out of or resulting in any way from the performance of professional services for the City in the DESIGN CONSULTANT's capacity as an engineer or architectural services as applicable, and caused by any willful or negligent error, omission, or act of the DESIGN CONSULTANT or any person employed by it or anyone for whose acts the DESIGN CONSULTANT is legally liable. In consideration of the award of this contract, the DESIGN

CONSULTANT agrees to waive all rights of subrogation against the CITY, its officers, officials, agents and employees for losses arising from the work performed by the DESIGN CONSULTANT for the CITY.

The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph.

10. INSURANCE REQUIREMENTS

10.1 General Requirements:

- A DESIGN CONSULTANT, at its own expense, shall purchase and maintain insurance of the types and amounts required in this section, with companies possessing a current A.M. Best, Inc. rating of B++6, or better and legally authorized to do business in the State of Arizona with policies and forms satisfactory to CITY.
- B Policies written on a "Claims made" basis are not acceptable without written permission from the City's Risk Manager.
- C All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of this Agreement is satisfactorily completed and formally accepted. Failure to do so may, at the sole discretion of CITY, constitute a material breach of this Agreement and may result in termination of this contract.
- D If any of the insurance policies are not renewed prior to expiration, payments to the DESIGN CONSULTANT may be withheld until these requirements have been met, or at the option of the City, the City may pay the Renewal Premium and withhold such payments from any monies due the DESIGN CONSULTANT.
- E All insurance policies, except Workers' Compensation and Professional Liability required by this Agreement, and self-insured retention or deductible portions, shall name, to the fullest extent permitted by law for claims arising out of the performance of this contract, the City of Chandler, its agents, representatives, officers, directors, officials and employees as Additional Insureds.
- F DESIGN CONSULTANT's insurance shall be primary insurance over any insurance available to the CITY and as to any claims resulting from this contract, it being the intention of the parties that the insurance policies so effected shall protect both parties and be primary coverage for any and all losses covered by the described insurance.
- G The insurance policies, except Workers' Compensation and Professional Liability, shall contain a waiver of transfer rights of recovery (subrogation) against CITY, its agents, representatives, officers, directors, officials and employees for any claims arising out of DESIGN CONSULTANT's acts, errors, mistakes, omissions, work or service.
- H The insurance policies may provide coverage which contain deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall be assumed by and be for the account of, and at the sole risk of DESIGN CONSULTANT. DESIGN CONSULTANT shall be solely responsible for the deductible and/or self-insured retention. The amounts of any self-insured retentions shall be noted on the Certificate of Insurance. CITY, at its option, may require DESIGN CONSULTANT to secure payment of such deductibles or self-insured retentions by a Surety Bond or an irrevocable and unconditional letter of credit. Self-insured retentions (SIR) in excess of \$25,000 will only be accepted with the permission of the Management Services Director/designee.

- I All policies and certificates shall contain an endorsement providing that the coverage afforded under such policies shall not be reduced, canceled or allowed to expire until at least thirty (30) days prior written notice has been given to CITY.
- J Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the DESIGN CONSULTANT with reasonable promptness in accordance with the DESIGN CONSULTANT's information and belief.
- K In the event that claims in excess of the insured amounts provided herein, are filed by reason of any operations under this contract, the amount of excess of such claims, or any portion thereof, may be withheld from payment due or to become due the DESIGN CONSULTANT until such time as the DESIGN CONSULTANT shall furnish such additional security covering such claims as may be determined by the CITY.

10.2 Proof of Insurance - Certificates of Insurance

- A Prior to commencing work or services under this Agreement, DESIGN CONSULTANT shall furnish to CITY Certificates of Insurance, issued by DESIGN CONSULTANT's insurer(s), as evidence that policies providing the required coverages, conditions and limits required by this Agreement are in full force and effect and obtain from the City's Risk Management Division approval of such Certificates.
- B If a policy does expire during the life of this Agreement, a renewal certificate must be sent to the City of Chandler five (5) days prior to the expiration date.
- C All Certificates of Insurance shall identify the policies in effect on behalf of DESIGN CONSULTANT, their policy period(s), and limits of liability. Each Certificate shall include the job site and project number and title. Coverage shown on the Certificate of Insurance must coincide with the requirements in the text of the contract documents. Information required to be on the certificate of Insurance may be typed on the reverse of the Certificate and countersigned by an authorized representative of the insurance company.
- D CITY reserves the right to request and to receive, within 10 working days, certified copies of any or all of the herein required insurance policies and/or endorsements. CITY shall not be obligated, however, to review same or to advise DESIGN CONSULTANT of any deficiencies in such policies and endorsements, and such receipt shall not relieve DESIGN CONSULTANT from, or be deemed a waiver of CITY's right to insist on, strict fulfillment of DESIGN CONSULTANT's obligations under this Agreement.

10.3 Required Coverage

Such insurance shall protect DESIGN CONSULTANT from claims set forth below which may arise out of or result from the operations of DESIGN CONSULTANT under this Contract and for which DESIGN CONSULTANT may be legally liable, whether such operations be by the DESIGN CONSULTANT or by a Sub-consultant or subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Coverage under the policy will be at least as broad as Insurance Services Office, Inc., policy form CG00011093 or equivalent thereof, including but not limited to severability of interest and waiver of subrogation clauses.

- A Claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- B Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

- C Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- D Claims for damages insured by usual personal injury liability coverage;
- E Claims for damages, other than to Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- F Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; Coverage will be at least as broad as Insurance Service Office, Inc., coverage Code "I" "any auto" policy form CA00011293 or equivalent thereof.
- G Claims for bodily injury or property damage arising out of completed operations;
- H Claims involving contractual liability insurance applicable to the Contractor's obligations under the Indemnification Agreement;
- I Claims for injury or damages in connection with one's professional services;
- J Claims involving construction projects while they are in progress. Such insurance shall include coverage for loading and off loading hazards. If any hazardous material, as defined by any local, state or federal authorities are to be transported, MCS 90 endorsement shall be included.

10.3.1 Commercial General Liability - Minimum Coverage Limits:

The Commercial General Liability insurance required herein shall be written for not less than \$1,000,000 limits of liability or ten percent (10%) of the Contract Price, whichever coverage is greater. Any combination between general liability and excess general liability alone amounting to a minimum of \$1,000,000 per occurrence (or 10% per occurrence) and an aggregate of \$2,000,000 (or 20% whichever is greater) in coverage will be acceptable. The Commercial General Liability additional insured endorsement shall be as broad as the Insurance Services, Inc's (ISO) Additional Insured, Form B, CG 20101001, and shall include coverage for DESIGN CONSULTANT's operations and products, and completed operations.

10.3.2 General Liability - Minimum Coverage Limits

The General Liability insurance required herein, including, Comprehensive Form, Premises-Operations, Explosion and Collapse, Underground Hazard, Products/Completed Operations, Contractual Insurance, Broad Form Property Damage, Independent Contractors, and Personal Injury shall be written for Bodily Injury and Property Damage Combined shall be written for not less than \$1,000,000 or 10% of the contract cost and with a \$2,000,000 aggregate.

10.3.3 Automobile Liability

DESIGN CONSULTANT shall maintain Commercial/Business Automobile Liability insurance with a combined single limit for bodily injury and property damage of not less than \$1,000,000 each occurrence with respect to any owned, hired, and non-owned vehicles assigned to or used in performance of the DESIGN CONSULTANT's work. Coverage shall be at least as broad as coverage code 1, "any auto", (Insurance Service Office, Inc. Policy Form CA 00011293, or any replacements thereof). Such insurance shall include coverage for loading and off loading hazards if hazardous substances, materials or wastes are to be transported and a MCS 90 endorsement shall be included with coverage limits of \$5,000,000 per accident for bodily injury and property damage.

10.3.4 Worker's Compensation and Employer's Liability:

DESIGN CONSULTANT shall maintain Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over DESIGN CONSULTANT's employees engaged in the performance of the work or services; and, Employer's Liability insurance of not less than \$1,000,000 for each accident, \$1,000,000 disease coverage for each employee, and \$1,000,000 disease policy limit. In case any work is subcontracted, DESIGN CONSULTANT will require the Subcontractor to provide Workers' Compensation and Employer's Liability to at least the same extent as required of DESIGN CONSULTANT.

10.3.5 Professional Liability:

DESIGN CONSULTANT shall maintain Professional Liability insurance covering acts, errors, mistakes and omissions arising out of the work or services performed by DESIGN CONSULTANT, or any person employed by DESIGN CONSULTANT, with a claims made policy limit of not less than \$1,000,000.

11. DISPUTE RESOLUTION:

A. Disputed Invoices. In the event of a disputed or contested invoice, only that portion so contested may be withheld from payment, and the undisputed portion will be paid.

B. Disputed Items. CITY may temporarily delete any disputed items contained in DESIGN CONSULTANT's invoice, including items disputed due to lack of supporting documentation, and pay the remaining amount of the invoice. CITY shall promptly notify DESIGN CONSULTANT of the dispute and request clarification and/or remedial action. CITY may withhold payment on all disputed items until the issues are resolved. After any dispute has been settled, DESIGN CONSULTANT shall include the disputed item on a subsequent regularly scheduled invoice or on a special invoice for the disputed item only.

C. Good Faith Negotiation. CITY and DESIGN CONSULTANT agree to negotiate all disputes between them in good faith prior to exercising their rights under law.

D. Binding Special Arbitration. All claims, disputes and other matters in question between CITY and DESIGN CONSULTANT arising out of, or relating to this Agreement, or the breach thereof (except for claims which have been resolved pursuant to paragraphs 9 or 12 A, B and C herein above shall be decided by binding, unappealable special arbitration, as described below, if the claim for compensation, costs or expenses, damages or reimbursement is equal to or less than \$50,000. Claims over \$50,000 shall have non-binding mediation as the first step to settling the dispute or claim.

E. Special Arbitration. All arbitration of claims shall be conducted in Chandler, Arizona, in accordance with the following rules:

- 1) Any time after the parties have attempted in good faith but without success to resolve one or more disputes, a party may notify the other in writing that they are at impasse (Notice of Impasse) and request immediate arbitration in accordance with the terms herein.
- 2) Within ten (10) days after the date of such Notice of Impasse, each party shall select an impartial intermediary, who shall, together, agree upon a third impartial person who will be the arbitrator. To be considered impartial an intermediary or arbitrator shall not have any previous or current relationship which would be considered a conflict of interest with either party, including, but not limited to, current or previous employment or contractual relationship, indebtedness or ownership interest.
- 3) The parties shall immediately cooperate with each other to draft together a short summary of the facts and a list of questions or issues to be resolved by the arbitrator. If the facts are in dispute, such disputed facts shall be listed as contentions by the party asserting them. In the

event the parties are unable to agree upon a summary of the facts or a list of questions or issues, each party shall instead include a statement of facts and list of issues in that party's Position Paper submitted to the arbitrator. Such summary of facts and list of questions or issues shall be completed by the parties and submitted to the arbitrator within twenty (20) days of the date of the Notice of Impasse.

4) The parties shall cooperate to gather any documents and exhibits necessary to resolve the issues and provide them jointly to the arbitrator. In the event of a dispute between the parties regarding whether a document should be provided, the disputed document shall be submitted to the impartial intermediaries who will determine its appropriateness for submittal. Correspondence between the parties which discusses settlement or resolution of the issues shall be submitted. All such evidence shall be submitted to the arbitrator within twenty (20) days of the date of the Notice of Impasse.

5) Each party may submit a written Position Paper of no more than ten (10) pages, supporting or explaining that party's position and providing citations to relevant law. Any such Position Paper shall be submitted to the arbitrator within thirty (30) days of the date of the Notice of Impasse.

6) There shall be no hearing, no witnesses, no argument nor contact by the parties or their representatives with the arbitrator except for the joint submittals and each party's Position Paper.

7) The arbitrator may request additional information and may make any other orders necessary to resolve the entire matter.

8) The arbitrator shall issue a written decision resolving all the submitted issues within 30 days after receiving the Position Papers.

F. Nothing herein contained shall be so construed as to preclude DESIGN CONSULTANT or CITY from commencing a legal action in relation to claims in excess of \$50,000, but the sole legal remedy in relation to claims of \$50,000 or less shall be binding, unappealable special arbitration as described above.

12. AMENDMENTS: Whenever a change in the Scope of Work contemplated in this Agreement is determined to be necessary, the work will be performed in accordance with this Agreement provided, however, that BEFORE such work is started, an Amendment shall be executed by CITY and DESIGN CONSULTANT. Additions to, modifications of, or deletions from the project provided herein may be made and the compensation to be paid to DESIGN CONSULTANT may be adjusted accordingly by mutual agreement of the contracting parties. It is agreed that no claim for extra work by DESIGN CONSULTANT will be allowed by CITY except as provided herein, nor shall DESIGN CONSULTANT do any work not covered by this Agreement unless such work is authorized through an executed amendment.

13. TERMINATION WITHOUT CAUSE: CITY may at any time and for any or no reason, at its convenience, terminate this Agreement or any part of the services to be rendered pursuant thereto by ten (10) day written notice to DESIGN CONSULTANT specifying the termination date. Immediately after receiving such notice, DESIGN CONSULTANT shall discontinue advancing the work under this Agreement and shall deliver to CITY all drawings, notes, calculations, sketches and other materials entirely or partially completed, together with all unused materials supplied by CITY.

DESIGN CONSULTANT shall receive as compensation in full for services performed to date of such termination, a fee for the percentage of work actually completed. This fee shall be a percentage of DESIGN CONSULTANT(S) fee described in this Agreement under paragraph 4 and shall be in an amount to be agreed mutually by DESIGN CONSULTANT and CITY. CITY shall make this final

payment within sixty (60) days after DESIGN CONSULTANT has delivered the last of the partially completed items.

14. TERMINATION WITH CAUSE

This Agreement may be terminated by CITY for cause should the DESIGN CONSULTANT fail to perform any provision of this Agreement, including without limitation, for any of the following reasons:

- (a) DESIGN CONSULTANT abandons Work;
- (b) DESIGN CONSULTANT assigns or attempts to assign its rights or obligations under this Agreement or any part thereof to any third-party (without the prior written consent of CITY);
- (c) DESIGN CONSULTANT is adjudged bankrupt or insolvent, makes a general assignment for the benefit of creditors, has a trustee or receiver appointed for its property, or files a petition to take advantage of any debtor's act;
- (d) DESIGN CONSULTANT fails or refuses to perform any obligation under the Agreement, or fails to remedy such nonperformance within seven (7) days after its occurrence;
- (e) DESIGN CONSULTANT fails to comply with any applicable Laws and fails to remedy such nonperformance within seven (7) days after its occurrence;
- (f) DESIGN CONSULTANT fails to achieve the required dates for performance required pursuant to the Agreement.

The CITY'S right of termination for cause as set forth herein shall be in addition to, and not a limitation of, any and all other remedies available to CITY at law, in equity, or under the terms and provisions of this Agreement.

15. OWNERSHIP OF DOCUMENTS: All documents, including, but not limited to, preliminary designs, tracings, drawings, original mylars, estimates, field notes, investigations, design analysis and studies which are prepared in the performance of this Agreement are to be, and shall remain the property of CITY. DESIGN CONSULTANT shall furnish CITY, upon its request, originals or reproducible copies of technical specifications and copies of all other documents listed above. DESIGN CONSULTANT shall endorse, by his professional seal, all plans and engineering data furnished by it.

16. RE-USE OF DOCUMENTS: The parties agree the documents, drawings, specifications and designs, although the property of CITY, are prepared for this specific project and are not intended nor represented by DESIGN CONSULTANT to be suitable for re-use for any other project. Any reuse without written verification or adaptation by DESIGN CONSULTANT for the specific purpose intended will be at CITY's sole risk and without liability or legal exposure to DESIGN CONSULTANT.

17. NO KICK-BACK CERTIFICATION: DESIGN CONSULTANT warrants that no person has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee; and that no member of the City Council or any employee of the CITY has any interest, financially or otherwise, in the DESIGN CONSULTANT firm.

For breach or violation of this warranty, CITY shall have the right to annul this Agreement without liability, or at its discretion to deduct from the Agreement Price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

18. CONFLICT OF INTEREST: DESIGN CONSULTANT stipulates that its officers and employees do not now have a conflict of interest and it further agrees for itself, its officers and its employees that it will not contract for or accept employment for the performance of any work or services with any individual business, corporation or government unit that would create a conflict of interest in the performance of its obligations pursuant to this Agreement.

Pursuant to A.R.S. Section 38-511, CITY may cancel this Agreement within three (3) years after its execution, without penalty or further obligation by CITY if any person significantly involved in initiating, negotiating, securing, drafting or creating this Agreement on behalf of CITY is, at any time while this Agreement is in effect, an employee of any other party to this Agreement in any capacity, or a consultant to any other party of this Agreement with respect to the subject matter of this Agreement.

- 19. CONTROLLING LAW: The laws of the State of Arizona shall govern this agreement.
- 20. NO ASSIGNMENT: DESIGN CONSULTANT shall not assign, transfer, convey or subcontract this Agreement or the services to be rendered pursuant thereto without the prior written consent of CITY.
- 21. NOTICES: Any notice required under this Agreement shall be in writing, addressed to the appropriate party at its address on the signature page and given personally or by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.

IN WITNESS WHEREOF, the parties have hereunto subscribed their names to this
day of 2008

CITY OF CHANDLER

DESIGN CONSULTANT

MAYOR Date

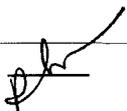
By: _____
Title: _____

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
480-782-3307

ADDRESS FOR NOTICE
Tristar Engineering & Management, Inc.
10625 N. 25th Ave., Ste. 103
Phoenix, AZ 85029
Phone: (602) 288-5594
Fax: (602) 288-5592

APPROVED AS TO FORM:

ATTEST: If Corporation

City Attorney by 

Secretary

ATTEST:

City Clerk

SEAL

20. NOTICES: Any notice required under this Agreement shall be in writing, addressed to the appropriate party at its address on the signature page and given personally or by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.

IN WITNESS WHEREOF, the parties have hereunto subscribed their names to this
day of 2008

CITY OF CHANDLER

DESIGN CONSULTANT

MAYOR Date

By: _____
Title: VICE PRESIDENT

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Secretary

ATTEST:

City Clerk

SEAL

**EXHIBIT A
SCOPE OF WORK
AND
DETAILED DESCRIPTION OF CITY'S CONCEPT**

1.0 DEFINITIONS

The following definitions apply to this Scope of Work:

DESIGN CONSULTANT

The DESIGN CONSULTANT and/or their subconsultants

DESIGN CONSULTANT

Tristar Engineering and Management

CITY

City of Chandler or the authorized representative

ON-SITE

Locations of redevelopment projects outside the City of Chandler Right-of-Way

OFF-SITE

Locations within the City of Chandler Right-of-Way

CM@R

Construction Manager at Risk

2.0 BACKGROUND

PROJECT TITLE: Design Services for South Arizona Avenue Entry Corridor Improvements

The South Arizona Avenue Entry Corridor Improvements will use the Construction Manager at Risk (CM@R) method of delivery and includes multiple deliverables. It is anticipated that all design activities will be completed within a twenty-four (24) month period.

The boundary of the entry corridor area is Chandler Boulevard on the north, SR 202L on the south, Delaware Street on the east and Palm Lane on the west. The South Avenue Entry Corridor project is generally described below and emphasizes coordination with other projects currently planned for the downtown area.

Street Design

Median improvements and some roadway reconstruction along Arizona Avenue from Chandler Boulevard to the 202 Freeway; improvements to Washington Street that extend from Boston Street to Pecos Road; widening Fairview Street between Palm Lane and Delaware Street; widening Frye Road between Delaware Street and California Street; reconstruct the intersections of Fairview Street/Arizona Avenue, Frye Road/Arizona Avenue, California Street/Fairview Street and Fairview Street/Washington Street; a new Morelos Street Connection from Washington Street to Arizona Avenue; traffic calming in residential neighborhoods; and other improvements as required throughout the project limits.

Utilities

Provide water and waste water supply and capacity study within project limits; replace and upgrade existing undersized 4 and 6-inch water and waste water mains; replace and install new storm drain utilities; provide utilities study for relocation,

undergrounding and other improvements encompassing local public and private utility company facilities to ascertain that replacements will meet future planned downtown area needs.

Landscaping and Streetscape Design

Design will include landscaped median with uplighting and pedestrian enhancements Along Arizona Avenue extending from Boston Street to SR 202L (SanTan Freeway) that will mirror the aesthetic theme of the Arizona Avenue and Chandler Boulevard intersection; landscape and streetscape along Washington Street from Boston Street to Fairview Street that will include decorative sidewalks and various street enhancement amenities; urban open space areas; and other landscaping enhancements as required throughout the project limits.

Traffic Analysis and Design

A traffic capacity analysis will be conducted. Traffic calming measures will also be included along Fairview Street within the project limits. Based on the information obtained from the traffic analysis the design will allow easy access and circulation through the downtown corridor to include intersection reconstruction; traffic signal design.

Lighting Design

Design will include streetlights, pedestrian lighting, landscape lighting and other improvements as required throughout the project limits.

Pedestrian Enhancements

Streets and intersections will be created to improve bike and pedestrian access within the project limits to include wide sidewalks with appropriate furniture, landscaping, and pedestrian safety considerations, which include shorter pedestrian crossing distances and enhanced crosswalks.

Landscape Standards

Streetscape design standards will be developed to identify typical cross sections, landscape themes, street furniture, etc. for off-site areas to ensure a seamless blend with on-site design standards.

Architectural Standards

Architectural design standards will be developed for redevelopment projects along South Arizona Avenue (on-site). These standards will address building setbacks, heights, architectural themes, etc to ensure a seamless blend on on-site and off-site design standards.

Land Use

A land use analysis will be conducted to identify appropriate commercial and office uses to be allowed in the High Density Residential/Mixed Use category. The land use analysis developed for the South Arizona Avenue Corridor study will be used and updated.

3.0 MASTER PROJECT ACTIVITIES

Master Project activities are all those tasks that are not specifically related to an individual project but will have an impact on all projects identified as being part of the Entry Corridor project. These activities are anticipated to have a total duration of approximately nine (9) months.

Project Activities will be performed from the DESIGN CONSULTANT'S Downtown Chandler Office.

3.1 General Requirements

The design and all work shall conform to the latest edition and amendments of the following:

- a. City of Chandler Standard Details and Specifications
- b. City of Chandler Technical Design Manual #1: Water System Design
- c. City of Chandler Technical Design Manual #2: Wastewater and Reclaimed Water System Design
- d. City of Chandler Technical Design Manual # 3: Storm Drainage System Design
- e. City of Chandler Technical Design Manual #4: Street Design and Access Control
- f. City of Chandler Technical Design Manual #5: Traffic Signal Design
- g. City of Chandler Technical Design Manual #6: Street Light Design
- h. City of Chandler Technical Design Manual #7: Traffic Barricade Design
- i. City of Chandler Technical Design Manual #8: Landscape and Irrigation Design of Right Of Ways, Retention Basins and Parks
- j. MAG Uniform Standard Specifications and Details
- k. Manual of Uniform Traffic control Devices for Streets and Highways (MUTCD)
- l. AASHTO Policy on Geometric Design of Highways and Streets
- m. The Code of the City of Chandler
- n. South Arizona Avenue Entry corridor Study

3.2 Data Collection

CITY shall provide at no cost to DESIGN CONSULTANT the following existing information as available, not necessarily limited to:

- a. As-built drawings
- b. Related design studies and reports
- c. Geotechnical investigations
- d. Traffic data and projections
- e. Maintenance records
- f. Drawings of developments planned within the project area.

DESIGN CONSULTANT shall keep a log of all documents and information provided by CITY staff and related stakeholders.

3.3 Entry Corridor Improvement Program

DESIGN CONSULTANT will develop and implement a Project Work Plan (PWP). This plan will contain the tools and criteria necessary to provide accurate project controls ensuring the successful completion of each project within the overall scope of work.

DESIGN CONSULTANT will Develop and Implement project controls to manage schedule, budgets, and documents during all phases of the project.

- a. Schedule Control:
 1. Establish Master Schedule and maintain monthly updates
 2. Incorporate appropriate reviews, ROW Acquisition, and utility considerations into schedule
 3. Update schedule on a regular basis
 4. Regularly monitor schedule to ensure accuracy
 5. Report schedule challenges and determine resolution approaches
 6. Weekly CITY/CONSULTANT meetings for two months = 8 meetings
 7. Monthly CITY/CONSULTANT meetings for a period of 22 months following the first 2 months = 22 meetings
 8. Public Meetings (6 meetings)
 9. Business Group and Stakeholder Meetings (6 meetings)
 10. Agency review requirements identified and incorporated into schedule

11. Develop meeting minutes and pro-active action items for all meetings
 12. Incorporate schedule information on other downtown projects (including but not limited to City Hall, Fire Administration Building, Site 6, Museum, Meridian West) into the overall program Master Schedule
 13. Develop report that centers on consistency of schedule relationship between the projects and identifies potential variances that may lead to conflicting activities in the field between projects
- b. Cost Control:
1. Establish project budgets based on current market cost trends
 2. Develop a cash flow analysis tied to the monthly schedule updates
 3. Ensure that constructability reviews are conducted to mitigate change orders
 4. Monitor costs and project changes of all project parties as they occur. Develop a project cost matrix that identifies current cost changes and can serve to respond to the Project Manager in a timely manner
- c. Document Control:
1. Develop a well-organized document receipt, handling and tracking system
 2. Require all project parties to provide a sequential number sequence for all correspondence for ease of logging
 3. All incoming correspondence is computer logged based on category, subject, date, and whether a response is required
 4. All correspondence requiring a response, all RFI's and submittals are tracked until a response is properly made
 5. Develop a complete list of project deliverables so they can be scheduled as milestone items on the schedule and tracked
 6. To ensure timely action on potential problems develop a request for information (RFI) system. Log and track RFI's to ensure none are inordinately delayed or misplaced
 7. Develop pro-action item meeting minutes of each meeting assigning action required, party responsible and date for completion of action item

DESIGN CONSULTANT will Develop and Implement Quality Control standards and procedures for the project.

- a. Develop a format for cost estimates
- b. Standardize CADD requirements
- c. Develop project checks and balances to ensure the project conforms and that the work complies with the project requirements.
- d. Develop a deficiency tracking system which notes the deficiency, the date noted, corrective action needed and date corrective action was completed
- e. Develop and standardize all meeting minutes into an pro-action format

3.4 Initial Utility Meeting

DESIGN CONSULTANT will coordinate with the City's Utility Coordinator to conduct an initial Utility Coordination Meeting with all utility companies that may have facilities within the Arizona Avenue Entry Corridor. The purpose of the meeting will be to open the initial lines of communication with the impacted Utility Companies and inform them of the public projects identified in the Entry Corridor Improvement Program.

3.5 Landscape Inventory

DESIGN CONSULTANT will perform a landscape inventory of the corridor to ascertain and catalog the existing significant plant material. This inventory will identify the type of plant

material and its condition. It is anticipated that there will be an overall rehabilitation of the landscape throughout the corridor.

3.6 Landscape Standards

Working with City staff and key stakeholders DESIGN CONSULTANT will develop landscape standards for use in completing improvements to the South Arizona Avenue Entry Corridor.

DESIGN CONSULTANT will develop an acceptable overall design aesthetic for roadway and pedestrian Signage and Wayfinding.

DESIGN CONSULTANT will develop an acceptable plant palette for the corridor. Develop the planting transitions needed to blend from the central downtown core to the surrounding neighborhoods and the southern boundary created by the new 202L Santan Freeway.

DESIGN CONSULTANT will develop an acceptable color palette for the corridor for use on all vertical and horizontal elements.

DESIGN CONSULTANT will develop an acceptable hardscape palette for the corridor (granite, pavers, block, concrete finishes etc.)

DESIGN CONSULTANT will develop an acceptable vertical materials selection palette for all vertical elements in the corridor (lights, fencing, walls etc.)

3.7 Building Inventory

An existing conditions survey of buildings, businesses and other site information was completed for the South Arizona Avenue Urban Design Plan. DESIGN CONSULTANT will update and supplement this inventory with a drive and walk-through survey of South Arizona Avenue and the adjacent streets, documenting the physical factors that may affect landscape and streetscape design or land use planning in the area.

3.8 Architectural Standards

DESIGN CONSULTANT will prepare a Design Standards draft for review by the City of Chandler. Design standards for this category will address such items as building setbacks, heights, and intensities; building materials, awnings/canopies, and fenestration; building signage; on-street/off-street parking; landscaping, lighting, street furniture, and sidewalk treatments, and other details as appropriate to regulate future private redevelopment of sites fronting Arizona Avenue between Pecos Road and Boston Street. Once determined, City Staff will incorporate the permitted uses and development standards into the format of a City zoning designation.

Prior to preparing the Design Standards and identifying permitted uses, DESIGN CONSULTANT will coordinate with City Planning Staff to schedule and conduct a public open house to receive input from property owners, residents, stakeholders and other interested parties. DESIGN CONSULTANT will display and present the preliminary design studies and visual concepts that were completed for the South Arizona Avenue Urban Design Plan (Entry Corridor Study, dated October 20, 2006), together with any additional graphics as may be deemed appropriated by the DESIGN CONSULTANT and City Staff. Following the open house public meeting, the DESIGN CONSULTANT will conduct a series of design review meetings with the City of Chandler Planning Commission and open to the public, to discuss the Design Standards and permitted uses. DESIGN CONSULTANT will coordinate the time and location of the design review meetings with City Planning Staff (not to exceed a total of six (6) design review meetings with Planning Commission).

DESIGN CONSULTANT will make recommendations about architectural themes and public art, following discussions with City staff about what standards are most appropriate to regulation by City ordinance vs. those standards that might be more effective as a "menu" of options that provide flexibility and promote design creativity.

DESIGN CONSULTANT will draft a design manual in printed and electronic format for integration with the City's electronic Unified Development Manual.

3.9 Pedestrian Signage and Wayfinding Standards

It is anticipated that City of Chandler standard styles and sign types will be utilized for signage and wayfinding. The DESIGN CONSULTANT will work with the City to incorporate and locate these existing sign types and styles into the project plans.

3.10 Land Use Analysis

DESIGN CONSULTANT will present an outline of tentative land uses for review by City Planning staff, based upon a continuation of the research done for the Urban Design Plan. DESIGN CONSULTANT will revise the tentative list of permitted uses and development standards to reflect input/guidance received from stakeholder interests, Planning Commission, City staff, and in coordination with planned street improvements for Arizona Avenue and adjoining streets.

DESIGN CONSULTANT will identify the types of commercial land uses to be permitted in the corridor. DESIGN CONSULTANT will identify appropriate commercial and office uses for the "High Density Residential with Mixed Commercial or Office" category based upon compatibility with, and in support of, urban density residential development in the range of 18-40 du/ac, as recommended in the Urban Design Plan.

3.11 Lighting Inventory

DESIGN CONSULTANT will perform a site visit and document to the extent possible the equipment and conditions related to the existing street lighting, the existing lighting control equipment, existing underground conduit and conductor routes.

3.12 Typical Roadway Sections

Based on the functional classification of each street the DESIGN CONSULTANT will identify the Typical Street Cross Section that will be constructed.

3.13 Right-of-Way Needs

Based on the Typical Street Cross Section the DESIGN CONSULTANT will determine the anticipated right-of-way needs for each street improvement project. DESIGN CONSULTANT will prepare R/W Legal Descriptions & Exhibits for each parcel impacted by the roadway design needs

3.14 Environmental Site Assessments (ESA)

DESIGN CONSULTANT will conduct a Phase I ESA on all proposed Property Acquisitions. A single report will incorporate all properties proposed for acquisition. A Phase II ESA will be conducted on those properties that have been determined to need the increased level of investigation as determined by Phase I ESA. A report will be prepared for each property requiring the Phase II ESA.

3.15 Prepare/Compare Preliminary Construction Cost Estimates

Based on the Corridor Improvement Program the DESIGN CONSULTANT will develop preliminary construction cost estimates for each street project identified and develop a comparison matrix.

DESIGN CONSULTANT will prepare a Preliminary Construction Cost Estimate Comparison Memo for use by the City of Chandler in programming the public improvement projects.

3.16 Public Outreach/Involvement

Working with the City Public Information Office the DESIGN CONSULTANT will prepare a Public Involvement Plan outlining the team's public involvement approach and methodology to be used for project associated with the proposed improvements to the South Arizona Avenue Entry Corridor.

DESIGN CONSULTANT will establish a project hotline and protocols for use. The hotline will be manned on a daily basis by a live voice, with a response to the caller typically occurring within twenty-four hours.

DESIGN CONSULTANT will develop quarterly Community Newsletters to provide information on projects, schedules, and contact information

DESIGN CONSULTANT will develop a project website that will provide information to the public regarding proposed improvements to the South Arizona Avenue Entry Corridor.

3.17 Water and Waste Water System Computer Model Assessment

DESIGN CONSULTANT will meet with City staff to ascertain completeness of both the potable water system and waste water system computer models in the project area. Completeness will be evaluated based on all pipes, manholes, valves and service connections that are shown on Record Drawings being found in the models, as well as the demands associated with each service or node. Missing pipes, manholes, valves and service connections shown on the Record Drawings, but not found in the computer models will be incorporated by DESIGN CONSULTANT.

After determining the computer models are up to date, DESIGN CONSULTANT will conduct the following computer runs for the water and waste water systems:

- a. Water system - Low, average and Peak hour demands based on the ultimate land use demand values.
- b. Water system - Fire flow scenarios, up to six (6) simulations.
- c. Waste water system - Low, average and peak hour demands. A maximum of three (3) scenarios for each new wastewater project.

DESIGN CONSULTANT will develop Technical Memorandums and Cost Estimates. Eight (8) copies of the following Technical Memorandums will be submitted to the City of Chandler.

- a. Water system findings and recommendations for improvements to support build out conditions.
- b. Waste water system findings and recommendations for improvements to support build out conditions.

After receiving approval from the City of the recommended water and waste water system improvements for build out conditions, DESIGN CONSULTANT will prepare and deliver opinions of probable construction costs related to each design project.

3.18 Survey Control

DESIGN CONSULTANT will establish horizontal and vertical control throughout the entire project site. These control stations will be set outside of the construction zones and will be clearly labeled for easy identification by construction personnel. The stations will be set at regular intervals and will allow survey crews, and contractors and their subs, to reference the data while maintaining the standards of accuracy and precision. The horizontal datum will be based upon GPS observations of the surrounding sectional monuments and of nearby MCDOT-GDACS and/or NGS control stations. The Cartesian coordinates will reflect the North American Datum of 1983 (NAD83, 92 epoch), and the horizontal quality will meet the 95% confidence level. The vertical control will be based upon the North American Vertical Datum of 1988 (NAVD88) and will be referenced from the same MCDOT-GDACS and/or NGS control stations. Once the GPS observations are complete, DESIGN CONSULTANT will perform closed, differential level circuits to verify the established elevations.

3.19 Deliverables

DESIGN CONSULTANT will submit one copy of each of the following deliverables to the City of Chandler:

- a. Project Work Plan
- b. Landscape Standard Memo
- c. Architectural Standard Memo
- d. Water/Waste Water Capacity Analysis Memo
- e. Utility Base Map
- f. Geotechnical Report
- g. Construction Cost Comparison Memo
- h. Phase I ESA on Property Acquisitions (one report for all properties)
- i. Phase II ESA as determined by Phase I ESA (one report for each Phase II ESA)

4.0 MEETINGS

The meetings listed may or may not occur or other meetings may be held in lieu of them. The project fee proposal is based on the total number of meetings and not necessarily the specific meeting listed.

4.1 Public Open House Meetings

Assume three meetings per year for two years = 6 meetings

The design team will set aside one evening every other month on a recurring basis to conduct a public open house meeting to disseminate information to interested members of the community. DESIGN CONSULTANT shall prepare for and participate in six (6) Public Open House Information Meetings. DESIGN CONSULTANT shall prepare display boards that feature the horizontal alignment(s) and depict both existing and proposed right-of-way from the most recent plan submittal, and also a display board depicting the proposed typical roadway section.

DESIGN CONSULTANT shall be responsible for the following:

- a. Secure a location and time for each public meeting
- b. Develop and setup display boards
- c. Prepare a meeting sign-in sheet
- d. Give a brief presentation and answer questions as needed
- e. Prepare and make available a public comment sheet at each meeting
- f. Provide snack foods and beverages for public meetings

- g. Coordinate with City Communications and Public Affairs Department to prepare and distribute mailers/flyers to those residents within and adjacent to the project corridor, if required
- h. Coordinate with City Communications and Public Affairs Department to prepare newspaper notice of meeting, if required

4.2 Weekly City/Consultant Meetings

Assume one meeting per week for first two months = 8 meetings

DESIGN CONSULTANT shall prepare for and participate in eight (8) City/Consultant Team Meetings. Meetings will be held either at the City of Chandler Public Works offices or at the Design Consultant's Chandler office.

4.3 Monthly City/Consultant Meetings

Assume monthly meetings for a period of 22 months following the first two months = 22 meetings.

DESIGN CONSULTANT will prepare for and participate in twenty-two (22) City/Consultant Team Meetings. Meetings will be held either at the City of Chandler Public Works offices or at the Design Consultant's Downtown Chandler office.

DESIGN CONSULTANT will prepare display boards and/or handouts as needed to convey the appropriate information to the Team.

4.4 Business Group/Stakeholder Meetings

Assume three meetings per year for two years = 6 meetings

DESIGN CONSULTANT shall prepare for and participate in six (6) Business Group/Stakeholder Meetings. DESIGN CONSULTANT will secure a location and time for each public meeting.

DESIGN CONSULTANT will prepare display boards and/or handouts as needed to convey the appropriate information to the Stakeholders.

4.5 Transportation Commission = 2 meetings

The DESIGN CONSULTANT will attend no more than two (2) Transportation Commission meetings.

DESIGN CONSULTANT will prepare display boards and/or handouts as needed to convey the appropriate information to the Commission members.

4.6 City Council Meetings = 2 meetings

The DESIGN CONSULTANT will attend no more than two (2) City Council meetings.

DESIGN CONSULTANT will prepare display boards and/or handouts as needed to convey the appropriate information to the Council members.

4.7 Planning Commission Meetings = 6 meetings

The DESIGN CONSULTANT'S subconsultant responsible for developing architectural standards will attend no more than six (6) Planning Commission meetings.

The DESIGN CONSULTANT'S subconsultant responsible for developing landscape standards will attend no more than three (3) Planning Commission meetings.

The subconsultants will prepare display boards and/or handouts as needed to convey the appropriate information to the Commission members.

5.0 DESIGN ACTIVITIES

5.1. Projects

The following projects have been identified on which to base the proposed design activities:

a. Roadway Improvements

Arizona Avenue -- SR 202L to Chandler Boulevard (approx. 5,800 feet)

General Scope includes removal of decorative pavement and the construction of a raised median in its place. Also includes design of "bulb-outs" along the curb-line. New sidewalk will be constructed where disturbed by the construction of the bulb-outs.

Fairview Street – Palm Lane to Delaware Street (approx. 2,500 feet)

General Scope includes removal of the existing curb/gutter/sidewalk and the widening of Fairview St. to a 3-lane section. New curb/gutter/sidewalk will be constructed. Existing pavement will be removed and replaced. New/upgraded drainage facilities will be constructed. A traffic calming device (i.e. roundabout w/o splitter islands) will be constructed at the intersection with Palm St. California Street connection will be included from Fairview Street south approximately 250'

Frye Road -- California Street to Washington Street (approx. 1,200 feet)

General Scope includes widening of the existing roadway to a 5-lane section. The existing curb/gutter/sidewalk on both sides of the street will be removed and replaced. The existing traffic signals and street lights will be relocated. The existing storm drainage system will be modified as needed. Existing water and waste water lines may be removed and replaced.

Washington Street – Boston Street to Pecos Road (approx. 4,000 feet)

General Scope includes widening of the existing roadway from Boston Street to Fairview Street and construction of a new roadway from Fairview Street to Pecos Road. North of Fairview Street the existing curb/gutter/sidewalk on both sides of the street will be removed and replaced. The existing streetlights will be relocated and the existing storm drainage system will be modified as needed. The existing water and waste water lines may be removed and replaced. A traffic calming device (i.e. roundabout w/o splitter islands) will be constructed at the intersection with Fairview Street.

South of Fairview Street new curb/gutter/sidewalk on both sides of street will be constructed along with construction of a storm drainage system. Water and

waste water lines may be removed and replaced as needed. the length of this segment is approximately 1,500 lineal feet.

New Morelos Street -- Washington Street to Arizona Avenue (approx. 400 feet)

General Scope includes construction of a new street including new curb/gutter/sidewalk on both sides of street. Street lights and a storm drainage system will also be constructed. Water and waste water lines will be constructed as needed. No landscaping will be included in this project.

b. Water/Wastewater Improvements

Fairview Street -- Frye Road, Delaware Street and California Street Water Mains (approx. 9,400 feet)

General Scope includes local distribution infrastructure upgrades.

5.2. Design Survey and Mapping

The purpose of the survey is to accurately map and identify all physical features of the roadway, for design purposes.

a. Survey Limits for Roadway Improvements

The survey limits for each project are defined as follows:

Arizona Avenue from SR 202L to Boston Street

The extents of this zone, in an east-west direction, are the right-of-way lines on either side of Arizona Avenue, from the south curb returns at the SR 202 WB frontage road north to the south curb returns of Chandler Boulevard.

Fairview Street from Arizona Avenue to Palm Lane

The extents of this zone, in a north-south direction are the right-of-way lines on either side of Fairview Street, and from the outside curb returns on the west side of Arizona Avenue, west to the west curb returns at Palm Lane, and east to the east side of Delaware St. South

Frye Road from California Street to Washington Street

The extents of this zone, in a north-south direction are the right-of-way lines on either side of Frye Road, and from the west edge of the Union Pacific RR tracks, west to the west side of the Evergreen Street tee intersection

Washington Street from Fairview Street to Boston Street

The extents of this zone, in an east-west direction are the right-of-way lines on either side of Washington Street, and from the north curb returns at Fairview Street, north to the north side of the Boston Street tee intersection.

Washington Street from Fairview Street to Pecos Road lane

The extents of this zone, in an east-west direction, are the proposed right-of-way lines on either side of Washington Street, and from the north curb returns at Fairview Street south along the proposed route to the proposed south right-of-way line of the new Washington Street tee intersection. Then, eastward along new Morelos Street, with the proposed right-of-way lines of new Morelos Street as the north-south extents, to the proposed ell intersection of the proposed alignment of new Washington Street South. Then, southward along new Washington Street South, with the proposed right-of-way lines of new

Washington Street South as the east-west extents, to the centerline of Pecos Road.

New Morelos Street roadway connection from Washington Street to Arizona Avenue

The purpose of this survey is to accurately map and identify all physical features of the proposed roadway, for design purposes. The extents of this zone, in an east-west direction are the proposed right-of-way lines on either side of the proposed Washington Street alignment, and from the north curb returns on the north side of existing Morelos Street, south along the proposed route to the proposed tee intersection of New Morelos Street and Washington Street. Then west along the proposed New Morelos Street alignment, with the proposed north and south right-of-way lines as the north-south extents, to the west curb line at Arizona Avenue.

b. Survey Limits for Water/Wastewater Improvements

The survey limits for each project are defined as follows:

Fairview Street, Frye Road, Delaware Street and California Street loop
As defined by the Utility designed

c. Field Survey

DESIGN CONSULTANT shall perform all project survey as detailed below:

Establish survey control monuments

Occupation of previously established control by CEI

Locate local street monuments

Locate local street monuments not previously surveyed

Office support, research, analysis, and computation

Establish street centerlines/new monumentation, as required, and submit a Results of Survey drawing for recording

Additional office support and computations for the Results of Survey

Topographic survey

Full roadway pavement topography, including driveways and related features

Existing ground DTM topography of grade breaks, curbs, walks, walls, and fences

Locate existing building/foundation corners outside and nearest the ROW

Locate existing landscape trees, hedges, and large shrubs

Locate existing pavement lane striping, arrows, and visible loop detectors

Locate existing visible utility features (power poles, valves, MH's, etc.)

Locate existing underground bluestake and utility markings per as-builts

Locate existing drainage facilities (pipes, catch basins, detention basins, etc.)

Locate existing irrigation facilities (structures, pipe bluestake, etc.)

Locate overhead powerline heights crossing the roadway, if applicable

Review utility As-Builts and bluestake of utilities prior to field survey

Office download and process of data collection files

Office guidance and support for field crews

Office completion and review of CAD DTM file
Office completion and delivery of digital package to the client
Office correspondence and meetings

DESIGN CONSULTANT shall provide a sketch showing each benchmark with a minimum of three (3) ties to features that will not be disturbed by construction.

DESIGN CONSULTANT shall provide a digital photo log of the project. The photos shall be taken looking upstation at no less than 50-foot increments along the proposed curb line. The photos shall also include intersections at all cross/intersecting streets, driveways, curb ramps, existing above-ground utilities, existing obstructions, drainage features, ditches, railroads, roadway signage, private signage, existing landscaping, streetlights, existing miscellaneous structures, walls and any other features that may impact the design of the project. The photo log shall provide station, offset and/or direction of the picture, or other identifying description, for each picture. DESIGN CONSULTANT shall provide the City two CDs of the photo log.

5.3. Right-Of-Way Survey

At 30% design, DESIGN CONSULTANT shall prepare a right-of-way strip map overlain on an aerial photograph of the project limits, showing existing property rights for right-of-way, easements, and utilities on each project the South Arizona Avenue Corridor limits. The right-of-way strip map is for the purpose of identifying property boundaries to prepare legal descriptions and exhibits for property acquisition, permanent drainage easements, temporary construction easements, and utility easements and shall include a list of identified properties and property rights.

CITY OF CHANDLER will provide litigation reports for the parcels where property acquisition is needed.

DESIGN CONSULTANT shall provide legal descriptions and exhibits for the acquisition of new right-of-way, temporary construction easements, drainage tracts, and drainage easements. Legal descriptions shall include parcel numbers and identification of building improvements adjacent to the right-of-way.

DESIGN CONSULTANT shall provide right-of-way research and a survey to define the boundaries of adjacent properties where new right-of-way or easements are anticipated.

DESIGN CONSULTANT shall provide closure data for all written legal descriptions and exhibits. The scope of work includes, but is not limited to:

- a. The preparation of ninety (90) written legal descriptions and exhibits, or as many as needed, for the acquisition of permanent right of way. If more than 90 legal descriptions are necessary for right of way acquisition, the cost for such additional work will be paid from the allowance included in the Contract Price.
- b. The preparation of ten (10) written legal descriptions and exhibits, or as many as needed for permanent drainage easements. If more than 10 legal descriptions are necessary for drainage easements, the cost for such additional work will be paid from the allowance included in the Contract Price. Legal descriptions and exhibits shall be accompanied by volumetric calculations and shall define that portion of the retention which is required to be retained by the subject property and that portion which is retained for adjacent properties.
- c. The preparation of written legal descriptions and exhibits, as needed, for temporary construction easements. The cost for such work will be paid from the allowance included in the Contract Price.

- d. The preparation of written legal descriptions and exhibits, as needed, for utility easements. The cost for such work will be paid from the allowance included in the Contract Price.

DESIGN CONSULTANT shall submit final right-of-way documents to the CITY between 30% and 60% design completion. These documents shall include legal descriptions showing all right-of-way and easements for each parcel, parcel maps, right-of-way strip maps, a draft drainage report, and 30% design plans for all acquisitions and easements.

DESIGN CONSULTANT shall field stake right-of-way twice, at the direction of the CITY's Project Manager.

5.4. Utility Coordination

DESIGN CONSULTANT shall coordinate with utility companies, private development, and the CITY to incorporate existing and proposed utilities into the construction plans, in accordance with the latest version of the Arizona Utility Coordinating Committee "Public Improvement Project Guide" (PIPG.)

DESIGN CONSULTANT shall show all existing and proposed utilities on the paving plan and profile sheets.

DESIGN CONSULTANT shall coordinate with each utility company to determine if the utilities have any need to upgrade their facilities before or during the project's construction.

DESIGN CONSULTANT shall work with the CITY's Utility Coordinator to coordinate the early determination of facilities that may be abandoned or deactivated.

DESIGN CONSULTANT shall specifically identify utility conflicts, with input from utility companies, which might affect alignment or grade and recommend alignment alternatives.

DESIGN CONSULTANT shall send a letter to each utility company notifying them of the project and defining the project scope and timeline, and shall also send two sets each 30%, 60%, 95%, and Final plans to each utility company for their review and will obtain a written response from each company addressing the disposition of their utility as it relates to the planned roadway improvements. DESIGN CONSULTANT shall incorporate the utility company and private developer construction requirements into the bid documents.

DESIGN CONSULTANT shall provide the utility companies with electronic base files or other pertinent information necessary for the utility companies to design the relocation of their facilities. DESIGN CONSULTANT shall coordinate with the utilities to facilitate the design to relocate their facilities. DESIGN CONSULTANT shall obtain a letter from each utility impacted by the planned roadway improvement identifying a time line for relocating their facilities.

Prior to 30% plan submittal, DESIGN CONSULTANT shall develop preliminary alignments of any utilities requiring relocation for which the CITY's Utility Coordinator has requested an alignment design. DESIGN CONSULTANT shall submit preliminary locations to each utility for review and obtain a written response from each utility. DESIGN CONSULTANT shall make joint trenching recommendations for underground utilities, and submit those recommendations to the CITY's Utility Coordinator for approval.

DESIGN CONSULTANT shall identify utility easements and provide legal descriptions to the CITY, between the 30% and 60% design completion, to facilitate land acquisition during the design phase.

At the 30% design submittal, DESIGN CONSULTANT shall develop a utility strip map showing all existing and proposed utilities, and existing and proposed easements for each utility, to include parcel numbers and addresses, at a scale of 1"=20' H.

For each submittal to the utility companies, DESIGN CONSULTANT shall provide the CITY's Project Manager and Utility Coordinator each with a written record of receipt.

DESIGN CONSULTANT shall work with the CITY's Utility Coordinator to facilitate utility coordination meetings upon notice to proceed and at each submittal (30%, 60%, 95%) and provide a strip map showing proposed City and private installations, and existing and proposed easements.

DESIGN CONSULTANT shall work with the CITY's Utility Coordinator to facilitate utility land coordination meetings upon notice to proceed and at each submittal (30%, 60%, 95%) and provide a strip map showing proposed City and private installations.

DESIGN CONSULTANT shall review all utility plans for constructability within the project limits. Prior to submittal of Final (100%) construction documents, DESIGN CONSULTANT shall be responsible for ensuring all utility relocations have been designed and coordinated with proposed City and private installations, and that such relocations will not impact the proposed construction schedule of the CITY's project. Final construction documents will not be approved until "no conflict" (clearance) letters have been received from each utility.

5.5. Plans, Specifications and Estimates

DESIGN CONSULTANT shall prepare plans, specifications and estimates for each project in accordance with CITY standards. Generally, the plans may include, but not be limited to:

- a. Cover Sheet
- b. General Notes Sheets
- c. Standard Sections Sheet
- d. Paving Plans/Profiles (1"=20'H/1"=2' V) – See Section 5.6
- e. Drainage Plans – See Section 5.7
- f. Traffic Signal / Interconnect Plans – See Section 5.9
- g. Striping and Signing Plans (1"=40') – See Section 5.10
- h. Lighting Plans – See Section 5.11
- i. Utility Relocation Plans (if required, by others)
- j. Landscape and Irrigation Plans – See Section 5.13
- k. Storm Water Pollution Plans – See Section 5.14
- l. Waterline Plans (1"=20' H/1"=2' V) (if required) - See Section 5.15
- m. Waste water Plans (1"=20' H/1"=2' V) (if required) – See Section 5.15

Unless otherwise indicated in this Scope of Work the DESIGN CONSULTANT shall submit plans at the 30%, 60%, 95% and Final (100%) stages (see Section 6.1). The plan submittals will follow the checklists provided by the CITY.

At the 30%, 60% and 95% plan submittals, DESIGN CONSULTANT shall submit a CD containing complete improvement base files in AutoCAD .DWG format, and AutoCAD .DWF (Design Web Format) exports of each plan sheet or scanned .TIF images of each plan sheet.

At the completion of the design, DESIGN CONSULTANT shall submit a CD containing complete improvement base files in AutoCAD .DWG format and scanned .TIF images of each plan sheet (signature set.)

Specifications will be in accordance with the MAG Standard Specifications and City of Chandler Standard Specifications. DESIGN CONSULTANT shall supply special provisions for all items not adequately covered by the standard specifications.

DESIGN CONSULTANT shall prepare cross sections and earthwork quantities determined, with the intent to provide a balanced earthwork project.

DESIGN CONSULTANT shall prepare cost estimates for all pay items per the standard specifications and special provisions, except that volumetric measurements will not be used for pay items.

Following each review, DESIGN CONSULTANT shall review the CITY's comments and complete the comment resolution forms provided by the CITY. DESIGN CONSULTANT will provide a matrix that summarizes the comments and indicates whether the comment was incorporated or provides justification for not implementing the change noted in the plan review comments. DESIGN CONSULTANT shall provide the comment matrix to the CITY one week prior to the Comment Resolution Meeting. All comments will be incorporated unless otherwise authorized by the CITY.

DESIGN CONSULTANT shall return redline comments with each plan submittal.

DESIGN CONSULTANT shall be responsible for delivering to the CITY a complete set of constructible plans and shall be responsible for ensuring constructability of such plans, including, but not limited to, completion of right-of-way, TCE, and drainage easement acquisitions, and completion of utility relocation design.

5.6. Paving Plan/Profiles

DESIGN CONSULTANT shall perform work necessary to create Typical Roadway Sections, Geometric Layout and Paving Plan & Profile Sheets using design right-of-way needs for the classification of the street under design.

DESIGN CONSULTANT shall prepare paving and profile plans at a scale of 1"=20' horizontal and 1"=2' vertical, to include base sheet preparation including survey control, topographic mapping, centerline stationing, curb and gutter, sidewalk, handicap ramps, driveways, turn lanes, intersecting streets, utilities, existing right-of-way, proposed right-of-way, existing utilities, construction notes, etc. Profiles shall show centerline stationing, existing ground, proposed curb and gutter grades, benchmarks and underground utilities.

5.7. Drainage Plans

DESIGN CONSULTANT shall prepare a drainage analysis to define the new runoff expected as a result of the proposed roadway construction and recommend drainage improvements required in accordance with City Standards.

DESIGN CONSULTANT shall perform drainage calculations and incorporate them into a Draft Drainage Report to accompany the 30% plan submittal. The limits of analysis shall be to existing improvements.

DESIGN CONSULTANT shall verify that the existing basins constructed within the project limits match as-built plans. The Draft Drainage Report shall identify proposed retention basins and any required drainage easements. This report shall document all calculations certifying that the proposed design meets the design criteria.

DESIGN CONSULTANT shall incorporate comments received from the Draft Drainage Report into a Final Drainage Report between the 30% and 60% plan submittals.

DESIGN CONSULTANT shall provide volumetric calculations for drainage easements required for this project. Volumetric calculations shall accompany the drainage easement legal descriptions and exhibits.

DESIGN CONSULTANT shall develop drainage plans to include plan, profile and detail sheets. DESIGN CONSULTANT shall prepare drainage special provisions as needed for this project.

5.8. Traffic Calming

DESIGN CONSULTANT will utilize existing City of Chandler Standards and details to design traffic calming measures at two locations along Fairview Street.

DESIGN CONSULTANT shall develop the appropriate roadway signing and striping plans to supplement the traffic calming design.

5.9. Traffic Signal/Interconnect Plans

DESIGN CONSULTANT shall perform a site visit and document to the extent possible the equipment and conditions related to the existing traffic signals, traffic control equipment, existing underground conduit, etc.

DESIGN CONSULTANT shall coordinate traffic signal design with Arizona Public Service (APS) to define a power source to serve the new traffic and pedestrian signals.

DESIGN CONSULTANT shall modify the traffic signal at the intersection of Arizona Avenue and Frye Road in accordance with the City of Chandler Technical Design Manual #5: Traffic Signal Design.

DESIGN CONSULTANT shall design a new traffic signal for the intersection of Arizona Avenue and Fairview Street in accordance with the City of Chandler Technical Design Manual #5: Traffic Signal Design.

DESIGN CONSULTANT shall design two new pedestrian traffic signals along Arizona Avenue in accordance with the City of Chandler Technical Design Manual #5: Traffic Signal Design. Potential locations could be between Boston Street and Frye Street near the proposed City Hall and between Fairview Street and Pecos Road. DESIGN CONSULTANT shall develop alternate designs for pedestrian crossings.

DESIGN CONSULTANT shall design the layout of the signal pole and controller locations for the locations described above at the 30% plan stage. DESIGN CONSULTANT shall finalize the traffic signal plans at the 60% plan stage. The Signal Design Plans shall be produced at a 1" = 20' scale and include the following sheets:

- a. General Signal Layout Sheet
- b. Pole Schedule/Conductor Schedule Sheet
- c. Signal Interconnect/Fiber Optic Layout Plan Sheets

DESIGN CONSULTANT shall design the missing sections, extensions, or relocations of fiber interconnect within the project limits along Arizona Avenue between Boston Street and Pecos Road. This will include any interconnect conduit along the other roadways within the project limits to provide the City with an interconnect conduit system connects all of the City's existing and proposed buildings within the South Arizona Avenue Corridor.

5.10. Striping and Signing Plans

DESIGN CONSULTANT shall develop preliminary traffic signing and striping plans for each individual project as required at the 30% plan stage. The 60% plan stage will provide all of the signing and striping callouts and details. DESIGN CONSULTANT shall finalize the traffic signing and striping plans at the 95% plan stage. The Signing and Striping Design Plans shall be produced with double plan views at 1"= 40' scale and shall include the following sheets:

- a. General Striping Notes Sheet (including striping quantities)
- b. General Signing Summary and Notes Sheet
- c. Striping and Signing Plan Sheets

DESIGN CONSULTANT shall develop preliminary traffic signing and striping plans for each individual project at the 30% plan stage. The 60% plan stage will provide all of the signing and striping callouts and details.

Striping and signing plans will be developed as appropriate for each project. DESIGN CONSULTANT shall coordinate with the City's Parking Study consultant to incorporate any signing recommendations resulting from the Parking Study.

5.11. Street Light Plans

DESIGN CONSULTANT shall design street lighting within the South Arizona Avenue Corridor project limits in accordance with applicable the City of Chandler Technical Design Manual #6: Street Light Design.

DESIGN CONSULTANT shall coordinate with Arizona Public Service (APS) to verify the power source locations serving the existing lighting system within the corridor.

DESIGN CONSULTANT shall perform a lighting analysis for each project that evaluates the proposed lighting design. DESIGN CONSULTANT shall provide a computer generated point-to-point foot-candle grid for each project and submit a technical memorandum summarizing the lighting analysis to the CITY for approval.

DESIGN CONSULTANT shall prepare a plan view with new pole locations only at the 30% plan stage. DESIGN CONSULTANT shall finalize the pole locations prior to the right-of-way submittal (between the 30% and 60% plan stages) to facilitate the right-of-way acquisition process.

DESIGN CONSULTANT shall prepare complete street lighting plans including new and relocated pole locations, service locations, and circuiting, at the 60% plan stage. The street light design shall match the existing streetlights or those specified in the Downtown Standards.

The existing streetlight up to 500 feet beyond the limit of the paving shall be shown on the plans. DESIGN CONSULTANT shall include digital photos of existing streetlights in the photo log.

DESIGN CONSULTANT shall coordinate with the Landscape Designer (J2 Design) to verify the locations of any necessary up lighting for the landscape elements. In addition, if any electrical power supply is required for specialty signs or other artistic features will be coordinate with the Project Team and the CITY.

DESIGN CONSULTANT shall provide detail drawings for the following:

- a. Lighting Plan View Sheets
- b. Pole details (Pole illustration, pole schedule and general notes)
- c. Special Pole Foundation details
- d. Miscellaneous details (Pole grounding, connectors)

Roadway/Pedestrian lighting and landscape lighting plans will be developed as appropriate for each project:

5.12. Traffic Control Plan Coordination and Review

DESIGN CONSULTANT shall review the contractor's proposed traffic control plan to verify that access to all businesses and residents are provided at all times and that the traffic control plan is in compliance with City of Chandler Technical Design Manual #7: Traffic Barricade Design.

5.13. Landscape & Irrigation Plans

Bioassay testing, archeology, soil fertility, and other tests to determine plant viability in existing conditions are not considered part of this scope of work.

DESIGN CONSULTANT shall identify the tree species, record the caliper, ascertain the general health, and record the viability for transplant.

DESIGN CONSULTANT shall provide an existing tree inventory and salvage plan for the CITY'S review and approval.

DESIGN CONSULTANT shall review existing irrigation water meters, valves, mainline, controllers, and other major irrigation infrastructure locations to determine potential for salvage. Locations shall be derived from as-built and design plans provided by the CITY.

DESIGN CONSULTANT shall overlay the existing irrigation location on the paving plan sheets.

DESIGN CONSULTANT shall coordinate with the CITY's Landscape Architect and Parks Department to determine the desired types of plant material and irrigation equipment.

DESIGN CONSULTANT shall develop 30% Landscape plans showing location and species of proposed new trees, existing trees to remain, and salvaged and relocated trees. Shrub massing shall be shown.

DESIGN CONSULTANT shall develop 30% Hardscape plans showing location of proposed hardscape elements including pavement enhancements along pedestrian walkways, crosswalks, pocket pedestrian plazas, building and business entrances.

DESIGN CONSULTANT shall develop 30% Signage and Wayfinding plans showing location of proposed wayfinding and signage elements including signs for both the motoring public and pedestrian traffic.

DESIGN CONSULTANT shall develop 30% Irrigation plans showing locations of existing infrastructure to remain in place and new locations of water meter(s), mainline, and valves. If available, reclaimed water will be used for irrigation.

DESIGN CONSULTANT shall provide a table of contents identifying the specifications that shall be used at the 30% plan submittal, and develop an opinion of probable cost for each plan submittal.

DESIGN CONSULTANT shall develop 60% Landscape plans showing location and species of proposed new trees, existing trees to remain, and salvaged and relocated trees as well as individual shrub plantings.

DESIGN CONSULTANT shall develop 60% Hardscape plans showing location of proposed hardscape elements including pavement enhancements along pedestrian walkways, crosswalks, pocket pedestrian plazas, building and business entrances.

DESIGN CONSULTANT shall coordinate with the City's Parking Study consultant to develop 60% Signage and Wayfinding plans showing location of proposed wayfinding and signage elements including signs for both the motoring public and pedestrian traffic.

DESIGN CONSULTANT shall develop 60% Irrigation plans showing water taps and water tap details, coordinate the power design required for controllers, draw mainline routes and lateral routes as well as initiate sleeving under pavement design and layout. Coordinate these taps, and sleeves with roadway plans and details.

DESIGN CONSULTANT shall generate the Landscape, Hardscape, Street Furniture, Signage and Irrigation specifications at the 60% plan stage.

DESIGN CONSULTANT shall develop 95% Landscape plans showing location and species of proposed new trees, existing trees to remain, and salvaged and relocated trees as well as individual shrub plantings.

DESIGN CONSULTANT shall develop 95% Hardscape plans showing location of proposed hardscape elements including pavement enhancements along pedestrian walkways, crosswalks, pocket pedestrian plazas, building and business entrances.

DESIGN CONSULTANT shall develop 95% Signage and Wayfinding plans showing location of proposed wayfinding and signage elements including signs for both the motoring public and pedestrian traffic.

DESIGN CONSULTANT shall develop 95% Irrigation plans showing water taps and water tap details, coordinate the power design required for controllers, draw mainline routes and lateral

routes as well as initiate sleeving under pavement design and layout. Coordinate these taps, and sleeves with roadway plans and details.

DESIGN CONSULTANT shall refine the Landscape, Hardscape, Street Furniture, Signage and Irrigation specifications at the 95% plan stage.

5.14. Storm Water Pollution Prevention Plans

DESIGN CONSULTANT shall develop a Storm Water Pollution Prevention Plan (SWPPP), as required on all projects that will or have the potential to impact any adjacent drainage system, under the provisions of section 402(p) of the Clean Water Act (CWA) and regulations 40 CFR 121.

DESIGN CONSULTANT will perform the following tasks for this part of the project:

- a. Review available topographic information, soil surveys, and aerial photographs of the project area, project excavation plans, and conduct field trips to the site for surface run-off reconnaissance.
- b. Prepare a SWPPP for the project. The plan will be prepared in general accordance with Arizona Pollutant Discharge Elimination System General Permit for discharge from construction activities to waters of the United States, permit number AZG2003-001 and ADOT Guidelines for SWPPP preparation. Additionally, a Notice of Intent (NOI) will be prepared to support the SWPPP.
- c. Coordinate the review of the SWPPP with the appropriate staff personnel.
- d. Submit the NOI to the Arizona Department of Environmental Quality (ADEQ) for review and approval.

The list of assumptions considered in this scope of work includes, but is not limited to the following:

- a. No permanent stabilization measures will be deployed as a portion of this plan and are not contemplated.
- b. The proposed field services will be performed during normal (daylight) working hours.
- c. The project site is readily accessible and site access will be granted.
- d. The project plans and schedules will be provided to Ninyo & Moore.
- e. No major road building or grading will be needed to assess the planned locations.
- f. No environmental sampling, fieldwork, or laboratory testing will be performed. If environmentally hazardous materials are encountered, DESIGN CONSULTANT will stop the fieldwork immediately and notify the City as soon as possible.

5.15. Waterline and Sanitary Waste Water Plans

If it is deemed necessary from the results of the visual inspection, DESIGN CONSULTANT shall prepare water and waste water plans/profiles for water lines and waste water lines that need rehabilitation or replacement within the project limits. These plans will be incorporated into the roadway plan set.

It is assumed that water/waste water plans will be required for the following projects as defined in Section 5.1 of this Scope of Work:

Fairview Street – Palm Lane to Delaware Street (approx. 2,500 feet)

Frye Road -- California Street to Washington Street (approx. 1,100 feet)

Washington Street -- Fairview Street to Boston Street (approx. 2,500 feet)

Washington Street -- Fairview Street to Pecos Road Lane (approx. 1,500 feet)

New Morelos Street -- Washington Street to Arizona Avenue (approx. 400 feet)

Other water/wastewater improvements as indicated on Exhibit A (City Campus and South Arizona Avenue Circulation and Utility Improvement Projects)

5.16. Project Management

DESIGN CONSULTANT shall prepare regular progress reports; perform regular budget and schedule monitoring; coordinate with utilities, CITY representatives and other project stakeholders; and manage sub-consultants. All work will be performed from the consultants Downtown Chandler office.

5.17. Geotechnical

For each of the individual projects mentioned above DESIGN CONSULTANT shall the following scope of services:

- a. Conduct a visual geologic reconnaissance of the project area and review available geologic literature and aerial photographs of the project site and will conduct a visual pavement reconnaissance of the roadway segment in question.
- b. Establish test locations in the field and arrange for the mark-out of underground utilities through Arizona Blue Stake.
- c. Drill hollow-stem auger borings using a truck-mounted two-wheel drive drill rig. These borings will be located within the existing roadway or in the shoulder whichever is more appropriate and will extend up to 20 feet deep. The following table provides a summary of the planned number and depth of borings for each individual projects associated with this project.

Project	Approximate Number of Borings	Approximate Depth of Borings
Arizona Avenue	7	5 feet
Fairview Street	4	5 feet
Frye Road	2	5 feet
Washington St.	7	5 feet
Morelos St.	1	5 feet
Water/Wastewater	10	20 feet

There is some overlap associated with this drilling schedule and depending of the number of individual projects authorized, some borings could be eliminated from this scope or work.

- a. Collect ring samples and bulk samples for laboratory testing and will be responsible for preparation of field boring logs.
- b. Perform laboratory testing to evaluate the index, compressibility, expansion and chemical characteristics of the subsurface soils encountered.
- c. Prepare a draft geotechnical report for each of the individual projects, to accompany the 30 percent submittal, which will contain the results of the field and laboratory analyses, with presentations of the engineering parameters for design of the new pavement and recommendations for construction. In addition, the reports will contain vicinity maps depicting the project limits, plans showing the boring locations, narrative descriptions of the surface and subsurface conditions, laboratory test results and geotechnical recommendations related to excavation characteristics, bedding material, backfilling guidelines, subgrade support for new pavements, pavement design recommendations, pavement rehabilitation recommendations, and the re-use of on-site soils for engineered fill.
- d. Incorporate comments received on the draft geotechnical reports into final geotechnical reports to accompany the 60 percent submittal.
- e. The following assumptions have been made regarding the geotechnical tasks:

The sites can be accessed with truck-mounted equipment.
Site access will be granted.
No pavement coring is needed.
No off-duty police officer is needed.
The boreholes can be backfilled with the drilling spoils and asphalt patch where appropriate.
Consultant will not need to obtain any environmental clearance as a part of this project.
Arizona Department of Transportation design guidelines do not need to be followed.

5.18. Phase I Environmental Site Assessment (ESA)

DESIGN CONSULTANT shall conduct a Phase I Environmental Site Assessment (ESA) in accordance with ASTM-1527-05 and submit a draft Phase I ESA report inclusive of each property requiring new right-of-way to the CITY's project manager no more than forty-five (45) calendar days after the alignment approval. Phase I ESA reports will document findings and provide opinions and recommendations regarding possible environmental impacts at the sites. DESIGN CONSULTANT shall provide color photographs and figures in each report.

DESIGN CONSULTANT'S scope of work for the Phase I ESA includes the following activities:

a. Task 1: Physical Review of Site Facilities and Practices

Review readily available maps and reports pertaining to the site. The City of Phoenix is requested to provide copies of documents in its possession, if applicable.

Conduct interviews with the property owner and the tenant(s) regarding the environmental status of the site.

Perform a site reconnaissance to visually identify areas of possibly contaminated surficial soil or surface water, improperly stored hazardous materials, possible sources of polychlorinated biphenyls, and possible risks of contamination from activities at the site and adjacent properties.

Obtain and review on-site regulatory records (e.g., chemical inventory, permits, waste records, etc.).

Note utility connections at the site.

Identify refrigerant-containing appliances and note the following information:

Appliance type,

Location,

Manufacturer,

Photo document the appliances, and

Data Plate Information (model number, serial number, capacity, refrigerant type).

b. Task 2: Assessment of Past and Present Site Usage

Review 50-year chain-of-title report for the site to evaluate probable past site uses and their possible impact on the current environmental status of the site.

Review owner information provided by the City of Phoenix, including ASTM user questionnaire.

Identify previous and existing on-site uses of the site.

Review readily available historical documents, including aerial photographs (site and adjacent properties), Sanborn Insurance Maps (site and available adjacent properties),

Building Department Records (site only), and Reverse City Directories (site and available adjacent properties), as appropriate.

Review readily available local regulatory agency files for the site. Requests will be made to the County Environmental Services Department, the local Air Pollution Control District, and the local Fire and Building Departments.

Review available regulatory agency databases for the site and for properties located within a specified radius of the site. The purpose of this review is to evaluate the possible environmental impact to the site. Databases will identify locations of known hazardous waste sites, landfills, and leaking underground storage tanks, permitted facilities that utilize underground storage tanks (UST), and facilities that use, store or dispose of hazardous materials.

Conduct interviews with past owner(s) and tenant(s) of the site, if readily available).

c. Task 3: Conduct an Archaeological Inventory of the Site

Conduct an inventory of known archaeological sites located on the property. Site files will be reviewed at the Pueblo Grande Museum.

d. Task 4: Evaluation of Site Characteristics

Review available topographic, soil, geologic, and hydrologic information, including depth to groundwater for indications of surface and subsurface characteristics of the property.

Review wetlands and flood zone information pertaining to the site.

Document manmade features, including UST, aboveground storage tanks, sumps, surface impoundments, septic tanks, oil/water separators, transformers, water wells, dry wells, and storm drains.

Observe surface drainage, cracking in concrete slabs and foundations, staining, and identify areas of chemical or hazardous material storage.

e. Task 5: Adjacent Property Evaluation

Evaluate adjacent properties for the potential to contaminate the subject property. If during the course of our assessment adjacent properties appear to have the potential to contaminate the subject property, Ninyo & Moore will notify the City of Phoenix regarding the need to perform portions of Tasks 2, 3, and 4 on the suspect property.

Conduct interviews with adjacent property owners, if readily available.

f. Task 6: Report Preparation

Prepare a Phase I ESA report documenting findings and providing opinions and recommendations regarding possible environmental impacts at the site. Color photographs and a site diagram will be provided in the report. If archaeological sites are found on the property, the report will evaluate if historic development on the property may have impacted such sites. The report will be initially submitted to the City of Phoenix in draft form. Following review and comment, hard copies and an electronic copy (on CD-ROM) of the Phase I ESA report will be submitted.

g. Task 6: ESA Update

Update the Phase I ESA reports if the properties are not acquired within six (6) months of the date of assessment.

In accordance with ASTM E 1527-05, the following, which is not intended to be all inclusive, represents out-of-scope items with respect to this Phase I ESA and, therefore, will not be addressed: asbestos-containing materials, radon, lead-based paint, lead in drinking water, regulatory compliance, cultural and historic risk, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high-voltage power lines. In addition, DESIGN CONSULTANT will not address interpretations of zoning regulations, building code requirements, or property title issues.
POTENTIAL additional scope of services

- a. DESIGN CONSULTANT estimates that potentially 10-15 of the 86 sites will have RECs identified in the Phase I ESA, along with numerous others that will contain additional concerns that can be categorized as business environmental risks. With these RECs and other risks identified, additional work will be recommended following the submittal of the Phase I ESA. Listed below are a limited number of the additional services typically recommended following a Phase I ESA:

- Surface Soil Sampling
- Hand Auger Soil Sampling
- Hollow-Stem Drill Rig Soil Sampling
- UST Removals
- Ground Penetrating Radar Surveys
- Magnetometer Surveys
- Asbestos Surveys, Abatement and Oversight
- Storm water Pollution Prevention Plans
- Spill Prevention Control and Countermeasure Plans
- Soil Vapor Sampling
- Direct-Push Soil Sampling
- Excavation, Dig & Haul Services
- Lead-Based Paint Sampling
- Radon Testing
- Drinking Water Sampling
- Groundwater Sampling
- Surface Water Sampling
- Regulatory Compliance Auditing
- Indoor Air Quality Sampling
- Cultural and Historic Risk
- Ecological Risk

5.19. Utility Locating Services (Potholing)

DESIGN CONSULTANT shall conduct Subsurface Utility Engineering (SUE) per ASCE publication C1/ASCE 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" at a "Quality Level C".

During the 30% design phase, DESIGN CONSULTANT shall develop a suggested pothole list that identifies stationing and offset. DESIGN CONSULTANT will provide the list to utility companies affected by the project, and facilitate coordination of a master pothole list.

Prior to completion of the 30% plans, DESIGN CONSULTANT shall provide vacuum excavation potholes (test holes) on existing subsurface utilities at locations identified on the master pothole list. Pertinent pothole data will be presented in spreadsheet format on a standard "Test hole Data Summary" form that includes the depth, horizontal and vertical location, size and material composition of the utility line exposed.

DESIGN CONSULTANT shall provide Sixty(60) potholes. If more than 60 potholes are necessary to adequately identify underground utilities, the cost for such additional work will be added as an amendment to the contract or included in the CM@R Pre-Construction activities.

DESIGN CONSULTANT shall be responsible for field survey to initially stake the pothole location in white paint or white flagging for Blue Stake notification and as a reference point for the surveyed location of each pothole. DESIGN CONSULTANT shall identify the pothole number, northing, easting and elevation of the staked location. DESIGN CONSULTANT shall measure and record adjustments from the surveyed location to the steel reference pin set above the centerline of each exposed utility.

Vacuum excavation potholing will include mobilization, set-up, traffic control (excluding uniformed police officer, special barricading, permit fees or inspections required by any governmental agencies), pavement cut and removal (if any), pavement patch as specified in Street cut Permit (if any), excavation, backfill and compaction, all information requested, and clean up. DESIGN CONSULTANT shall apply for and obtain City of Chandler permit for potholing.

For identified water and waste water lines, while the pothole is excavated, representatives from the CITY's Water and Sewer Department and DESIGN CONSULTANT will perform visual inspection of the condition of the lines. Formal recommendations for potential rehabilitation or replacement will be developed by the CITY's Water and Sewer representatives and DESIGN CONSULTANT and provided to the CITY's project manager in memorandum form.

5.20. Value Engineering

Any Value Engineering decisions or significant design changes brought forth by the CM@R that will have an impact on the design budget will be thoroughly reviewed by the Design Team and City staff prior to completing the re-design to determine the need for a contract modification.

6.0 CONSTRUCTION DOCUMENTS

6.1 General Requirements

DESIGN CONSULTANT shall prepare the construction documents for each project as applicable for each design submittal listed in the table below.

Construction Document	30% Stage	ROW	60% Stage	95% Stage	100% Stage
Face Sheet	P		F	F	S
Design Sheet/Index			P	F	S
Special Detail Drawings			P	F	S
Typical Roadway Sections	P		F	F	S
Geometric Configuration	P		F	F	S
Paving Plan & Profile Sheets	P		F	F	S
Drainage Plans & Details	P		F	F	S
Intersection Plans & Details	P		F	F	S
Utility Plan/Profile/Details	P		F	F	S
Traffic Signal Plans & Details	P		P	F	S
Signing and Pavement Marking Plans & Details	P		P	F	S
Lighting Plans & Details	P		P	F	S
Landscape/Irrigation/Hardscape Plans & Details	P		P	F	S
Roadway Cross Sections	P		F	F	S
Quantity & Cost Estimate	P		P	F	F
Special Provisions	P		P	F	S
Drainage Report	P	F	S		
Geotechnical Report	P		F	S	
Environmental Site Assessment Report		S			
Right of Way Legal Descriptions		S			
Right of Way Strip Map	F	F	F	F	F
Utility Strip Map	P	P	F	F	F

P – Denotes Preliminary, F – Denotes Final, S – Denotes Sealed

DESIGN CONSULTANT shall submit stage plans to the CITY for their review as follows:
 Arizona Avenue, Chandler Blvd to Pecos Road – 30%, 90%, & Final
 All other projects – 30%, 60%, 95%, & Final.

6.2 Preliminary (30%) Plans

- a. DESIGN CONSULANT shall submit the following to the CITY:

Item	Number Of Copies
Full Size Sets of Construction Plans	10
Half Size Sets of Construction Plans	10
Draft Drainage Report	5
Draft Geotechnical Report	5
“Test hole Data Summary Sheet”	2
Construction Cost Estimate	10
Outline Special Provisions	10
Right-of-Way Strip Map	2
Utility Strip Map	2
Plan Checklists	1

- b. DESIGN CONSULTANT shall submit the following to affected utility companies:

Item	Number Of Copies
Full Size Sets of Construction Plans	2
"Test hole Data Summary Sheet"	2

- c. DESIGN CONSULTANT shall submit a CD containing complete improvement base files in AutoCAD .dwg format and AutoCAD .dwt format of each plan sheet or scanned .tif images of each plan sheet

6.3 Right-Of-Way Submittal

- a. DESIGN CONSULTANT shall submit the following to the CITY:

Item	Number Of Copies
Final Drainage Report	5
Final Legal Descriptions for Acquisitions, Drainage Easements, Utility Easements, TCE's	1
Right-of-Way Strip map	2
Utility Strip Map	2
Draft Phase I ESA	1

6.4 Preliminary (60%) Plans

- a. DESIGN CONSULTANT shall incorporate any changes, corrections and/or additions as a result of the 30% plan review.
- b. DESIGN CONSULTANT shall submit the following to the CITY:

Item	Number Of Copies
30% Redline Plans	Originals
30% Plan Comments & Annotated Comment Sheet	10
Full Size Sets of Construction Plans	10
Half Size Sets of Construction Plans	10
Sealed Drainage Report	1
Final Geotechnical Report	5
Construction Cost Estimate	6
Technical Special Provisions	6
Plan checklist	1
Right-of-Way Strip Map	1
Utility Strip Map	2
Final Phase I ESA	3

- c. DESIGN CONSULTANT shall submit the following to affected utility companies:

Item	Number Of Copies
Full Size Sets of Construction Plans	2
Conflict Letters	1

- d. DESIGN CONSULTANT shall submit a CD containing complete improvement base files in AutoCAD .dwg format and AutoCAD .dwt format of each plan sheet or scanned .tif images of each plan sheet

6.5 Pre-Final (95%) Plans

- a. DESIGN CONSULUTANT shall incorporate any changes, corrections and/or additions as a result of the 60% plan review.

- b. DESIGN CONSULUTANT shall submit the following to the CITY

Item	Number Of Copies
60% Redline Plans	Originals
60% Plan Comments & Annotated Comment Sheet	10
Full Size Sets of Construction Plans	10
Half Size Sets of Construction Plans	10
Construction Cost Estimate	6
Final Technical Special Provisions	6
Plan checklist	1
Final Right-of-Way Strip Map	1
Utility Strip Map	2
Final Phase I ESA	3

- c. DESIGN CONSULTANT shall submit the following to affected utility companies:

Item	Number Of Copies
Full Size Sets of Construction Plans	2
Conflict Letters	1

- d. DESIGN CONSULTANT shall submit a CD containing complete improvement base files in AutoCAD .dwg format and AutoCAD .dwt format of each plan sheet or scanned .tif images of each plan sheet

6.6 Final (100%) Construction Documents

- a. DESIGN CONSULUTANT shall incorporate any changes, corrections and/or additions as a result of the 95% plan review.

- b. DESIGN CONSULANT shall submit the following to the CITY:

Item	Number Of Copies
95% Redline Plans	Originals
95% Plan Comments & Annotated Comment Sheet	10
Sealed Full Size Sets of Construction Plans on 4 mil Mylar	1
Final Construction Cost Estimate	1
Bid Schedule	1
Sealed Technical Special Provisions	1
Final Utility Strip Map	2

- c. DESIGN CONSULANT shall submit a CD containing complete improvement base files in AutoCAD .dwg format and AutoCAD .dwt format of each plan sheet or scanned .tif images of each plan sheet.
- d. DESIGN CONSULANT shall submit a CD containing the complete Drainage Report, Geotechnical Report, Landscape Standards, and Downtown Design Standards in Adobe (.pdf) format.

7.0 PROJECT SCHEDULE

DESIGN CONSULANT shall adhere to the production schedule established for the project and such schedule may not be modified or deviated from without written consent by the CITY. Operating out of their Downtown Chandler office the DESIGN CONSULANT shall revise and submit for review an updated schedule whenever completion of the project design, or any of the partial completion points listed in the schedule are delayed by one week or more. Such adjusted schedule shall include a written explanation stating the reasons for the schedule change and a plan for getting back on schedule. DESIGN CONSULANT shall take all reasonable action necessary to get the project back on schedule and CITY shall cooperate to assist DESIGN CONSULANT.

8.0 QUALITY CONTROL

DESIGN CONSULANT shall institute and comply with the Design Quality Control Plan established for the project as set forth on Exhibit A-3.

9.0 EXCLUSIONS

The following items are specifically excluded from this Scope of Work:

- a. Design of a lateral water/waste water system on Arizona Avenue
- b. Development of "Off Site" (Development) Landscape Standards
- c. Construction management activities including inspection services.
- d. Modifications to the existing traffic signal at the intersection of Arizona Avenue and Chandler Boulevard.
- e. Modifications to the existing pedestrian crossing on Arizona Avenue north of Boston Street.

- f. Modifications to the existing traffic signal interconnect conduit in Arizona Avenue from Boston Street to Chandler Boulevard.
- g. Modifications to the existing traffic signal at the intersection of Arizona Avenue and Pecos Road.

**EXHIBIT A-2
DESIGN TEAM AND THEIR ASSIGNMENTS**

Design Consultant's design team and their assignments are as follows:

Steve Bruflat, PE	Project Principal
Vaughn Bennett, PE	Project Manager / Program Manager
Will Perez, LSIT	Survey/Mapping, Right-Of-Way Legal Descriptions / Exhibits
John Willett, PE	Traffic Analysis, Signing, Marking, Street Lighting
Jeff Engelmann, RLA	Landscape Standards and Design
Ken Anderson	Architectural Standards, Land Use Analysis
Rob Buss, PE	Water/Sewer Capacity Analysis and Design
Steve Nowaczyk, PE	Geotechnical Investigations
Ritchie Bump, EIT	Phase Environmental Site Analysis (ESA), SWPPP
Teresa Makinen	Public Outreach

EXHIBIT A-3 QUALITY CONTROL PLAN

Introduction

To maintain a high quality of product and services, specific procedures are necessary to verify that the product of our work will meet the requirements of the City of Chandler. Final checking and verification of the plans or reports are part of the process necessary to ensure total quality throughout the design and production process. If the final checking occurs after the fact, it becomes more of a "damage control" type of step to eliminate mistakes before the plans are released. A true Total Quality Process must start first with the thinking, the attitude, and the procedures that are in place when the work is initially generated. Each person involved in the project must understand the end result desired plus how to arrive at the end result, and then implement the process to obtain the end result. Each step in the process must be checked for correctness as it is performed to ensure that it is accurate and that it is essential to obtain the desired end result.

The objective of the Total Quality Process is to not only have an end product that is of high quality that meets the requirement, but also obtains that product in the most straight-forward and efficient means possible. It means

"DO IT RIGHT THE FIRST TIME"

Creating and maintaining a Total Quality Process requires that the attitudes of those working on the project must first be adjusted to recognize that **"close enough" is not good enough**. Each person must understand the process to be followed and their role in the process. Everyone must think about what they are doing, why they are doing it and what information is necessary to perform the task completely. Sequence of work is a very important element and wasted time occurs when project tasks are performed outside the desired workflow. Assumptions or guesses within the process may lead to erroneous information or wasted effort. For any task to be performed make sure you have sufficient information to completely and efficiently complete the task before you start it. If you encounter a question or unknowns later, **ASK**, do not assume when there is someone else that knows the answer.

Responsibility and Authority

It is the responsibility of every person working on any element of the project to ensure the quality of their own work, that it is accurate, it is complete, meets the requirements, and is consistent. The responsible members of the Design Team that have been identified at this time are:

Steve Bruflat	Vaughn Bennett	John Akin
<i>John Willett</i>	<i>Steve Nowaczyk</i>	<i>Jeff Engelmann</i>
<i>Teresa Makinen</i>	<i>Will Perez</i>	<i>Ken Anderson</i>
<i>Rob Buss</i>		

Individuals whose name is in italics are associate consultants and will comply with their quality control plan.

Significant decisions reached or items that require documentation should be forwarded to Vaughn Bennett for the Central File. Steve Bruflat will have the responsibility to assure personnel are available to complete this work.

Production Reviews

As items or tasks are complete, the one completing the task should then go back and review the work just completed. **Check it.**

- ✓ Has everything been done?
- ✓ Is the task complete?
- ✓ Has all the information been shown?
- ✓ Is the information shown correctly?
- ✓ Does it conform to the requirements?
- ✓ Is it consistent with other information?

Only after you have gone through this check should this data be released to others. The next step is to have someone else, preferably a supervisor, check it through. The one checking it should ask the same questions shown above. It is especially critical that information be consistent through the plan set, between the plans and specifications, between the specification and the cost estimates, and between the cost estimates and the quantity tabulations shown on the plans. Because of the difficulty in maintaining consistency throughout the various locations where information may be shown, it is absolutely imperative that a task be followed all the way through to completion. This means that when a change is made to the plans, the one making the change should either modify the specifications, cost estimates, and quantity tabulations themselves or inform others responsible for those items that a change needs to be made, why a the change is necessary and what exactly the change is to be.

Paper Calculations

For calculations performed on paper, they will be shown on engineering calculation paper and will be initialed and dated by the individual preparing them. Project numbers and names will also be shown on the sheets. In general, all calculations must:

- ✓ Be neat and legible
- ✓ List all design assumptions
- ✓ List all formulas and define symbols
- ✓ Be grouped for various portions of the project
- ✓ Be numbered in proper order
- ✓ Provide indices for quick reference
- ✓ Have footnotes for all references.

After they are reviewed and back-checked by the originator, they will be given to another designer for review. The checker will check the calculations for:

- ✓ Mathematical accuracy
- ✓ Proper design criteria
- ✓ Recognized codes and procedures
- ✓ Compatibility with other associated project documents

After checking and resolving any differences that may occur, the checker will initial and date the calculation sheets. The completed calculation sheets will then be immediately placed in the proper project file. If it is necessary to keep a copy of the sheet(s) within the production area, copies will be made for such purpose. **Originals of design calculations are not to be kept in personal files.** All computations are to be neat and should define the parameters used as the basis of calculations. Any and all deviations from recognized codes and procedures are to be defined in detail. Remember that what is shown on the design computations is the only hard evidence of what you were thinking at the time those calculations were prepared. The fact that a situation may occur at some time in the future where there is need to rely on those calculations points out the need for thoroughness, documentation, and neatness.

Computer Calculations

For work performed within the CADD system or with other computer programs, a paper "trail" or tracking process is not generated to document the thinking or logic used to arrive at the end result. Normally the only documented evidence is the end result in the form of a plot of the graphic information or an output listing of the design data / results. This is usually sufficient as long as the information is correct to begin with, does not impact other areas of work, and never has to be modified. But problems arise when a conflict is found between two sources of information and it is not known or understood why the information is shown the way it is. Elements can be quickly and efficiently designed and drawn within a CADD system without any documentation as to why, how, where, or when it was produced the way it was produced. This initial gain in efficiency can be lost if there are conflicts found later and no documentation or justification for why the work was produced the way it was. Too often older information within a drawing is assumed to be wrong and changed without an understanding of why it was shown the way it is.

The documentation capabilities of computer-based design programs vary greatly, especially those that operate within the graphics package such as AutoCAD and MicroStation. Documentation systems that rely solely on the program's capabilities are only as good as the programs and will vary as the programs are changed with user preferences or the program's capabilities are modified. Manual systems that require the designer/operator to write down everything done along with the justifications require almost a complete duplication of work and are so time consuming that they are rarely fully implemented or maintained.

To adequately document the CADD-based design and production process, the following system will be used. The intent of the system is to provide a record of the work performed and the reasoning of the one producing the data. The effectiveness of this system is dependent on those using the system to make full and complete entries into the permanent records kept for the project.

- All horizontal and vertical alignments will be printed out in a hard copy as they are produced for checking. The printouts will be signed and dated by the one producing the alignments and by the one checking the information. The printouts will be immediately place in the appropriate design file.
- When previously designed information is changed, the new information will be placed in the design file and the previous printout will be marked "VOID" along with an explanation on the printout of when it was voided and why it was modified. The individual voiding the previous information will date and sign the voided document.
- If conflicting or erroneous information is found within a drawing, the graphic data should not be changed until the backup data has been researched to find out why the information is shown the way it is. The appropriate project file should first be reviewed to evaluate the printouts or other documentation within the file. Once all background data has been gathered, the current conflict and history of the information is to be presented to a responsible party for resolution. If the person that originally created the information is available, they should be the person consulted. ***No one individual is to take it upon themselves to correct what they assume to be erroneous information.***
- Hard copies or plotted versions of CADD drawings should be kept to a minimum. Confusion created by having several variations of the same sheet can be avoided by only plotting sheets after significant information has been added to the sheet or a major revision has occurred. ***All check plots are to be dated, by hand, as soon as they are plotted.*** Do not rely on a date stamp placed within the drawing that may or may not reflect the current revision date. As soon as an intermediate check plot has been back-checked, the corrections made to the

CADD drawing and a new plot generated, the old check plot should be filed in the appropriate project design file.

Formal Reviews

In addition to internal production checking outlined above, all exhibits, plans, reports, specifications, etc. will be formally reviewed before being released. The formal review will be performed by the Project Manager or someone else designated by the Project Manager. Specific requirements are:

- The “checked by”, “approved by”, “designed by”, and “drafted by” initial blocks on each sheet will be initialed by the individuals having primary responsibility for performing the work shown. For sheets illustrating the work of several individuals, the initial block will be signed by the person who performed the most critical or important aspect shown on the sheet. Initial blocks will not be filled in within the CADD system. They must be individually initialed by the correct person.
- Plans will be checked in groups or by types of information rather than on an individual basis for uniformity and consistency throughout the plans. The inter-relationship between design items will be checked across design elements to ensure the constructability of the project.

Review Procedures

Standard checklists should be used to review the plans, verifying only a few items on the list at a time. Attempting to check too many items at once create confusion and failure to check all items. In checking the plans and specifications, three primary questions must be answered.

1. Is the information shown in a clear, correct, and concise manner? If not, what information must be added?
2. Is the information shown consistent with other information on the plans or within the specifications? If not, what needs to be changed to make all information consistent throughout?
3. Can the construction staking be completed and the project built from the information shown? If not, what information needs to be added?

In composing and reviewing notes and plans, use precision and clarity. Do not use obscure or ambiguous words. Ask what the notes need to say. Then ask if the note says it clearly. ***In no case should a checker question the intent of a note, detail, or specification with a question mark. This is not only insulting and demeaning to the designer, it does not convey to the designer what is being questioned.***

All notes, details and call outs shall conform to City of Chandler standards.

Document Control

The following document control procedures shall be used on this project:

All communications, whether written or verbal, that concern the Scope of Work, contract conditions, regulatory information, etc., ***must be thoroughly documented***. Documentation should include written verification of verbal conversation, parties to the communication, when it was received, who conveyed it and who received it. Specifically, communication will be handled in the following ways:

- All communication will be written and filed, including telephone logs.
- All written information entering or leaving the office will be copied to the Project Manager.

- Standard distribution lists will be developed to use for all communication.
- All calculations shall be documented and filed in accordance with quality control procedures mentioned in this section.
- One complete copy of each submittal shall be filed, including plans, specifications, reports, estimates, and calculations.

Design Change Control

A design change is a variation or change from the design parameters contained within the Scope of Work. Effective design change control is primarily a function of communication. Not only is it necessary that all disciplines be advised of any change in accepted design, but also all levels of employees must be kept aware of the changes. Further, although oral communication is quickest and easiest, any design changes must be documented, distributed, and acknowledged by all personnel associated with the project. The latter requirement emphasizes the basis of our Quality Control Procedure. Quality control is the responsibility of all personnel from the Project Principal to the youngest, most inexperienced technician. Thus, all personnel will be advised of all changes, even though the effects may not be directly related to an individual's primary task. The primary procedure associated with a design change is as follows:

- Proposed design changes identified by any personnel will be discussed with the Project Manager.
- If in concurrence, the Project Manager will discuss the design change(s) with the City of Chandler and, if needed, will include appropriate team members in the discussion.
- Written concurrence to the design change will be requested from the City of Chandler.
- If the design change requires a change order or contract amendment, no work shall proceed without consent of the City of Chandler. Any non-scope work performed without City of Chandler or Tristar Project Manager consent will be at risk, and the associate consultant may not receive payment. ***In other words, do not proceed on non-scope work without written authorization.***

**EXHIBIT B
FEE SCHEDULE**

**PROJECT TITLE: South Arizona Entry Corridor Improvements
PROJECT NO. ST0721-201
Chandler, AZ.**

For services described in paragraph 3 of this Agreement, the CITY shall pay DESIGN CONSULTANT not to exceed the sum of Three Million Nine Hundred Five Thousand Four Hundred Eleven dollars (\$3,905,411) in accordance with the schedule set forth in exhibits B-1 and B-2 attached hereto and incorporated herein by reference.

1. **PAYMENT SCHEDULE:** Payments to Design Consultant will be made in accordance with the fee schedule attached as Exhibit B-1.
2. The fee shown on the attached fee schedule, Exhibit B-1 is the total fee and includes "reimbursables".
3. Payment will be made monthly on the basis of progress reports and deliverables. Work schedule updates will be included in the monthly progress payment requests.
4. An application and certification for payment must be provided by Design Consultant. Such application must provide a clear, detailed invoice reflecting all items billed for. The summary sheet will show percentage of work completed to date, previous payment invoiced/received and current fee requested.
5. Such application shall also include any/all backup documentation (i.e.: receipts, invoices, logs, etc) supporting reimbursable expenses and consultant fees.

**EXHIBIT B-1
FEE SCHEDULE**

SECTION 3.0 - MASTER PROJECT ACTIVITIES

FIRM	ESTIMATED MANHOURS	LABOR COSTS
Tristar Engr. & Mgmt.	4417	\$683,481.00
Carollo Engineers	294	\$42,194.00
CEI	-	\$0.00
J2	1440	\$142,505.00
MakPro	348	\$91,180.00
Ninyo & Moore (Phase I ESA)	673	\$72,020.00
Ninyo & Moore (Geotechnical)	-	\$0.00
Ninyo & Moore (SWPPP)	-	\$0.00
RNL	928	\$115,698.00
SWTE	92	\$9,335.00
TBE (Potholes)	-	\$0.00
Total Hours	8192	

SUB-TOTAL MASTER PROJECT ACTIVITIES

\$1,156,413.00

SECTION 4.0 - MEETINGS

FIRM	ESTIMATED MANHOURS	LABOR COSTS
Tristar Engr. & Mgmt.	684	\$90,151.00
Carollo Engineers	216	\$44,899.00
CEI	-	\$0.00
J2	556	\$65,965.00
MakPro (includes bi-lingual)	440	\$34,400.00
Ninyo & Moore (Phase I ESA)	-	\$0.00
Ninyo & Moore (Geotechnical)	-	\$0.00
Ninyo & Moore (SWPPP)	-	\$0.00
RNL	110	\$15,405.00
SWTE	128	\$20,510.00
Total Hours	1896	

SUB-TOTAL MEETINGS

\$271,330.00

SECTION 5.0 - DESIGN ACTIVITIES
SECTION 6.0 - CONSTRUCTION DOCUMENTS

FIRM	ESTIMATED MANHOURS	LABOR COSTS
Tristar Engr. & Mgmt.	9,322	\$1,153,620.00
Carollo Engineers	1,951	\$239,263.00
CEI	1,064	\$120,760.00
J2	5,874	\$612,547.00
MakPro	-	\$0.00
Ninyo & Moore (Phase I ESA)	-	\$0.00
Ninyo & Moore (Geotechnical)	460	\$62,830.00
Ninyo & Moore (SWPPP)	211	\$12,500.00
RNL	64	\$8,800.00
SWTE	1,426	\$174,348.00
Total Hours	<u>20,372</u>	
SUB-TOTAL DESIGN		<u>\$2,384,668.00</u>
ALLOWANCES		
EXPENSE		COST
TBE (150 Potholes) (Allowance)		\$90,000.00
MCESD Review Fees (non-expedited) (Allowance)		\$3,000.00
SUB-TOTAL ALLOWANCES		<u>\$93,000.00</u>
SUMMARY		
TOTAL ESTIMATED DESIGN COST		<u>\$3,905,411.00</u>

EXHIBIT B-2

Tristar Engineering & Management								
SUMMARY OF MAN-HOURS								
TASK	DESCRIPTION	CLASSIFICATION					TOTAL	Key Scope Assumptions for Man-hours
		Project Manager	Deputy Project Manager	Project Engineer	CADD Technician	Clerical		
Section 3.0	Master Project Activities	2,363	1,668	304	82	-	4,417	This section represents the effort involved to complete those tasks that are not specifically related to an individual project but will have an impact on all projects
Section 4.0	Meetings	210	144	166	122	42	684	This section represents the effort involved to prepare for, conduct and summarize project meetings for the contract duration of 24 months
Section 5.0	Design Activities	1,214	1,383	3,055	3,462	208	9,322	This section represents the effort involved to prepare final construction documents for the projects identified in the Scope of Work
TOTALS		3,787	3,195	3,525	3,666	250	14,423	

DERIVATION OF COST PROPOSAL SUMMARY
Section 3.0 -- Master Project Activities

ESTIMATED DIRECT LABOR

CLASSIFICATION	ESTIMATED MAN-HOURS	AVG. HOURLY RATE	LABOR COSTS
Project Manager	2,363.00	\$165.71	\$391,578.45
Deputy Project Manager	1,668.00	\$148.42	\$247,565.71
Project Engineer	304.00	\$119.20	\$36,236.28
CADD Technician	82.00	\$98.78	\$8,100.14
Clerical	\$0.00	\$50.96	\$0.00
Total Hours	4,417.00		
SUB-TOTAL DIRECT LABOR			<u>\$683,480.59</u>

ESTIMATED DIRECT EXPENSES

	COST
Mileage	\$0.00
Photos	\$0.00
Submittals	\$0.00
SUB-TOTAL ESTIMATED EXPENSES	<u>\$0.00</u>

ESTIMATED OUTSIDE SERVICES

	COST
CEI	\$0.00
Pinnacle One	\$0.00
SW Traffic Engineering	\$0.00
J2	\$0.00
Ninyo & Moore (Geotechnical)	\$0.00
Ninyo & Moore (ESA)	\$0.00
Ninyo & Moore (SWPPP)	\$0.00
MakPro	\$0.00
Carollo	\$0.00
RNL	\$0.00
SUB-TOTAL ESTIMATED OUTSIDE SERVICES	<u>\$0.00</u>

SUMMARY

TOTAL ESTIMATED COST	<u>\$683,481.00</u>
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DERIVATION OF MAN-HOURS

Section 3.0

Master Project Activities

Subtask	Description	CLASSIFICATION						Key Scope Assumptions for Man-hours
		Project Manager	Deputy Project Manager	Project Engineer	CADD Technician	Clerical	TOTAL	
								This section represents the effort involved to complete those tasks that are not specifically related to an individual project but will have an impact on all projects
3.3	Corridor Improvement Program	2,160	1,662	-	-	-	3,822	Develop and Maintain Corridor Improvement Program
2.4	Initial Utility Meeting	6	6	6	2	-	20	Assume one (1) Meeting
2.5	Landscape Inventory	6	-	8	-	-	14	Coordinate with J2 on developing inventory of existing landscape
2.6	Landscape Standards	6	-	8	4	-	18	Coordinate with J2 on developing corridor landscape standards
2.7	Building Inventory	6	-	8	-	-	14	Coordinate with RNL on developing inventory of existing buildings
2.8	Architectural Standards	6	-	8	4	-	18	Coordinate with RNL on developing corridor architectural standards
2.9	Land Use Analysis	8	-	12	8	-	28	Coordinate with RNL on preparing a land use analysis of the corridor
2.1	Lighting Inventory	6	-	8	-	-	14	Coordinate with SWTE on developing an inventory of existing street lights
2.11	Typical Roadway Cross Sections	4	-	8	12	-	24	Review City of Chandler x-section and prepare "master" drawing of all sections
2.12	Right-of-Way Needs	12	-	32	40	-	84	Based on typical roadway sections determine preliminary right-of-way needs
2.12	Legal Descriptions	43	-	86	-	-	129	Review legal descriptions Assume 86 legals
2.13	Phase I Environmental Site Assessment	6	-	8	-	-	14	Review Phase I ESA prepared by Ninyo & Moore
2.13	Phase II Environmental Site Assessment	8	-	12	-	-	20	Review Phase II ESA's prepared by Ninyo & Moore
2.14	Preliminary Cost Estimates	32	-	80	-	-	112	Prepared preliminary construction cost estimates for budgeting purposes
2.15	Public Outreach & Involvement	32	-	-	-	-	32	Assist in preparation of the PIP Review Final PIP
2.16	Water / Sewer Model Assessment	16	-	12	-	-	28	Review study prepared by Carollo
2.17	Survey Control	6	-	8	12	-	26	Coordinate with CEI Survey Dept.
	Subtotal	2,363	1,668	304	82	-	4,417	

DERIVATION OF COST PROPOSAL SUMMARY

Section 4.0 - Meetings

ESTIMATED DIRECT LABOR

CLASSIFICATION	ESTIMATED MAN-HOURS	AVG. HOURLY RATE	LABOR COSTS
Project Manager	210	\$166	\$34,800
Deputy Project Manager	144	\$148	\$21,373
Project Engineer	166	\$119	\$19,787
CADD Technician	122	\$99	\$12,051
Clerical	42	\$51	\$2,140
Total Hours	684		
SUB-TOTAL DIRECT LABOR			\$90,151

ESTIMATED DIRECT EXPENSES

	COST
Mileage	\$0
Photos	\$0
Submittals	\$0
SUB-TOTAL ESTIMATED EXPENSES	\$0

ESTIMATED OUTSIDE SERVICES

	COST
CEI	\$0
Pinnacle One	\$0
SW Traffic Engineering	\$0
J2	\$0
Ninyo & Moore (Geotechnical)	\$0
Ninyo & Moore (ESA)	\$0
Ninyo & Moore (SWPPP)	\$0
MakPro	\$0
Carollo	\$0
RNL	\$0
SUB-TOTAL ESTIMATED OUTSIDE SERVICES	\$0

SUMMARY

TOTAL ESTIMATED COST	\$90,151
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DERIVATION OF MAN-HOURS

**Section 4.0
Meetings**

Subtask	Description	CLASSIFICATION						TOTAL	Key Scope Assumptions for Man-hours
		Project Manager	Deputy Project	Project Engineer	CADD Technician	Clerical			
								This section represents the effort involved to prepare for, conduct and summarize project meetings for the contract duration of 24 months	
4.1	Public Open House Meetings	30	24	24	12	6	96	Three meetings per year for 2 years = 6 Meetings	
4.1	Weekly City/Consultant Meetings	40	32	32	24	8	136	One meeting per week for the 1st two months = 8 meetings	
4.3	Monthly City/Consultant Meetings	110	88	88	66	22	374	One Meeting per month following 1st two months = 22 Meetings	
4.4	Business Group/Stakeholder Meetings	18	-	18	12	6	54	Three meetings per year for 2 years = 6 Meetings	
4.5	Transportation Commission Meetings	6	-	2	4	-	12	Assume 2 meetings	
4.6	City Council Meetings	6	-	2	4	-	12	Assume 2 meetings	
	Subtotal	210	144	166	122	42	684		

DERIVATION OF COST PROPOSAL SUMMARY
Section 5.0 - Design Activities

ESTIMATED DIRECT LABOR			
CLASSIFICATION	ESTIMATED MAN-HOURS	AVG. HOURLY RATE	LABOR COSTS
Project Manager	1,214	\$165.71	\$201,174.88
Deputy Project Manager	1,383	\$148.42	\$205,265.82
Project Engineer	3,055	\$119.20	\$364,150.82
CADD Technician	3,462	\$98.78	\$341,984.03
Clerical	208	\$50.96	\$10,599.22
Total Hours	9322		
SUB-TOTAL DIRECT LABOR			<u>\$1,123,174.77</u>
ESTIMATED DIRECT EXPENSES			
			COST
Project Expenses			\$30,445.00
SUB-TOTAL ESTIMATED EXPENSES			<u>\$30,445.00</u>
ESTIMATED OUTSIDE SERVICES (Allowance)			
			COST
SUB-TOTAL ESTIMATED OUTSIDE SERVICES			<u>\$0.00</u>
SUMMARY			
TOTAL ESTIMATED COST			<u>\$1,153,620.00</u>

DERIVATION OF MAN-HOURS

Section 5.0
Design Activities

Subtask	Description	CLASSIFICATION						TOTAL	Expenses (\$)	Key Scope Assumptions for Man-hours This section represents the effort involved to prepare final construction documents for the projects identified in the Scope of Work
		Project Manager	Deputy Project	Project Engineer	CADD Technician	Clerical				
5.1a	Arizona Avenue (Boston to SR 202L)	183	341	808	888	44	2,264	10,082		
5.1b	Fairview Street (Palm Lane to Delaware St.)	256	278	634	592	46	1,806	4,925		
5.1c	Frye Road (California St. to Washington St.)	290	245	608	698	38	1,879	5,049		
5.1d1	Washington Street (Boston St. to Pecos Rd.)	326	354	847	1,104	52	2,683	8,264		
5.1e	Morelos Street (Washington St. to Arizona Ave.)	159	165	158	180	28	690	2,125		
	MCESD Review Fees 6 @ \$500							3,000		
	Subtotal	1,214	1,383	3,055	3,462	208	9,322	33,445		

WATER/WASTEWATER CAPACITY ANALYSIS AND DESIGN

PREDESIGN, DETAILED DESIGN AND POST DESIGN SERVICES		Categories							Task Sub Total
		Senior Professional	Lead Project Professional	Professional	Senior Technician	Technician	Clerical	Subtotals	
Task 1	PROJECT MANAGEMENT								
1.1	Project Progress Meetings (assume 30 meetings)	12	180	24	0	0	0	216	
1.2	Stake Holder Meetings - No attendance by Carollo	0	0	0	0	0	0	0	
1.3	Public Meetings - No attendance by Carollo	0	0	0	0	0	0	0	
	Subtotal Task 1.0	12	180	24	0	0	0	216	\$41,899
Task 2	PRE-DESIGN SERVICES								
2.1	Water & Sewer System Computer Model Assessment	4	16	78	12	16	8	134	
2.2	Development of Technical Memorandums & Cost Estimates	4	18	70	36	20	12	160	
	Subtotal Task 2.0	8	34	148	48	36	20	294	\$42,194
Task 3	DETAILED DESIGN SERVICES								
3.1	Plans, Specifications and Cost Estimates	2	8	40	28	36	24	138	
	Subtotal Task 3.0	2	8	40	28	36	24	138	\$16,969
Task 4	CONSTRUCTION DOCUMENTS - by Project								
4.1	Arizona Avenue - No Water or Sewer lines	0	0	0	0	0	0	0	
4.2	Fairview Street Loop (9,400 LF)	5	35	132	165	368	4	709	
4.3	Frye Road (1,100 LF)	4	19	40	65	112	4	244	
4.4	Washington Street (2,500 LF)	4	25	96	75	168	4	372	
4.5	Washington Street (1,500 LF)	4	21	76	57	128	16	302	
4.6	New Morelos Street (450 LF)	4	8	46	40	88	0	186	
	Subtotal Task 4.0	21	108	390	402	864	28	1813	\$219,495
Task 5	POST DESIGN SERVICES - NOT IN CONTRACT								
Total Labor		43	330	602	478	936	72	2461	
	Total Labor Cost Not To Exceed (NTE)	\$9,384	\$65,315	\$91,655	\$63,072	\$85,504	\$5,627	\$320,556	\$320,556
DIRECT COST ALLOWANCES									
1)	Mileage during pre-design and design (from PHX to City) - 24 months.							\$3,000	130.25 \$ / MH average
2)	Mileage during post-design phase - 12 months. NOT IN CONTRACT.							\$0	
3)	Reproduction and mylars for Record Drawings. (6 projects) RECORD DRAWINGS ARE NOT IN CONTRACT.							\$2,800	
	NOTES							Total Direct Cost Allowances	\$5,800
1)	Assume the project duration is 24 months, including Post Design services.								
2)	Assume the MCESD review fees are expedited, and are paid by Tristar or the City of Chandler.								
3)	Assume Carollo DOES NOT attend weekly meetings with CM@R during CONSTRUCTION phase.							TOTAL CONTRACT AMOUNT	\$326,356
	Carollo's 2008 Fee Schedule Rates.	\$215	\$195	\$150	\$130	\$90	\$77		
	Increase fee by 0.03 to account for multiple year period - COLA.	221	201	155	134	93	79		
	Add both fee rates together and divide by 2 for average fee rate.	\$218	\$198	\$152	\$132	\$91	\$78		

Survey/Mapping, Right-of-Way Legal Descriptions/Exhibits

DERIVATION OF MAN-HOURS

Design Survey Cost

Subtask	Description	1-Man Robotic Field Crew	2-Man Robotic Field Crew	2-Man GPS Field Crew	2-Man Conventional Field Crew	Survey Office Technician	Survey Coordinator	Arizona RLS	Total Manhours	Total Cost
1	Control Survey	-	-	40	20	19	40	30	149	\$20,700
2	Arizona Avenue (Boston to SR 202L)	-	40	29	-	166	30	10	275.0	\$32,760
3	Fairview Street (Palm Lane to Delaware St.)	-	31	29	-	69.5	18	6	153.5	\$19,740
4	Frye Road (California St. to Washington St.)	-	17	15.5	-	38	10	4	84.5	\$10,850
5	Washington Steet (Fairview St. to Boston St.)	-	20	24.5	-	70	15	6	135.5	\$16,870
6	Washington Steet (Pecos Rd. to Fairview St.)	-	36	20	-	33	12	5	106	\$14,560
7	Morelos Street (Washington St. to Arizona Ave.)	-	12	9	-	23	5	2	51	\$6,580
8	Utility Survey	-	10	25	-	60	8	6	109	\$13,580
	Subtotal	-	166.0	192.0	20.0	478.5	138.0	69.0	1,063.5	\$135,640

Master Project Activities:

J2 Master Project Activities	\$	142,504.99
	Subtotal:	<u>\$ 142,504.99</u>

Master Project Activities Total: \$ 142,504.99

Meeting Allowance:

J2 Meetings	\$	65,965.11
	Subtotal:	<u>\$ 65,965.11</u>

Meeting Allowance Total: \$ 65,965.11

Design Activities:

J2 Project A (Arizona Avenue - SR 202L to Chandler Boulevard) Design Services	\$	213,032.30
Structural Design Allowance Project A (Arizona Avenue - SR 202L to Chandler Boulevard)	\$	15,000.00
J2 Project B (Fairview Street - Palm Lane to Delaware St.) Design Services	\$	129,622.37
J2 Project C (Frye Road - California to Washington) Design Services	\$	72,693.22
J2 Project D (Washington Street - Boston to Pecos) Design Services	\$	182,199.47

Subtotal Design: \$ 612,547.36

Base Design Services: \$ 612,547.36

Total Fee All Services: *

\$ 821,017.46

(Master Project+ Meetings + Design for Each Project)

* Fees do not include post design services.

The estimated hours identified above are based on information from the Scope of Work provided, and any adjustments Tri-Star provided to the project team. The contract period for this work is 24 months and public involvement/outreach services beyond that timeframe will need to be renegotiated. The table below provides proposed costs for the above detailed public involvement services. **This estimate assumes an hourly rate of \$110 per hour for MakPro Services and \$95 per hour for bilingual services – we bill only for the actual hours worked.** This estimate includes incidental local telephone calls, process design, meeting preparation and facilitation, meeting materials and equipment, and local transportation. It should be noted that reimbursable expenses have been estimated and may fluctuate based on manner and quantity of printing, and method and extent of distribution.

Scope of Work / Proposed Cost Estimate

Public Involvement Services	Total Hours (see Estimated Hours Table)	Fees	Reimb Expenses	Total Cost
3.16 Public Involvement Plan	40 hrs	\$4,400		\$4,400
3.16 Project Hotline	96 hrs	\$10,560	\$6,000	\$16,560
3.16 Community Newsletters	48 hrs	\$5,280	\$24,000	\$29,280
3.16 Project Website	68 hrs	\$7,480	\$1,000	\$8,480
4.1 Public Meetings	60 hrs	\$6,600	\$6,000	\$12,600
4.2/4.3 Project Meetings	120 hrs	\$13,200		\$13,200
4.4 Stakeholder Meetings	60 hrs	\$6,600	\$2,000	\$8,600
Other Allowances	60 hrs	\$6,600		\$6,600
Project Construction	96 hrs	\$10,560	\$2,000	\$12,560
Project Logistics (Bilingual Svcs)	140 hrs	\$13,300		\$13,300
Total Proposed Cost:	788 hrs	\$84,580	\$41,000	\$125,580

Estimated Fees for Phase I Environmental Site Assessment

FEE ESTIMATE FOR GEOTECHNICAL SERVICES
SOUTH ARIZONA AVENUE ENTRY CORRIDOR IMPROVEMENTS
NINYO & MOORE

Project Logistics/Coordination/Meetings

Classification	Estimated Hours	Hourly Rate	Labor Costs
Principal		\$ 140	\$ -
Senior Project Engineer/Geologist	10	\$ 115	\$ 1,150
Project Engineer/Geologist	30	\$ 110	\$ 3,300
Senior Staff Engineer/Geologist	10	\$ 95	\$ 950
Staff Engineer/Geologist		\$ 90	\$ -
Materials Division Manager		\$ 80	\$ -
Senior Field/Laboratory Technician		\$ 64	\$ -
Field/Laboratory Technician		\$ 59	\$ -
Technician/Drafting		\$ 65	\$ -
Secretary/Clerical		\$ 45	\$ -
	<u>50</u>		<u>\$ 5,400</u>

Site Reconnaissance and Markout

Classification	Estimated Hours	Hourly Rate	Labor Costs
Principal		\$ 140	\$ -
Senior Project Engineer/Geologist		\$ 115	\$ -
Project Engineer/Geologist		\$ 110	\$ -
Senior Staff Engineer/Geologist		\$ 95	\$ -
Staff Engineer/Geologist		\$ 90	\$ -
Materials Division Manager		\$ 80	\$ -
Senior Field/Laboratory Technician		\$ 64	\$ -
Field/Laboratory Technician		\$ 59	\$ -
Technician/Drafting	35	\$ 65	\$ 2,275
Secretary/Clerical		\$ 45	\$ -
	<u>35</u>		<u>\$ 2,275</u>

Field Exploration

Classification	Estimated Hours	Hourly Rate	Labor Costs
Principal		\$ 140	\$ -
Senior Project Engineer/Geologist		\$ 115	\$ -
Project Engineer/Geologist		\$ 110	\$ -
Senior Staff Engineer/Geologist		\$ 95	\$ -
Staff Engineer/Geologist	70	\$ 90	\$ 6,300
Materials Division Manager		\$ 80	\$ -
Senior Field/Laboratory Technician		\$ 64	\$ -
Field/Laboratory Technician		\$ 59	\$ -
Technician/Drafting		\$ 65	\$ -
Secretary/Clerical		\$ 45	\$ -
	<u>70</u>		<u>\$ 6,300</u>

Ninyo & Moore Project No. 602023001
March 5, 2008

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Ninyo & Moore

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FEE ESTIMATE FOR SWPPP SERVICES
ARIZONA AVENUE IMPROVEMENTS
NINYO & MOORE

Project Logistics/Coordination/Management

Classification	Estimated Hours	Hourly Rate	Labor Costs
Principal	5	\$ 140	\$ 700
Senior Project Engineer/Geologist	16	\$ 115	\$ 1,840
Project Engineer/Geologist	12	\$ 110	\$ 1,320
Senior Staff Engineer/Geologist		\$ 95	\$ -
Staff Engineer/Geologist	16	\$ 90	\$ 1,440
Materials Division Manager		\$ 80	\$ -
Senior Field/Laboratory Technician		\$ 64	\$ -
Field/Laboratory Technician		\$ 59	\$ -
Technician/Drafting		\$ 65	\$ -
Secretary/Clerical	10	\$ 45	\$ 450
	59		\$ 5,750

Site Reconnaissance

Classification	Estimated Hours	Hourly Rate	Labor Costs
Principal		\$ 140	\$ -
Senior Project Engineer/Geologist	8	\$ 115	\$ 920
Project Engineer/Geologist		\$ 110	\$ -
Senior Staff Engineer/Geologist		\$ 95	\$ -
Staff Engineer/Geologist	8	\$ 90	\$ 720
Materials Division Manager		\$ 80	\$ -
Senior Field/Laboratory Technician		\$ 64	\$ -
Field/Laboratory Technician		\$ 59	\$ -
Technician/Drafting		\$ 65	\$ -
Secretary/Clerical		\$ 45	\$ -
	16		\$ 1,640

Master SWPPP Report Preparation

Classification	Estimated Hours	Hourly Rate	Labor Costs
Principal	8	\$ 140	\$ 1,120
Senior Project Engineer/Geologist	16	\$ 115	\$ 1,840
Project Engineer/Geologist	16	\$ 110	\$ 1,760
Senior Staff Engineer/Geologist		\$ 95	\$ -
Staff Engineer/Geologist	32	\$ 90	\$ 2,880
Materials Division Manager		\$ 80	\$ -
Senior Field/Laboratory Technician		\$ 64	\$ -
Field/Laboratory Technician		\$ 59	\$ -
Technician/Drafting	48	\$ 65	\$ 3,120
Secretary/Clerical	16	\$ 45	\$ 720
	136		\$ 11,440

Total Man Hours 211 \$ 18,830

Other Fees

Mileage \$ 500

Total Proposed Fee \$ 19,330

Ninyo & Moore Proposal No. P-92090
December 28, 2007
(Revised 1/3/2008)

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**RNL Fee Estimate
South Arizona Avenue Design**

Tristar Task Number	Description	Principal \$210	K. Anderson \$140	Dawe \$150	Alexander \$85	Lakey \$135	Lee \$90	Devine \$65	Consultant \$	
2.6 Landscape Standards-Street ROW										
	Review Only		16		16	16				
2.7 Update & Supplement Existing Land Use Conditions										
	Drive & Walk Thru Survey		2		16					
	Expand Photo Display of Properties				16					
	Create Map of Existing Land Uses, Businesses & Conditions		2		16					
2.8 Architectural Standards-Private Dev't.										
	Precedents & Annotated Outline		8	12	24					
	Open House		6	6	16					
	1st Draft Guidelines		48	32	60		60	40		
	Developer/Stakeholder Review		16		8					
	PC or other Reviews (2)		16		16					
	Stakeholder Review		8		12					
	2nd Draft Design Standards		8	24	60		60	48		
	Review w/PC or others (2)		12	12						
	Finalize Document		32	16	40		40	32		
2.9 Land Use Analysis										
										\$10,000
2.11 Roadway Sections										
	Review Roadway Sections w/Design Consultant		16			16				
2.12 Right-of-Way Needs										
	Review Right-of-Way Needs w/Design Consultant		8			16				
	Reimbursables									\$3,498
	Total Hours	0	198	102	300	48	160	120		928
	Billing Rate	\$210	\$140	\$150	\$85	\$135	\$90	\$65		
	Total Cost for Section 2.0	\$0	\$27,720	\$15,300	\$25,500	\$6,480	\$14,400	\$7,800	\$18,498	\$115,898
3.0 Meetings & Expenses										
	Public Open Houses (2)		12							
	Weekly City/Consultant (8)		24							
	Monthly City/Consultant (0)									
	Quarterly Internal Stakeholder (2)		12							
	Quarterly Business Group (2)		12							
	Bi-Weekly Consultant Team (9) (reduce by Notes on Meetings: each mtg. = 2 hours meeting time + 2 hrs prep & travel, and 2 hours reporting time=6 hrs each person)		50							
	Total Hours	0	110	0	0	0	0	0		110
	Billing Rate	\$210	\$140	\$150	\$85	\$135	\$90	\$65		
	Total Cost for Section 3.0	\$0	\$15,400	\$0	\$0	\$0	\$0	\$0		\$15,400
4.11 Street Light Plans										
	Review Street Light Locations w/Design Consultant		8			8				
4.13 Landscape & Irrigation Plans										
	Landscape & Streetscape Design w/Design Consultant		24			24				
	Total Hours	0	32	0	0	32	0	0		64
	Billing Rate	\$210	\$140	\$150	\$85	\$135	\$90	\$65		
	Total Cost for Section 4.0	\$0	\$4,480	\$0	\$0	\$4,320	\$0	\$0		\$8,800
Tristar Task Number	Description	Principal \$210	K. Anderson \$140	Dawe \$150	Alexander \$85	Lakey \$135	Lee \$90	Devine \$65	Consultant \$	
	Hours	0	340	102	300	80	160	120		1102
	Fee	\$0	\$47,600	\$15,300	\$25,500	\$10,800	\$14,400	\$7,800		
	Reimbursables at 7%	\$0	\$3,332	\$1,071	\$1,785	\$756	\$1,008	\$546		
	Consultants								\$10,000	
	Total RNL Project Fee	\$0	\$60,932	\$16,371	\$27,285	\$11,566	\$16,408	\$8,346	\$10,000	\$139,898

Traffic Analysis, Signing, Marking, Street Lighting

LABOR COSTS							
Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Summary							
1.0	Master Project Activities (Lighting Inventory)	0	0	60	32	0	92
2.0	Meetings	84	44	0	0	0	128
3.0	Design Activities						
	Arizona Ave, Loop 202 to Boston St	99	333	382	0	10	824
	Fairview St, Delaware Street to Palm Lane	23	85	56	0	8	172
	Frye Rd, California St to Washington St	19	69	44	0	8	140
	Washington St, Boston St to Pecos St	29	104	84	0	8	225
	New Morelos St, Washington St to Arizona Ave	5	36	22	0	2	65
	Subtotal	259	671	648	32	36	1646
	Rates Cost	\$ 165.00	\$ 125.00	\$ 105.00	\$ 90.00	\$ 70.00	
		\$42,735.00	\$83,875.00	\$68,040.00	\$2,880.00	\$2,520.00	\$200,050.00
						Labor Costs	\$200,050.00
EXPENSES							
		Quantity	@	Rate	Fee		
	Mileage (meetings and field visits)	3670	@	\$ 0.50	\$1,835.00		
	Deliveries/Postage	20	@	\$ 30.00	\$ 600.00		
	Printing (8 1/2 x 11)	425	@	\$ 0.10	\$ 42.50		
	Printing (11 x 17)	700	@	\$ 0.15	\$ 105.00		
	Plotting (Bond - 24" x 36") - interim submittals	180	@	\$ 5.00	\$ 900.00		
	Plotting (Mylar - 24" x 36") - final submittal	44	@	\$ 15.00	\$ 660.00		
	Traffic Counts	0	@	\$ 500.00	\$ -		
	Total Expenses					Expenses Total	\$ 4,142.50
						Project Total	\$204,192.50

Master Project Activities (Lighting Inventory)

LABOR COSTS

Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Pre-Design (Lighting Inventory)							
1.0	Site Reconnaissance/Data Collection	0	0	26	22	0	48
	Site Visit (2 days)	0	0	16	16	0	32
	Data Collection (as-builts, info from City and APS, etc)	0	0	10	6	0	16
2.0	Create Existing Lighting Master File	0	0	26	10	0	36
	Develop Draft File	0	0	20	6	0	26
	Finalize File	0	0	6	4	0	10
3.0	General Items	0	0	8	0	0	8
	Meeting with City to present Draft Master File	0	0	4	0	0	4
	Meeting with APS to present Draft Master File	0	0	4	0	0	4
	Subtotal	0	0	60	32	0	92
	Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
	Cost	\$0.00	\$0.00	\$6,300.00	\$2,880.00	\$0.00	\$9,180.00

Labor Costs \$9,180.00

EXPENSES

	Quantity		Rate	Fee
Mileage (field visits and collecting information)	270	@	\$0.50	\$135.00
Deliveries/Postage	0	@	\$30.00	\$0.00
Printing (8 1/2 x 11)	0	@	\$0.10	\$0.00
Printing (11 x 17)	0	@	\$0.15	\$0.00
Plotting (Bond - 24" x 36") - 2 sets of 2 sheets each	4	@	\$5.00	\$20.00
Plotting (Mylar - 24" x 36") -	0	@	\$15.00	\$0.00
Total Expenses				Expenses Total \$155.00

Project Total \$9,335.00

Meetings

LABOR COSTS							
Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Meetings							
	Public Open House Mtgs (assume 6 @ 4 hrs ea)	24	0	0	0	0	24
	Weekly City/Consultant Mtgs (assume 4 @ 4 hrs ea)	16	0	0	0	0	16
	Monthly Consultant Team Mtgs (assume 22 @ 4 hrs ea)	44	44	0	0	0	88
	Subtotal	84	44	0	0	0	128
	Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
	Cost	\$13,860.00	\$5,500.00	\$0.00	\$0.00	\$0.00	\$19,360.00

Labor Costs \$19,360.00

EXPENSES	Quantity	Rate	Fee
Mileage (46 @ 50 miles each)	2300	@ \$0.50	\$1,150.00
Deliveries/Postage	0	@ \$30.00	\$0.00
Printing (8 1/2 x 11)	0	@ \$0.10	\$0.00
Printing (11 x 17)	0	@ \$0.15	\$0.00
Plotting (Bond - 24" x 36") -	0	@ \$5.00	\$0.00
Plotting (Mylar - 24" x 36") -	0	@ \$15.00	\$0.00
Total Expenses			Expenses Total \$1,150.00

Project Total \$20,510.00

LABOR COSTS

Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Arizona Avenue, L202 to Boston Street							
1.0	Site Reconnaissance/Data Collection	8	10	8	0	2	28
	Site Visit	8	8	8	0	0	24
	Data Collection (as-builts, info from City, etc)	0	2	0	0	2	4
2.0	Traffic Signal Design	45	134	192	0	0	371
	Index Sheet	1	2	8	0	0	11
	Arizona Ave/Fairview St Plan View Sheet	6	16	20	0	0	42
	Arizona Ave/Fairview St Schedule/Diagram Sheet	6	20	24	0	0	50
	Arizona Ave/Frye Rd Plan View Sheet	6	18	24	0	0	48
	Arizona Ave/Frye Rd Schedule/Diagram Sheet	6	22	28	0	0	56
	Arizona Ave/North Ped Crossing Plan View Sheet	5	12	20	0	0	37
	Arizona Ave/North Ped Crossing Schedule/Diagram Sheet	5	16	24	0	0	45
	Arizona Ave/South Ped Crossing Plan View Sheet	5	12	20	0	0	37
	Arizona Ave/South Ped Crossing Schedule/Diagram Sheet	5	16	24	0	0	45
3.0	Roadway/Pedestrian Lighting	9	42	44	0	2	97
	Index Sheet	1	2	8	0	0	11
	Lighting Analysis	2	16	6	0	2	26
	Plan View Sheets (assume 3)	6	24	30	0	0	60
4.0	Landscape/Monument Sign Lighting	7	44	54	0	0	105
	Plan View Sheets (assume 3)	3	18	24	0	0	45
	Detail Sheets (assume 2)	4	26	30	0	0	60
5.0	Signing/Marking	9	40	56	0	0	105
	General Notes Sheet	1	4	10	0	0	15
	Plan View Sheets (assume 4)	6	28	36	0	0	70
	Detail Sheets (assume 1)	2	8	10	0	0	20
6.0	General Items	21	63	28	0	6	118
	Comment Resolution Mtgs (assume 3 @ 4 hrs ea)	12	12	0	0	0	24
	Meeting with City Traffic Department	3	3	0	0	0	6
	Coordination with APS for Power Sources	0	4	4	0	0	8
	Special Provisions	4	20	0	0	4	28
	Quantities/Opinion of Probable Cost	2	24	24	0	2	52
Subtotal		99	333	382	0	10	824

		Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
		Cost	\$16,335.00	\$41,625.00	\$40,110.00	\$0.00	\$700.00	\$98,770.00
								Labor Costs \$98,770.00
EXPENSES		Quantity			Rate	Fee		
Mileage (5 @ 50 miles each)		250	@		\$0.50	\$125.00		
Deliveries/Postage		4	@		\$30.00	\$120.00		
Printing (8 1/2 x 11)		250	@		\$0.10	\$25.00		
Printing (11 x 17)		500	@		\$0.15	\$75.00		
Plotting (Bond - 24" x 36") - 24 sheets @ 4 submittals		96	@		\$5.00	\$480.00		
Plotting (Mylar - 24" x 36") - 24 sheets @ final submittal		24	@		\$15.00	\$360.00		
		Total Expenses						Expenses Total \$1,185.00
								Project Total \$99,955.00

Fairview Street, Delaware Street to Palm Lane

LABOR COSTS							
Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Fairview Street, Delaware Street to Palm Lane							
1.0	Site Reconnaissance/Data Collection	6	8	0	0	0	14
	Site Visit	6	6	0	0	0	12
	Data Collection (as-builts, info from City, etc)	0	2	0	0	0	2
2.0	Roadway Lighting	4	24	18	0	2	48
	Lighting Analysis	1	10	2	0	2	15
	Plan View Sheets (assume 2)	3	14	16	0	0	33
3.0	Signing/Marking	6	24	32	0	0	62
	General Notes Sheet	1	2	6	0	0	9
	Plan View Sheets (assume 2)	3	14	16	0	0	33
	Detail Sheets (assume 1)	2	8	10	0	0	20
4.0	General Items	7	29	6	0	6	48
	Comment Resolution Mtgs (assume 3 @ 3 hrs ea)	3	6	0	0	0	9
	Meeting with City Traffic Department	0	3	0	0	0	3
	Coordination with APS for Power Sources	0	2	2	0	0	4
	Special Provisions	2	10	0	0	4	16
	Quantities/Opinion of Probable Cost	2	8	4	0	2	16
	Subtotal	23	85	56	0	8	172
	Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
	Cost	\$3,795.00	\$10,625.00	\$5,880.00	\$0.00	\$560.00	\$20,860.00
	Labor Costs \$20,860.00						
EXPENSES							
	Quantity		Rate	Fee			
	Mileage (5 @ 50 miles each)	250	@	\$0.50	\$125.00		
	Deliveries/Postage	4	@	\$30.00	\$120.00		
	Printing (8 1/2 x 11)	50	@	\$0.10	\$5.00		
	Printing (11 x 17)	50	@	\$0.15	\$7.50		
	Plotting (Bond - 24" x 36") - 6 sheets @ 4 submittals	24	@	\$5.00	\$120.00		
	Plotting (Mylar - 24" x 36") - 6 sheets @ final submittal	6	@	\$15.00	\$90.00		
	Total Expenses				Expenses Total	\$467.50	
	Project Total \$21,327.50						

Frye Road, California Street to Washington Street

LABOR COSTS							
Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Frye Road, California Street to Washington Street							
1.0	Site Reconnaissance/Data Collection	4	6	0	0	0	10
	Site Visit	4	4	0	0	0	8
	Data Collection (as-builts, info from City, etc)	0	2	0	0	0	2
2.0	Roadway Lighting	3	16	12	0	2	33
	Lighting Analysis	1	8	2	0	2	13
	Plan View Sheets (assume 1)	2	8	10	0	0	20
3.0	Signing/Marking	5	18	26	0	0	49
	General Notes Sheet	1	2	6	0	0	9
	Plan View Sheets (assume 1)	2	8	10	0	0	20
	Detail Sheets (assume 1)	2	8	10	0	0	20
4.0	General Items	7	29	6	0	6	48
	Comment Resolution Mtgs (assume 3 @ 3 hrs ea)	3	6	0	0	0	9
	Meeting with City Traffic Department	0	3	0	0	0	3
	Coordination with APS for Power Sources	0	2	2	0	0	4
	Special Provisions	2	10	0	0	4	16
	Quantities/Opinion of Probable Cost	2	8	4	0	2	16
	Subtotal	19	69	44	0	8	140
	Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
	Cost	\$3,135.00	\$8,625.00	\$4,620.00	\$0.00	\$560.00	\$16,940.00
							Labor Costs \$16,940.00
EXPENSES							
		Quantity		Rate	Fee		
	Mileage (5 @ 50 miles each)	250	@	\$0.50	\$125.00		
	Deliveries/Postage	4	@	\$30.00	\$120.00		
	Printing (8 1/2 x 11)	50	@	\$0.10	\$5.00		
	Printing (11 x 17)	50	@	\$0.15	\$7.50		
	Plotting (Bond - 24" x 36") - 4 sheets @ 4 submittals	16	@	\$5.00	\$80.00		
	Plotting (Mylar - 24" x 36") - 4 sheets @ final submittal	4	@	\$15.00	\$60.00		
	Total Expenses					Expenses Total	\$397.50
							Project Total \$17,337.50

Washington Street, Boston Street to Pecos Road

LABOR COSTS

Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
Washington Street, Boston Street to Pecos Road							
1.0	Site Reconnaissance/Data Collection	6	9	0	0	0	15
	Site Visit	6	6	0	0	0	12
	Data Collection (as-builts, info from City, etc)	0	3	0	0	0	3
2.0	Roadway Lighting	7	32	32	0	2	73
	Lighting Analysis	1	8	2	0	2	13
	Plan View Sheets (assume 3)	6	24	30	0	0	60
3.0	Signing/Marking	9	34	46	0	0	89
	General Notes Sheet	1	2	6	0	0	9
	Plan View Sheets (assume 3)	6	24	30	0	0	60
	Detail Sheets (assume 1)	2	8	10	0	0	20
4.0	General Items	7	29	6	0	6	48
	Comment Resolution Mtgs (assume 3 @ 3 hrs ea)	3	6	0	0	0	9
	Meeting with City Traffic Department	0	3	0	0	0	3
	Coordination with APS for Power Sources	0	2	2	0	0	4
	Special Provisions	2	10	0	0	4	16
	Quantities/Opinion of Probable Cost	2	8	4	0	2	16
	Subtotal	29	104	84	0	8	225
	Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
	Cost	\$4,785.00	\$13,000.00	\$8,820.00	\$0.00	\$560.00	\$27,165.00

Labor Costs \$27,165.00

EXPENSES

	Quantity	Rate	Fee
Mileage (5 @ 50 miles each)	250	@ \$0.50	\$125.00
Deliveries/Postage	4	@ \$30.00	\$120.00
Printing (8 1/2 x 11)	50	@ \$0.10	\$5.00
Printing (11 x 17)	75	@ \$0.15	\$11.25
Plotting (Bond - 24" x 36") - 8 sheets @ 4 submittals	32	@ \$5.00	\$160.00
Plotting (Mylar - 24" x 36") - 8 sheets @ final submittal	8	@ \$15.00	\$120.00
Total Expenses			Expenses Total \$541.25

Project Total \$27,706.25

New Morelos Street, Washington Street to Arizona Avenue

LABOR COSTS

Task	Description	Senior Traffic Engineer	Traffic Engineer	Traffic Designer	Graphical	Project Assistant	Total
New Morelos Street, Washington Street to Arizona Avenue							
1.0	Site Reconnaissance/Data Collection	0	3	0	0	0	3
	Site Visit	0	3	0	0	0	3
2.0	Roadway Lighting	2	14	10	0	2	28
	Lighting Analysis	1	8	2	0	2	13
	Plan View Sheets (assume 1)	1	6	8	0	0	15
3.0	Signing/Marking	1	6	8	0	0	15
	Plan View/General Notes Sheet (assume 1)	1	6	8	0	0	15
4.0	General Items	2	13	4	0	0	19
	Comment Resolution Mtgs (assume 1 @ 3 hrs ea)	0	3	0	0	0	3
	Meeting with City Traffic Department (not required)	0	0	0	0	0	0
	Coordination with APS for Power Sources	0	2	2	0	0	4
	Special Provisions	1	4	0	0	0	5
	Quantities/Opinion of Probable Cost	1	4	2	0	0	7
	Subtotal	5	36	22	0	2	65
	Rates	\$165.00	\$125.00	\$105.00	\$90.00	\$70.00	
	Cost	\$825.00	\$4,500.00	\$2,310.00	\$0.00	\$140.00	\$7,775.00
							Labor Costs \$7,775.00
EXPENSES		Quantity		Rate	Fee		
	Mileage (2 @ 50 miles each)	100	@	\$0.50	\$50.00		
	Deliveries/Postage	4	@	\$30.00	\$120.00		
	Printing (8 1/2 x 11)	25	@	\$0.10	\$2.50		
	Printing (11 x 17)	25	@	\$0.15	\$3.75		
	Plotting (Bond - 24" x 36") - 2 sheets @ 4 submittals	8	@	\$5.00	\$40.00		
	Plotting (Mylar - 24" x 36") - 2 sheets @ final submittal	2	@	\$15.00	\$30.00		
Total Expenses						Expenses Total	\$246.25
							Project Total \$8,021.25