



**BOARD OF SUPERVISORS AGENDA ITEM REPORT**  
**CONTRACTS / AWARDS / GRANTS**

☐ Award ☒ Contract ☐ Grant

Requested Board Meeting Date: 10/15/19

\* = Mandatory, information must be provided

or Procurement Director Award ☐

**\*Contractor/Vendor Name/Grantor (DBA):**

Structural Grace, LLC (Headquarters: Tucson, AZ)

**\*Project Title/Description:**

Sunset Road: I-10 to River Road (4SRRIV)

**\*Purpose:**

Award: Contract No. CT-TR-20-120. This award of contract is recommended to the highest qualified consultant in the amount of \$1,079,669.03 for a contract term from 10/15/19 to 6/30/22 for a Design Concept Report (DCR) of Sunset Road: I-10 to River Road. Administering Department: Transportation.

**\*Procurement Method:**

Solicitation for Qualifications No. SFQ-PO-2000002 was conducted in accordance with A.R.S. § 34-603 and Pima County Board of Supervisors Policy D 29.1. Three (3) responsive statements of qualifications were received and evaluated by a seven (7) member committee using qualifications and experience-based selection criteria. As a result of the scoring of the written statements of qualifications, the highest qualified consultant is recommended for award.

Attachments: Notice of Recommendation for Award and Contract.

**\*Program Goals/Predicted Outcomes:**

The goal of the project is to develop a DCR and Environmental Assessment (EA) to connect Sunset Road from I-10 to River Road.

**\*Public Benefit:**

The DCR will be used for the basis of design and the EA will be used to clear the Sunset Road project for environmental purposes.

**\*Metrics Available to Measure Performance:**

The performance will be measured using the consultant evaluation process as outlined in BOS Policy D29.1(E)(II).

**\*Retroactive:**

No.

TO: CUB 10-1-19

Ver. - 1

Pjs 196 (1)

**Contract / Award Information**

Document Type: CT Department Code: TR Contract Number (i.e., 15-123): 20-120  
Effective Date: 10/15/19 Termination Date: 06/30/22 Prior Contract Number (Synergen/CMS):  
☒ Expense Amount: \$\* 1,079,669.03 ☐ Revenue Amount: \$

\*Funding Source(s) required: Transportation Non-Bond Projects  
(RTA - 100%)

Funding from General Fund? ☐ Yes ☒ No If Yes \$ %

Contract is fully or partially funded with Federal Funds? ☐ Yes ☒ No

If Yes, is the Contract to a vendor or subrecipient?

Were insurance or indemnity clauses modified? ☐ Yes ☒ No

If Yes, attach Risk's approval.

Vendor is using a Social Security Number? ☐ Yes ☒ No

If Yes, attach the required form per Administrative Procedure 22-73.

**Amendment / Revised Award Information**

Document Type: Department Code: Contract Number (i.e., 15-123):

Amendment No.: AMS Version No.:

Effective Date: New Termination Date:

Prior Contract No. (Synergen/CMS):

☐ Expense or ☐ Revenue ☐ Increase ☐ Decrease Amount This Amendment: \$

Is there revenue included? ☐ Yes ☐ No If Yes \$

\*Funding Source(s) required:

Funding from General Fund? ☐ Yes ☐ No If Yes \$ %

**Grant/Amendment Information** (for grants acceptance and awards) ☐ Award ☐ Amendment

Document Type: Department Code: Grant Number (i.e., 15-123):

Effective Date: Termination Date: Amendment Number:

☐ Match Amount: \$ ☐ Revenue Amount: \$

\*All Funding Source(s) required:

\*Match funding from General Fund? ☐ Yes ☐ No If Yes \$ %

\*Match funding from other sources? ☐ Yes ☐ No If Yes \$ %

\*Funding Source:

\*If Federal funds are received, is funding coming directly from the  
Federal government or passed through other organization(s)?

Contact: Matthew Sage, CPPB; Procurement Officer

Department: Procurement

Department Director Signature/Date:

Deputy County Administrator Signature/Date:

County Administrator Signature/Date:

(Required for Board Agenda/Addendum Items)



## **NOTICE OF RECOMMENDATION FOR AWARD**

Date of Issue: September 24, 2019

The Pima County Department of Transportation hereby issues formal notice to respondents to Solicitation No. SFQ-PO-2000002 for Sunset Road: I-10 to River Road (4SRRIV) that the following listed respondent will be recommended for award as indicated below. The award action is scheduled to be performed by the Board of Supervisors on or after October 15, 2019.

Award is recommended to the Most Qualified Respondent.

**Structural Grace, LLC**

### **OTHER RESPONDENT FIRMS (Alphabetical Order):**

HDR Engineering, Inc.

Kimley-Horn and Associates, Inc.

Issued by: /s/ Matthew Sage

Telephone Number: (520) 724-8586

This notice is in compliance with Pima County Procurement Code §11.20.010(C).

Copy to: Pima County SBE via e-mail at SBE@pima.gov

41

**PIMA COUNTY DEPARTMENT OF TRANSPORTATION**

**PROJECT:** Sunset Road: I-10 to River Road (4SRRIV)

**CONSULTANT:** Structural Grace, LLC  
1430 East Fort Lowell Road, Suite 200  
Tucson, Arizona 85719

**CONTRACT NO.:** CT-TR-20-120

**AMOUNT:** \$1,079,669.03

**FUNDING:** Transportation Non-Bond projects  
(RTA - 100%)

**CONSULTANT SERVICES CONTRACT**

This Contract is entered into between Pima County, a body politic and corporate of the State of Arizona, hereafter called COUNTY, and Structural Grace, LLC, hereinafter called CONSULTANT, and collectively referred to as the Parties.

**WITNESSETH**

WHEREAS, COUNTY requires the services of a CONSULTANT registered in the State of Arizona and qualified to provide Design Engineering Services for the Sunset Road: I-10 to River Road Project (4SRRIV); and

WHEREAS, CONSULTANT is willing, qualified, and properly registered within the State of Arizona to provide such services; and

WHEREAS, based on CONSULTANT's representations in response to Pima County Solicitation No. SFQ-PO-2000002, CONSULTANT was determined to be the most qualified for this Project; and

WHEREAS, CONSULTANT has proposed to perform the work at a price acceptable to COUNTY.

NOW, THEREFORE, in consideration of the foregoing recitals and other valuable and good consideration, the parties hereto agree as follows:

**ARTICLE 1 – TERM AND EXTENSION/RENEWAL/CHANGES**

This Contract, as approved by the Board of Supervisors, commences on October 15, 2019, and terminates on June 30, 2022, unless sooner terminated or further extended pursuant to the provisions of this Contract.

COUNTY has the option to extend the contract termination date for purposes of project completion. Any modification or extension of the contract termination date must be by formal written amendment executed by the Parties.

**ARTICLE 2 – SCOPE OF SERVICES**

CONSULTANT agrees to provide Architectural and Engineering Design Services for the COUNTY as described in **EXHIBIT "A" - SCOPE OF SERVICES** (22 pages), an attachment to this contract, and to complete such services within the term and value of this contract as it may be modified in accordance with **Article 5**. Amendments and changes to the Scope must be approved by the Board of Supervisors or the Procurement Director, as required by the Pima County Procurement Code, before the work under the amendment commences.

### **ARTICLE 3 - DEFINITIONS**

**Other Direct Costs.** Other Direct Costs are those costs that can be specifically identified within this Contract, are required for performance of the Contract, and are actually incurred. This includes Subcontract or Subconsultant costs; reproduction, copy and printing costs; courier services; and similar costs specifically necessary for this Contract and approved by COUNTY.

**Cost Plus Fixed Fee.** The modified Cost Plus Fixed Fee (CPFF) is a compensation method that provides compensation to the Consultant for actual costs of Direct Labor, Indirect, and Other Direct Costs incurred up to a "not-to-exceed" amount, plus a fixed Fee amount for the successful performance of the work. The Fee amount may initially be determined as a percentage of the estimated not-to-exceed costs. Once negotiated, the Fee amount becomes fixed and does not vary with actual costs. The Fee may only be in accordance with **Article 5**.

**Critical Path Method.** The Critical Path Method (CPM) is a way of depicting the sequence of activities in a project, including interdependencies, and containing all activities needed for successful completion of the Work. Delay in the completion of activities on the critical path will extend the completion date.

**Direct Labor Costs.** Direct Labor Costs are the total number of allowable hours worked on the Project by each individual multiplied by the Labor Rate, identified in EXHIBIT "B" -COMPENSATION SCHEDULE.

**Fee.** Fee is the amount, independent of actual costs, that the CONSULTANT is allowed for assuming risk and to stimulate efficient contract performance. Fee includes compensation to CONSULTANT for both profit and unallowable costs. Efficient cost control will allow CONSULTANT to earn a higher profit margin without adjustment of the fee amount. Conversely, inefficient cost control will result in a lower profit margin.

**Float.** Float is the number of days by which an activity not on the critical path in a CPM network may be delayed before it extends the completion date.

**Labor Rates.** Labor rates are the actual cost of salary paid to employees of CONSULTANT and identified in EXHIBIT "B" – COMPENSATION SCHEDULE.

**Not to Exceed Cost.** The Not to Exceed Cost for a task is the sum of the agreed Direct Labor costs, indirect costs, and other reimbursable costs of the task defined in the original Project Baseline. Actual Direct Labor costs may be invoiced based on hours worked, per discipline, per task, or a percent complete by task for the period. CONSULTANT assumes all risk for providing the requested task/deliverables at or below the original estimated cost, unless an equitable adjustment to the scope and/or fee are made by amendment to the Contract. Any costs incurred by CONSULTANT beyond the not-to-exceed amount identified which are not attributable to any change in the project baseline are unallowable. Unallowable costs are compensated through the CONSULTANT's fixed Fee.

**Indirect Costs.** Indirect costs are at the overhead rate identified in EXHIBIT "B" – COMPENSATION SCHEDULE.

**Project Baseline.** The agreed Contract scope of services, total Not-to-Exceed CPFF, the allocation thereof among Contract tasks, and the accompanying schedule and expectations/assumptions upon which the scope of services and schedule are based, collectively constitute the Project Baseline.

### **ARTICLE 4 – COMPENSATION AND PAYMENT**

In consideration of the services specified in this Contract, COUNTY agrees to pay CONSULTANT on a modified Not-to-Exceed CPFF basis, not to exceed the total amount of this Contract. Cost is comprised of CONSULTANT's Direct Labor Costs, Indirect Costs and Other Direct Costs. CONSULTANT's fee will remain fixed and may be adjusted only as provided in **Article 5** and **Article 6**.

The total of all payments to CONSULTANT for services provided under this Contract will not exceed One Million Seventy-Nine Thousand Six Hundred and Sixty-Nine Dollars and Three Cents (\$1,079,669.03).

CONSULTANT's total CPFF will be allocated among the major tasks contemplated by this Contract in such manner that each major deliverable will have associated with it a not-to-exceed cost, plus a fixed fee amount, incorporated herein as **EXHIBIT "B" – COMPENSATION SCHEDULE (153 pages)**. CONSULTANT may

invoice monthly for the actual costs incurred plus a pro-rata portion of the fee amount for each task. CONSULTANT will calculate actual costs based on actual hours spent, to which the agreed overhead rate may be applied, plus Other Direct Costs. Actual Costs may then be represented as percentage of the "not to exceed" cost amount associated with that task on the CONSULTANT's invoice for billing purposes. Calculations and supporting data will be made available to COUNTY at any time, upon request. The cumulative payment for the actual costs of any task may not be more than the "not to exceed" cost amount associated with that task. Upon completion of the Scope of Work, (including acceptance by COUNTY of all associated deliverables), COUNTY will pay the balance of the fixed fee to CONSULTANT.

Hourly rates and all other rates included under this Contract will remain fixed throughout the term of the contract. COUNTY may consider adjustments to rates in connection with any extensions of the contract term or in accordance with EXHIBIT "B" – Compensation Schedule.

Unless otherwise agreed, CONSULTANT will submit invoices monthly. All invoices will be accompanied by a narrative description of the work performed during the period covered by the invoice, time accounting information, and an allocation of all direct costs, including reimbursable costs and subconsultant charges, to the tasks identified in the Scope of Services for which those costs were incurred. The time accounting information should be sufficient to show the workers and hours worked by day for the period covered by the invoice. Subconsultant charges must be supported by appropriate documentation with each separate invoice submitted.

For the period of record retention required under **Article 25**, COUNTY reserves the right to question any payment made under this Article and to require reimbursement therefor by setoff or otherwise for payments determined to be improper or contrary to the Contract or law.

CONSULTANT will not perform work in excess of the Contract Amount without prior authorization by an amendment executed by COUNTY. Work performed in excess of the Contract Amount without prior authorization by amendment is at CONSULTANT'S own risk. Additional Services identified in EXHIBIT "B" - COMPENSATION SCHEDULE, are services within the scope of this Contract but not included within the Tasks identified as of the effective date of this Contract. If ordered, CONSULTANT will invoice additional Services at the rates incorporated into this Contract as in EXHIBIT "B" - COMPENSATION SCHEDULE. COUNTY may add additional services throughout the term of the Contract by providing notice in writing to CONSULTANT. Hourly billable rates shown in EXHIBIT "B" - COMPENSATION SCHEDULE will only be adjusted by written amendment to the Contract. The Parties may add additional required professional classifications or disciplines to EXHIBIT "A" - SCOPE OF SERVICES by written amendment at any time.

COUNTY has ten (10) calendar days from the date of invoice to notify CONSULTANT of any invoicing discrepancies. COUNTY and CONSULTANT will meet to resolve any discrepancies before the invoice is approved or rejected for payment. Subconsultant charges must be supported by appropriate documentation upon request by COUNTY.

CONSULTANT will not perform work in excess of the Contract Amount without prior authorization by an amendment executed by COUNTY. Work performed in excess of the Contract Amount without prior authorization by amendment shall be at CONSULTANT'S own risk.

#### **ARTICLE 5 – PROJECT BASELINE AND ADJUSTMENTS**

- A. COUNTY and CONSULTANT have agreed upon the Project scope and the total CPFF, and will prepare a CPM-based schedule for the performance of the work. The schedule is based on assumptions and expectations agreed upon by the Parties. Schedule estimates for the timeframes associated with outside party activities, i.e. design and other reviews, and/or permits or other clearances do not represent commitments made by either outside agencies or the permit-granting entities of County. This Project Baseline represents a firm commitment by the Parties to complete the work within the schedule and total cost identified in the Baseline, subject to schedule variations by outside parties and other factors beyond the control of the Parties.
- B. Although the Baseline reflects the best estimates and expectations of the Parties at the time of agreement, there is an element of uncertainty associated with the design process that makes the actual schedule and effort required to complete the work difficult or impossible to establish in advance. Unusual citizen input, litigation, regulatory changes, significant delays by utilities or others, unforeseen decisions or commitments

by policy makers, or other unanticipated events or factors beyond the control of the Parties that differ materially from the expectations of the Parties may delay or disrupt the schedule and/or require a change in the level of resources or effort. The Project Baseline may be adjusted as follows:

1. A delay in the work attributable to a failure by COUNTY to adhere to its estimates with respect to schedule is an excusable delay for which an adjustment may be made to the schedule. In any such case affecting a task on the critical path, the schedule of the affected task or activity may be extended one (1) day for each day of COUNTY-caused delay; provided, however, that if the COUNTY-caused delay overlaps a period of delay attributable to any other cause, the extension for COUNTY-caused delay is limited to the number of non-overlapped days of COUNTY-caused delay.
  2. There is no adjustment for any delay in the work attributable to a failure by CONSULTANT to adhere to its commitments with respect to schedule. In the event of a significant delay attributable to a failure by CONSULTANT to adhere to its schedule expectations, CONSULTANT will provide a recovery plan to COUNTY within five (5) days of COUNTY's request. For the purposes of this paragraph, a delay arising from or attributable to a necessity for CONSULTANT to make more than two (2) submissions of plans or documents for approval is a failure by CONSULTANT to adhere to its schedule commitments. CONSULTANT's work associated with additional reviews is non-compensable.
  3. A delay in the work attributable to any other cause that differs materially from the expectations of the Parties regarding that cause is an excusable delay for which the Parties will negotiate an appropriate schedule adjustment. If the period of delay attributable to any cause under this paragraph overlaps a period of delay attributable to any other cause, the adjustment under this paragraph will be made first and the delay attributed to such other cause will be limited to that occurring outside of the overlap.
  4. If any of the causes of delay in Paragraphs 1 or 3 above affects a task or activity on the critical path, then the schedule adjustment may include adjustment to the completion date. If the cause does not affect a task or activity on the critical path, then the adjustment will be made from Float and the completion date will not change.
  5. If any of the causes of delay in Paragraphs 1 or 3 above results in material provable additional costs to the affected task or tasks as a result of disruption of the schedule, then the Parties will negotiate an equitable adjustment to the cost for the affected task or tasks, but not to the fee.
  6. The Parties will negotiate an equitable adjustment of cost and fee for any task or tasks for which there is any significant change in the level of effort arising from additional or changed work requested or directed in writing by COUNTY that materially deviates from or adds to the baseline expectations or assumptions of the Parties with respect to the work.
  7. If any action, comment, cause, decision, or other event attributable to any third party results in a change in requirements that differs materially from expectations, then the Parties will negotiate in good faith an equitable adjustment in the cost and fee for the affected task or tasks.
- C. CONSULTANT agrees to complete the work by the completion date in the schedule, as it may be adjusted under the preceding provisions of this Article. Costs incurred by CONSULTANT to complete the work after the completion date in the schedule are not reimbursable under this Contract.

#### **ARTICLE 6 – REALLOCATION OF FUNDS**

Given the magnitude and complexity of the scope required by this Contract, the Parties understand that the actual cost to perform specific tasks may vary from the estimates reflected in EXHIBIT "A" - SCOPE OF SERVICES and EXHIBIT "B" – COMPENSATION SCHEDULE.

If the actual cost to complete a task is less than the estimated amount for that task, the cost savings realized accrues to COUNTY. With the agreement of the Parties, COUNTY may reallocate the cost savings to other tasks in EXHIBIT "A" - SCOPE OF SERVICES and EXHIBIT "B" – COMPENSATION SCHEDULE as follows:

- A. Reallocation between subtasks in EXHIBIT "A" - SCOPE OF SERVICES under any one of the major task categories in EXHIBIT "B" - COMPENSATION SCHEDULE may be made between the COUNTY's department representative and the CONSULTANT's project manager by written agreement.
- B. County's Procurement Director may make a reallocation among the major tasks in EXHIBIT "B" - COMPENSATION SCHEDULE by a Contract amendment, provided that the transfer does not increase the total amount of the Contract.
- C. The Board of Supervisors may make any reallocation or adjustment in EXHIBIT "A" - SCOPE OF SERVICES or EXHIBIT "B" - COMPENSATION SCHEDULE that increases the total contract amount through a Contract Amendment.

Costs and Fee may not be reallocated from any task on which work has not progressed significantly and which does not include actual or demonstrable savings or reductions in required effort such that the task may be completed for less than the balance of the task remaining after the transfer.

#### **ARTICLE 7 - INSURANCE**

The Insurance Requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. COUNTY in no way warrants that the minimum limits contained herein are sufficient to protect the CONSULTANT from liabilities that arise out of the performance of the work under this Contract. The CONSULTANT is free to purchase additional insurance.

CONSULTANT'S insurance will be placed with companies licensed in the State of Arizona or hold approved non-admitted status on the Arizona Department of Insurance List of Qualified Unauthorized Insurers. Insurers will have an "A.M. Best" rating of not less than A- VII. COUNTY in no way warrants that the above-required minimum insurer rating is sufficient to protect the CONSULTANT from potential insurer insolvency

##### **7.1 Minimum Scope and Limits of Insurance:**

CONSULTANT will procure and maintain, until all of their obligations have been discharged, coverage with limits of liability not less than those stated below.

- 7.1.1 General Liability (CGL) - Occurrence Form with limits of \$2,000,000 Each Occurrence and \$2,000,000 General Aggregate. Policy will include bodily injury, property damage, and broad form contractual liability coverage.
- 7.1.2 Automobile Liability - Bodily Injury and Property Damage for any owned, hired, and/or non-owned automobiles used in the performance of this Contract with a Combined Single Limit (CSL) of \$1,000,000.
- 7.1.3 Workers' Compensation and Employers' Liability - Statutory requirements and benefits. Coverage is compulsory for employers of one or more employees. Employer's Liability - \$1,000,000.  
Note: The Workers' Compensation requirement will not apply to a CONSULTANT that is exempt under A.R.S. § 23-901, and when such CONSULTANT executes the appropriate COUNTY Sole Proprietor or Independent CONSULTANT waiver form.
- 7.1.4 Professional Liability (Errors and Omissions) Insurance - This insurance is required when soliciting work from licensed professionals. The policy limits will be not less than \$2,000,000 Each Claim and \$2,000,000 Annual Aggregate. The policy will cover professional misconduct or negligent acts for those positions defined in the Scope of Work of this contract.

In the event that the Professional Liability insurance required by this Contract is written on a claims-made basis, CONSULTANT warrants that any retroactive date under the policy will precede the effective date of this Contract and, either continuous coverage will be maintained, or an extended discovery period will be exercised, for a period of two (2) years beginning at the time work under this Contract is completed.



7.2 Additional Insurance Requirements:

The policies will include, or be endorsed to include, as required by this written agreement, the following provisions:

- 7.2.1 Additional Insured Endorsement: The General Liability and Business Automobile Liability Policies will each be endorsed to include COUNTY, RTA, their departments, districts, boards, commissions, officers, officials, agents, and employees as additional insured's with respect to liability arising out of the activities performed by or on behalf of the CONSULTANT.
- 7.2.2 Subrogation Endorsement: The General Liability, Business Automobile Liability and Workers' Compensation Policies will each contain a waiver of subrogation endorsement in favor of COUNTY, RTA, and its departments, districts, boards, commissions, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the CONSULTANT.
- 7.2.3 Primary Insurance Endorsement: The CONSULTANT'S policies will stipulate that the insurance afforded the CONSULTANT will be primary and that any insurance carried by the Department, its agents, officials, employees or COUNTY will be excess and not contributory insurance, as provided by A.R.S. § 41-621 (E).
- 7.2.4 Insurance provided by the CONSULTANT will not limit the CONSULTANT'S liability assumed under the indemnification provisions of this Contract.

7.3 Notice of Cancellation:

For each insurance policy required by the insurance provisions of this Contract, the CONSULTANT must provide to COUNTY, within two (2) business days of receipt, a notice if a policy is suspended, voided, or cancelled for any reason. Such notice will be mailed, emailed, hand-delivered or sent by facsimile transmission to Pima County Procurement Department, 130 West Congress Street, Tucson AZ 85701, and Fax 520-724-4434.

7.4 Verification of Coverage:

CONSULTANT will furnish COUNTY with certificates of insurance (valid ACORD form or equivalent approved by COUNTY) as required by this Contract. An authorized representative of the insurer will sign the certificates.

- 7.4.1 All certificates and endorsements, as required by this written agreement, are to be received and approved by COUNTY before work commences. Each insurance policy required by this Contract must be in effect at, or prior to, commencement of work under this Contract. Failure to maintain the insurance coverages or policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.
- 7.4.2 All certificates required by this Contract will be sent directly to the Department. COUNTY project or contract number and project description will be noted on the certificate of insurance. COUNTY reserves the right to require complete copies of all insurance policies required by this Contract at any time.

7.5 Approval and Modifications:

COUNTY Risk Management reserves the right to review or make modifications to the insurance limits, required coverages, or endorsements throughout the life of this contract, as deemed necessary. Such action will not require a formal Contract amendment but may be made by administrative action.

**ARTICLE 8 – INDEMNIFICATION**

To the fullest extent permitted by law, CONSULTANT will indemnify, defend, and hold harmless COUNTY and RTA, their officers, employees and agents from and against any and all suits, actions, legal administrative proceedings, claims or demands and costs attendant thereto, including reasonable attorney's fees and court costs, to the extent caused by any negligent, reckless or intentionally wrongful act or omission of the CONSULTANT, its agents, employees or anyone acting under its direction or control or on its behalf in connection with performance of this Contract. The obligations under this Article shall not extend to the negligence of COUNTY, their agents, employees or indemnities.

All warranty and indemnification obligations under this contract shall survive expiration or termination of the contract, unless expressly provided otherwise. The Parties agree that any indemnification provision inconsistent with A.R.S. § 34-226 is, in all cases, not void, but will be interpreted and applied as if it were consistent with A.R.S. § 34-226.

Upon request, CONSULTANT may fully indemnify and hold harmless any private property owner granting a right of entry to CONSULTANT for the purpose of completing the project. The obligations under this Article do not extend to the negligence of COUNTY and RTA, their officers, agents, employees or indemnities.

#### **ARTICLE 9 – COMPLIANCE WITH LAWS**

CONSULTANT will comply with all applicable federal, state, and local laws, rules, regulations, standards and Executive Orders, without limitation to those designated within this Contract. The laws and regulations of the State of Arizona shall govern the rights of the parties, the performance of this Contract, and any disputes hereunder. Any action relating to this Contract must be brought and maintained in Superior Court in Pima County. Any changes in the governing laws, rules, and regulations during the term of this Contract apply, but do not require an amendment.

#### **ARTICLE 10 – STATUS OF CONSULTANT**

The status of the CONSULTANT is that of an independent contractor and CONSULTANT is not considered an employee of Pima County and is not entitled to receive any of the fringe benefits associated with regular employment, and will not be subject to the provisions of the merit system. CONSULTANT is responsible for payment of all Federal, State and Local taxes associated with the compensation received by CONSULTANT from COUNTY. CONSULTANT is responsible for program development and operation without supervision by COUNTY.

#### **ARTICLE 11 – CONSULTANT'S PERFORMANCE**

CONSULTANT will perform the work in accordance with the terms of the contract and with the degree of care and skill required of any similarly situated Arizona registrant. CONSULTANT will employ suitably trained and skilled professional personnel to perform all required services under this Contract. Prior to changing any key personnel, especially those key personnel COUNTY relied upon in making this contract, CONSULTANT will obtain the approval of COUNTY.

CONSULTANT is responsible for the professional quality, technical accuracy, timely completion, and the coordination of all its effort and other services furnished by CONSULTANT under this Agreement. Without additional compensation, CONSULTANT will correct or revise any errors, omission, or other deficiencies in all products of its efforts and other services provided. This includes resolving any deficiencies arising out of the acts or omissions of CONSULTANT found during or after the course of the services performed by or for CONSULTANT under this Agreement, regardless of COUNTY having knowledge of or condoning/accepting the products or the services. Correction of such deficiencies will be at no cost to COUNTY.

#### **ARTICLE 12 – NON-WAIVER**

The failure of COUNTY to insist in any one or more instances upon full and complete compliance with any of the terms and provisions of this Contract or to take any action permitted as a result thereof is not a waiver or relinquishment of the right to insist upon full and complete performance of the same or any other covenant or condition either in the past or in the future. The acceptance by either party of sums less than may be due and owing it at any time is not an accord and satisfaction.

#### **ARTICLE 13 – SUBCONSULTANT**

CONSULTANT will be fully responsible for all acts and omissions of its SUBCONSULTANT and of persons directly or indirectly employed by SUBCONSULTANT and of persons for whose acts any of them may be liable to the same extent that CONSULTANT is responsible for the acts and omissions of persons directly employed by it. Nothing in this Contract creates any obligation on the part of COUNTY to pay or see to the payment of any money due any SUBCONSULTANT, except as may be required by law.

#### **ARTICLE 14 – NON-ASSIGNMENT**

CONSULTANT will not assign its rights to this Contract in whole or in part, without prior written approval of COUNTY. COUNTY may withhold approval at its sole discretion, provided that COUNTY will not unreasonably withhold such approval.

#### **ARTICLE 15 – NON-DISCRIMINATION**

CONSULTANT agrees to comply with all provisions and requirements of Arizona Executive Order 2009-09 which is hereby incorporated into this Contract as if set forth in full herein **including flow down of all provisions and requirements to any subconsultants**. During the performance of this contract, CONSULTANT and its SUBCONSULTANTS will not discriminate against any employee, client or any other individual in any way because of that person's age, race, creed, color, religion, sex, disability or national origin.

#### **ARTICLE 16 – AMERICANS WITH DISABILITIES ACT**

CONSULTANT will comply with all applicable provisions of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, including 28 CFR Parts 35 and 36. If CONSULTANT is carrying out government programs or services on behalf of COUNTY, then CONSULTANT will maintain accessibility to the program to the same extent and degree that would be required of the COUNTY under 28 CFR Sections 35.130, 35.133, 35.149 through 35.151, 35.160, 35.161 and 35.163. Failure to do so may result in the termination of this Agreement.

#### **ARTICLE 17 – CANCELLATION FOR CONFLICT OF INTEREST**

This Contract is subject to the provisions of A.R.S. §38-511 which provides in pertinent part:

"The state, its political subdivisions or any department of either may, within three years after its execution, cancel any contract, without penalty or further obligation, made by the state, its political subdivisions, or any of the departments or agencies of either if any person significantly involved in initiating, negotiating, securing, drafting or creating the contract on behalf of the state, its political subdivisions or any of the departments or agencies of either is, at any time, while the contract or any extension of the contract is in effect, an employee or agent of any other party to the contract in any capacity or a consultant to any other party to the contract with respect to the subject matter of the contract."

#### **ARTICLE 18 – TERMINATION OF CONTRACT FOR DEFAULT**

- A. Upon a failure by CONSULTANT to cure a default under this Contract within ten (10) days of receipt of notice from COUNTY of the default, COUNTY may, in its sole discretion, terminate this Contract for default by written notice to CONSULTANT. In this event, COUNTY may take over the work and complete it by contract or otherwise. In such event, CONSULTANT will be liable for any damage to the COUNTY resulting from CONSULTANT's default, including any increased costs incurred by COUNTY in completing the work.
- B. The occurrence of any of the following, without limitation to the named events, constitutes an event of default:
  1. Abandonment of or failure by CONSULTANT to observe, perform or comply with any material term, covenant, agreement or condition of this Contract, or to prosecute the work or any separable part thereof with the diligence that will insure completion within the time specified in this contract, including any extension, or a failure to complete the work (or the separable part of the work) within the specified time;
  2. Persistent or repeated refusal or failure to supply adequate staff, resources or direction to perform the work on schedule or at an acceptable level of quality;
  3. Refusal or failure to remedy defective or deficient work within a reasonable time;

4. Loss of professional registration or business or other required license or authority, or any curtailment or cessation for any reason of business or business operations that would substantially impair or preclude CONSULTANT's performance of this Contract;
5. Disregard of laws, ordinances, or the instructions of COUNTY or its representatives, or any otherwise substantial violation of any provision of the contract;
6. Performance of work hereunder by personnel that are not qualified or permitted under state law or local law to perform such services;
7. Commission of any act of fraud, misrepresentation, willful misconduct, or intentional breach of any provision of this Contract; or
8. If a voluntary or involuntary action for bankruptcy is commenced with respect to CONSULTANT, or CONSULTANT becomes insolvent, makes a general assignment for the benefit of creditors, or has a receiver or liquidator appointed in respect of its assets.

C. In the event of a termination for default:

1. All finished and unfinished drawings, specifications, documents, data, studies, surveys, drawings, photographs, reports and other information in whatever form, including electronic, acquired or prepared by CONSULTANT for this project become COUNTY's property and will be delivered to COUNTY not later than five (5) business days after the effective date of the termination;
2. COUNTY may withhold payments to CONSULTANT arising under this or any other Contract for the purpose of set-off until such time as the exact amount of damage due COUNTY from CONSULTANT is determined; and
3. Subject to the immediately preceding subparagraph 2., COUNTY's liability to CONSULTANT will not exceed the Contract value of work satisfactorily performed prior to the date of termination for which COUNTY has not previously made payment.

D. COUNTY will not terminate the Contract for default or charge CONSULTANT with damages under this Article, if—

1. Excepting item 8. in paragraph B above, the event of default or delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of CONSULTANT. Examples of such causes include—
  - (i) Acts of God or of the public enemy,
  - (ii) Acts of the COUNTY in either its sovereign or contractual capacity,
  - (iii) Acts of another Contractor in the performance of a contract with the COUNTY,
  - (iv) Fires,
  - (v) Floods,
  - (vi) Epidemics
  - (vii) Quarantine restrictions,
  - (viii) Strikes,
  - (ix) Freight embargoes,
  - (x) Unusually severe weather, or
  - (xi) Delays of subcontractors at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both CONSULTANT and the subcontractor(s); and
2. CONSULTANT, within seven (7) days from the beginning of any event of default or delay (unless extended by COUNTY), notifies COUNTY in writing of the cause(s) therefor. In this circumstance, COUNTY will ascertain the facts and the extent of the resulting delay. If, in the reasonable judgment of COUNTY, the findings warrant such action, COUNTY may extend the time for completing the work.

E. For the purposes of paragraph A above, "receipt of notice" includes receipt by hand by CONSULTANT's project manager, by facsimile transmission with notice of receipt, or under the Notices clause of this Contract.

- F. If, after termination of the Contract for default, COUNTY determines that the CONSULTANT was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if COUNTY had terminated the Contract for convenience.
- G. The rights and remedies of COUNTY in this Article are cumulative and in addition to any other rights and remedies provided by law or under this contract.

#### **ARTICLE 19 – TERMINATION FOR CONVENIENCE OF COUNTY**

COUNTY may terminate this Contract at any time by giving written notice to CONSULTANT of such termination and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination. In that event, all finished or unfinished documents and other materials will, at the option of the COUNTY, become its property. If COUNTY terminates the Contract as provided herein, COUNTY will pay CONSULTANT an amount based on the time and expenses incurred by CONSULTANT prior to the termination date, however, no payment will be allowed for anticipated profit on unperformed services.

#### **ARTICLE 20 – NON-APPROPRIATION OF FUNDS**

Notwithstanding any other provision in this Contract, this Contract may be terminated if for any reason the Pima County Board of Supervisors does not appropriate sufficient monies for the purpose of maintaining this Contract. In the event of such termination, COUNTY will have no further obligation to CONSULTANT, other than payment for services rendered prior to termination.

#### **ARTICLE 21 – NOTICES**

Any notice required or permitted to be given under this Contract must be in writing and be served by delivery or by certified mail upon the other party as follows:

##### **COUNTY:**

Ana Olivares, P.E. Director  
Pima County Department of Transportation  
201 North Stone Avenue  
Tucson, Arizona 85701  
Tel: (520) 724-6410

##### **CONSULTANT:**

James Glock, Project Manager  
Structural Grace, LLC  
1430 East Fort Lowell Road, Suite 200  
Tucson, Arizona 85719  
Tel: (520) 320-0156

#### **ARTICLE 22 – OTHER DOCUMENTS**

The Parties in entering into this Contract have relied upon information provided in SFQ-PO-1900019, and on representations and information in the CONSULTANT'S response to said SFQ. These documents are hereby incorporated into and made a part of this Contract as if set forth in full herein, to the extent not inconsistent with the provisions of this Contract. CONSULTANT will perform services in accordance with the terms of the Contract and at a level of care consistent with prevailing industry standards. In the event any provision of this contract is inconsistent with those of any other document, the contract provisions will prevail.

#### **ARTICLE 23 – REMEDIES**

Either party may pursue any remedies provided by law for the breach of this Contract, provided, however, that the procedures in **Article 27** are first exhausted. No right or remedy is intended to be exclusive of any other right or remedy and each is cumulative and in addition to any other right or remedy existing at law or at equity or by virtue of this Contract.

#### **ARTICLE 24 – SEVERABILITY**

Each provision of this Contract stands alone, and any provision of this Contract found to be prohibited by law is ineffective to the extent of such prohibition without invalidating the remainder of this Contract.

#### **ARTICLE 25 – BOOKS AND RECORDS**

CONSULTANT will keep and maintain proper and complete books, records and accounts, which will be open at all reasonable times for inspection and audit by duly authorized representatives of COUNTY.

CONSULTANT will retain all records relating to this contract at least five (5) years after its termination or cancellation or until any related pending proceeding or litigation has been closed, if later. Alternatively, CONSULTANT may, at its option, deliver such records to COUNTY for retention.

#### **ARTICLE 26 – DELAYS**

Neither party hereto will be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party.

#### **ARTICLE 27 – DISPUTES**

In the event of a dispute between the Parties regarding any part of this Contract or the Parties' obligations or performance hereunder, either Party may request a special meeting between their respective representatives to resolve the dispute. If the dispute remains unresolved, then either Party may request escalation of the issue to a meeting between the Director of the Pima County Department administering this Contract and CONSULTANT'S counterpart official, such meeting to be held within one (1) week of the request, unless otherwise agreed. If the dispute is still not resolved after that meeting, then either Party may pursue such remedy or remedies as may be available to them under the laws of the State of Arizona.

The Parties will continue performance of their respective obligations under this Contract notwithstanding the existence of any dispute.

#### **ARTICLE 28 – OWNERSHIP OF DOCUMENTS**

All original drawings, field data, estimates, field notes, plans, specifications, documents, reports, calculations, and other information developed by CONSULTANT under this contract vest in and become the property of COUNTY and shall be delivered to COUNTY upon completion or termination of the services, but CONSULTANT may retain and use copies thereof. COUNTY agrees that the material will not be used for any project other than the project for which it was designed without the expressed permission of the CONSULTANT.

#### **ARTICLE 29 – PUBLIC INFORMATION**

Pursuant to A.R.S. § 39-121 et seq., and A.R.S. §§ 34-603(H), 604(H), in the case of construction or Architectural and Engineering services procured under A.R.S. Title 34, Chapter 6, all information submitted by CONSULTANT in any way related to this contract, including, but not limited to, pricing, product specifications, work plans, and any supporting data becomes public information and upon request, is subject to release and/or review by the general public including competitors.

Any information submitted related to this Contract that CONSULTANT believes constitutes proprietary, trade secret or otherwise confidential information must be appropriately and prominently marked as CONFIDENTIAL prior to submittal to COUNTY and be accompanied by an index specifically identifying and describing the general contents of each page so marked. The index is a Public Record and must not include any information considered confidential.

Notwithstanding the above provisions, in the event records marked CONFIDENTIAL are requested for public release pursuant to A.R.S. § 39-121 et seq., County will release records marked CONFIDENTIAL ten (10) business days after the date of notice to the CONSULTANT of the request for release, unless CONSULTANT has, within the ten (10) day period, secured a protective order, injunctive relief or other appropriate order from a court of competent jurisdiction, enjoining the release of the records. For the purposes of this paragraph, the day of the request for release is not counted in the time calculation. COUNTY will notify CONSULTANT of any request for such release on the same day of the request for public release or as soon thereafter as practicable. County is not, under any circumstances, responsible for securing a protective order or other relief enjoining the release of records marked CONFIDENTIAL, nor is County in any way financially responsible for any costs associated with securing such an order.

### **ARTICLE 30 – LEGAL ARIZONA WORKERS ACT COMPLIANCE**

CONSULTANT hereby warrants that it will at all times during the term of this Contract comply with all federal immigration laws applicable to CONSULTANT'S employment of its employees, and with the requirements of A.R.S. § 23-214 (A) (together the "State and Federal Immigration Laws"). CONSULTANT will further ensure that each subconsultant who performs any work for CONSULTANT under this contract likewise complies with the State and Federal Immigration Laws.

COUNTY has the right at any time to inspect the books and records of CONSULTANT and any subconsultant in order to verify such party's compliance with the State and Federal Immigration Laws.

Any breach of CONSULTANT'S or any subconsultant's warranty of compliance with the State and Federal Immigration Laws, or of any other provision of this section, is a material breach of this Contract subjecting CONSULTANT to penalties up to and including suspension or termination of this Contract. If the breach is by a subconsultant, and the subcontract is suspended or terminated as a result, CONSULTANT must take such steps as may be necessary to either self-perform the services that would have been provided under the subcontract or retain a replacement subconsultant, (subject to COUNTY approval if SBE or MWBE preferences apply) as soon as possible so as not to delay project completion.

CONSULTANT will advise each sub-consultant of COUNTY'S rights, and the sub-consultant's obligations, under this Article by including a provision in each subcontract substantially in the following form:

"SUBCONSULTANT hereby warrants that it will at all times during the term of this contract comply with all federal immigration laws applicable to SUBCONSULTANT's employees, and with the requirements of A.R.S. § 23-214 (A). SUBCONSULTANT further agrees that COUNTY may inspect the SUBCONSULTANT's books and records to insure that SUBCONSULTANT is in compliance with these requirements. Any breach of this paragraph by SUBCONSULTANT is a material breach of this contract subjecting SUBCONSULTANT to penalties up to and including suspension or termination of this contract."

Any additional costs attributable directly or indirectly to remedial action under this Article are the responsibility of CONSULTANT. In the event that remedial action under this Article results in delay to one or more tasks on the critical path of CONSULTANT's approved construction or critical milestones schedule, such period of delay is excusable delay for which CONSULTANT is entitled to an extension of time, but not costs.

### **ARTICLE 31 - ISRAEL BOYCOTT CERTIFICATION:**

Pursuant to A.R.S. § 35-393.01, if Contractor engages in for-profit activity and has 10 or more employees, and if this Contract has a value of \$100,000.00 or more, Contractor certifies it is not currently engaged in, and agrees for the duration of this Contract to not engage in, a boycott of goods or services from Israel. This certification does not apply to a boycott prohibited by 50 U.S.C. § 4842 or a regulation issued pursuant to 50 U.S.C. § 4842.

***The remainder of this page intentionally left blank.***

**ARTICLE 32 - ENTIRE AGREEMENT**

This document constitutes the entire agreement between the parties pertaining to the subject matter hereof, and all prior or contemporaneous agreements and understandings, oral or written, are hereby superseded and merged herein. This contract may be modified, amended, altered or extended only by a written Amendment signed by the parties.

IN WITNESS WHEREOF, the parties have affixed their signatures to this Contract on the dates written below.

PIMA COUNTY:

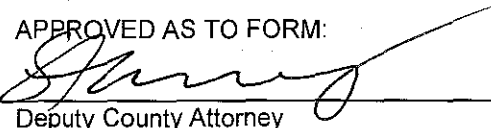
\_\_\_\_\_  
Chairman, Board of Supervisors

\_\_\_\_\_  
Date

ATTEST:

\_\_\_\_\_  
Clerk of the Board

APPROVED AS TO FORM:

  
Deputy County Attorney

**STACEY ROSEBERRY**

\_\_\_\_\_  
Name (Please Print)

9/27/19  
Date

CONSULTANT:

  
Signature

James W. Glady, Vice-President  
Name and Title (Please Print)

Structural Grace, LLC  
Firm Name

9/30/19  
Date



## EXHIBIT "A" – SCOPE OF SERVICES (22 pages)

### Sunset Road: I-10 to River Road Pima County Solicitation Number SFQ-PO-2000002

During the term of this Agreement, the engineering consultant, **Structural Grace**, (CONSULTANT) shall perform professional services for Pima County (County) in connection with the above referenced project. This scoping document shall be used to plan, conduct, and complete the CONSULTANT's work on the project.

#### I. BACKGROUND

The Regional Transportation Authority (RTA) 20-year multimodal plan included roadway improvements for Sunset Road from Silverbell Road to River Road. The improvements were divided into two phases: Sunset Road; Silverbell Road to I-10 Eastbound Frontage Road (Phase 1) and Sunset Road (Phase 2) that included the southerly approach to the Sunset Traffic Interchange and the connection from the I-10 Westbound Frontage Road to River Road. Construction of the Sunset Road; Silverbell Road to I-10 Eastbound Frontage Road (Phase 1) project was completed in 2017 at a cost of \$15.75 million dollars.

ADOT completed a DCR and EA (FONSI) in 2013 for improvements on I-10 from the Ina Road Traffic Interchange to the Ruthrauff Road Traffic Interchange which included reconstruction of the I-10 Sunset Road Traffic Interchange. The DCR and EA (FONSI) did not include improvements on Sunset Road for the southerly approach to the Sunset Traffic Interchange nor the connection from I-10 Westbound Frontage Road to River Road.

ADOT's 5-year Construction Program shows a widening project on I-10 from Ina Road to Ruthrauff Road. ADOT anticipates using a Design-Build delivery method in order to begin construction fiscal year 2022.

ADOT has agreed to include the southerly approach to the Sunset Traffic Interchange and the connection from the I-10 Westbound Frontage Road to River Road with the I-10 Widening project from Ina Road to Ruthrauff Road. In order to start construction of the combined project in FY 2022, ADOT has requested PCDOT to prepare a Final DCR and Final EA for southerly approach to the Sunset Traffic Interchange and the connection from the I-10 Westbound Frontage Road to River Road. The RFQ for the combined Design-Build Contract will advertise in FY 2021 by ADOT.

An Intergovernmental Agreement (IGA) between ADOT and Pima County will be required.

#### II. PROJECT DESCRIPTION

The project scope of work involves developing scoping and environmental documents for roadway and bridge improvements on Sunset Road for the south approach to the Sunset Traffic Interchange and the connection from the I-10 Westbound Frontage Road to River Road hereinafter referred to as the Sunset Road: I-10 to River Road project.

In general, improvements to Sunset Road under consideration with this project include the following:

- Sunset Road approach roadway south of the future I-10 Sunset Road Traffic Interchange including modifications to The Loop (a crossing of The Loop at Sunset Road south of I-10 is not anticipated).
- Connection to the future I-10 Sunset Road Traffic Interchange (per ADOT I-10 DCR: Ina Road Traffic Interchange to Ruthrauff Road Traffic Interchange).
- Sunset Road overpass structure spanning the UPRR right-of-way.
- Sunset Road approach roadway north of the future I-10 Sunset Road Traffic Interchange (including two connections to The Loop; one on either side of Sunset Road located south of the Rillito River).
- New bridge spanning the Rillito River, The Loop (on either side of the Rillito River) and a proposed access road located adjacent to The Loop on the south side of the Rillito River.
- Signalized intersection at Sunset Road and River Road including connections to The Loop on either side of Sunset Road.
- Improvements to River Road.

The total length of the project is approximately 0.6 miles. The majority of the project is located within the City of Tucson with two relatively small portions being located within unincorporated Pima County.

Sunset Road is anticipated to be a divided roadway with 6' wide shoulders and curb and sidewalks on both sides. Left-turn and right-turn lanes will be included at intersections. Traffic signals are anticipated at intersections along Sunset Road at three locations; Eastbound Frontage Road, Westbound Frontage Road and River Road.

The scope of work for Sunset Road; I-10 to River Road includes the following professional engineering services:

- Final DCR.
- Final approved EA.
- Design of 15% level plans for roadway and bridges including cross-sections, quantity take-offs & cost estimates in support of the DCR and EA.
- Development of various technical studies, reports and memorandums in support of the DCR and EA including Preliminary Bridge Selection Report, Final Traffic Report, Initial Geotechnical Report, Initial Pavement Design Report, Drainage Overview and supporting materials, Initial Utility Report and other documents as necessary.

### III. DESIGN CRITERIA

The 2013 edition of the Pima County Department of Transportation Roadway Design Manual (RDM), and current updates, shall be used to provide roadway and drainage design criteria within PCDOT's jurisdiction. A Policy on Geometric Design of Highways and Streets (AASHTO), dated 2011, shall be used for roadway design elements that are not included in the RDM within PCDOT's jurisdiction.

Roadway and Structures located within ADOT's jurisdiction shall be designed per the Roadway Design Guidelines (RDG), current edition, and the Bridge Practice Guidelines (LFD), current edition.

A detailed "Design Criteria Summary" shall be prepared for the project. The Design Criteria Summary shall include all pertinent design related criteria for each Agency's jurisdiction for roadway and bridge designs to be used for the project. The Design Criteria Summary shall be coordinated with PCDOT, ADOT and COT staff (as appropriate) so that a final approved listing is developed prior to the start of the development of the project.

### V. PROJECT SCHEDULE

DCR, EA, and 15% Plans are to be completed within 12-months from Notice-to-Proceed (NTP).

### VI. ITEMS AND SERVICES TO BE FURNISHED BY THE COUNTY

The County will provide the items and services to the CONSULTANT per the Solicitation for Qualifications and as listed in this scope of work. County will also provide CONSULTANT with documents and data files received from previous reviews/studies of this corridor, which may or may not have been fully completed.

### VII. ABBREVIATIONS

The following abbreviations may be referred to throughout this scope of work:

AASHTO	American Association of State Highway and Transportation Officials
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
Corps	U.S. Army Corps of Engineers
County	Pima County
DCR	Design Concept Report
EAMR	Environmental Assessment and Mitigation Report
EA	Environmental Assessment
EPG	Environmental Planning Group
ESR	Environmentally Sensitive Roadway
ESA	Endangered Species Act

FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GIS	Geographic Information System
LOS	Level of service
Manual	2013 Pima County Department of Transportation Roadway Design Manual
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
PAG	Pima Association of Governments
PCDOT	Pima County Department of Transportation
PCOCRHP	Pima County Office of Cultural Resources and Historic Preservation
PCRFC	Pima County Regional Flood Control District
PCRWRD	Pima County Regional Wastewater Reclamation Department
PLSS	Public Land Survey System
PS&E	Plans, specifications, and estimates
RDM	Roadway Design Manual
ROE	Right of Entry
SOQ	Pima County Solicitation
R/W	Right-of-way
TDM	Transportation Demand Management
USFWS	U.S. Fish and Wildlife Service

#### VIII. PROJECT DOCUMENTATION

The documents listed as "**Deliverables**" in the Work Tasks, Section IX of this scope of work, and other exhibits or presentations for the work covered by this AGREEMENT and associated supplements, if necessary, will be furnished by the CONSULTANT to the County upon completion of the various tasks of work. Whether the documents are submitted in electronic media or in tangible format, any use of the materials on another project or on extensions of this project beyond the use for which they were intended, or any modification of the materials or conversion of the materials to an alternate system or format will be without liability or legal exposure to the CONSULTANT. The County will assume all risks associated with such use, modifications, or conversions. If the County uses materials other than how they were intended, then the CONSULTANT may remove from the electronic materials delivered to the County, all references to the CONSULTANT's involvement and will retain a tangible copy of the materials delivered to the County, which will govern the interpretation of the materials and the information recorded. Electronic files are considered working files only; the CONSULTANT is not required to maintain electronic files beyond 90 days after the project final billing and makes no warranty as to the viability of electronic files beyond 90 days from date of transmittal.

#### IX. WORK TASKS

##### **General Assumptions:**

1. *The level of effort for each phase and work task is limited to the amount of labor and expenses identified in a Project Budget spreadsheet (Fee Calculation). Costs are itemized to aid in project tracking purposes only. The budget may be transferred between tasks, provided the total contracted amount is not exceeded. Additional services beyond these limits will be considered Extra Work.*
2. *The PROJECT duration is anticipated to be 12 months for the Design Concept Report, Environmental Assessment, 15% Plans and Cross-Sections, and other supporting technical studies, reports and memorandums. The CONSULTANT is responsible for meeting deadlines for their and their sub-consultants' tasks only.*
3. *The analyses, design, plans, technical studies, reports, and other documents performed or prepared as part of the PROJECT will be in English units. Metric units will not be used on this PROJECT.*
4. *The plans will be prepared in accordance with Pima County design practices and standards as identified on the Pima County DOT website and current PAG standards/specifications for portions of the project within PCDOT's jurisdiction.*
5. *The plans will be prepared in accordance with ADOT design practices and standards as identified on the ADOT website for portions of the project within ADOT's jurisdiction.*
6. *Design plans shall be developed using Microstation Version 8 (V8) and PCDOT CAD drafting standards. Final plan submittals shall be in electronic (V8) and hardcopy format.*
7. *Survey file submittals (monumentation, horizontal and vertical control, right-of-way plans) shall be*

*in AutoCad Civil 3D 2016 (or compatible version) format and Microstation Version 8 (V8).*

- 8.** *Originals of all project deliverables will be delivered to the County.*
- 9.** *Meeting summaries will be distributed electronically. Hard copies will not be provided.*
- 10.** *Unless specified within individual tasks, an original and 3 copies of each report will be submitted to the County.*

## Sunset Road: I-10 to River Road

The following tasks are organized and numbered to coincide as closely as possible with Chapter 3, *Design Process*, identifies in the 2013 Pima County Roadway Design Manual.

### TASK 3.2 – QUALITY CONTROL PLAN AND PROJECT MANAGEMENT

#### Assumptions:

1. Management resources are provided for a 12-month period for completion of the Design Concept Report, Environmental Assessment, **15% Plans** and Cross-Sections, and supporting documents.
2. Attendance by CONSULTANT at meetings will be limited to the Project Manager and an average of one Task Manager. Other team members will attend as required.
3. For estimating purposes, it is assumed that meetings described in Task 3.2.3 will have the following durations, including time for preparation, travel, prepare meeting summaries, revise meeting summaries with County corrections, and distribute the meeting summaries:
  - monthly progress meetings (2 hours);
  - other meetings as necessary (2 hours)
4. The CONSULTANT will be responsible for preparing graphics, handouts, and making arrangements for meetings and for preparing meeting summaries.
5. CONSULTANT's hours for performing quality control shall be billed toward the specific tasks.
6. **Subconsultants AECOM, WSP, EEC, Wilder and EcoPlan will contribute to Quality Control Plan and Project Management. See sub-consultant proposals in Appendices A, B, C, D, & E.**

**Task 3.2.1. Quality Control Plan.** Develop a project-specific quality control plan that identifies responsible personnel, technical review, checking procedures, and monitoring process. Submit within 15 days of notice to proceed. The process shall follow the tenets of the PCDOT Interactive Project Development Process. Each major submittal shall include verification of the quality control completed on said submittal.

#### **Deliverables:**

- Project-Specific Quality Control Plan.
- Verification of quality control shall be provided with each major submittal.
- Responses to all review comments.

**Task 3.2.2. Project Management.** Develop project design by coordinating design efforts. The anticipated management activities are as follows:

- a. Coordinate with all stakeholders through all means necessary, including but not limited to, phone, electronically, paper, face-to-face, etc.
- b. Ensure that project team members are communicating and cooperating on project tasks.
- c. Generate and regularly update a project contact list.
- d. Establish and keep updated correspondence files for all correspondence, including electronic, phone, paper, etc.
- e. Create and maintain a project website containing in a clear and logical order all information, correspondence, documents, and plans related to the project. The website is to be accessible to the County at all times.

#### **Deliverables:**

- Project Team Contact List.
- At the close-out of the project, all project files including but not limited to correspondence, reports, plans, emails, faxes, notices, phone records, meeting minutes, and task files.
- Correspondence files.
- Responses to all review comments.

**Task 3.2.3. Meetings and Communication.** This task involves coordinating meeting times, inviting meeting participants, preparing for meetings, creating an agenda, facilitating meetings, and providing a meeting summary for all meetings. The anticipated design team meetings and activities are as follows:

- a. Conduct monthly meeting with the project team (12 total).
- b. Conduct sub-consultant and in-house team meetings (as needed/required).

- c. Conduct other meetings including but not limited to, design, review, update, internal, external, etc. (as needed/required). Coordination with ADOT Project Management, Environmental, Geotechnical, Utilities and Railroad, and Right of Way Sections along with the South Central District is essential to the success of the project.
- d. **Sub-Consultant AECOM, WSP, EEC, Wilder Landscape Architects, EcoPlan, Golder and Kittelson will attend meetings as requested to discuss issues related to their areas of responsibility. See sub-consultant scopes in Appendix A through G for detailed information regarding the quantity of meetings attended by each.**

**Deliverables:**

- Meeting agendas and displays.
- Meeting summaries as required.
- Responses to all review comments.

**Task 3.2.4. Schedule.** Create a comprehensive and detailed schedule for all tasks and deliverables necessary to successfully deliver the DCR, EA, 15% Plans and Cross Sections and supporting documents within 15 days of notice to proceed; update schedule monthly. Track and submit CONSULTANT costs monthly.

**Deliverables:**

- A schedule for the DCR, EA, **15% Plans** and Cross Sections including the delivery of various technical studies, reports and memorandums in support of the DCR and EA.
- Monthly schedule updates.
- Monthly invoices for work performed.
- Monthly three month outlook budget projections.
- Responses to all review comments.

**Task 3.2.5. Cost Estimating.** The CONSULTANT will develop a Base Estimate that identifies the major components of project scope and their cost, defines all components of scope, and describes all scope and cost assumptions within 15 days of notice to proceed. The CONSULTANT will update the Cost by reviewing, updating and documenting assumptions and costs for each item, and including contingency information in the report during major plan submittals.

**Deliverables:**

- Base cost estimate - Incorporate risk analysis and contingency information into the estimate, identifying all assumptions.
- Costs estimates for Initial DCR Phase and Final DCR submittals. Incorporate risk analysis and contingency information into the estimate. Identify all assumptions.
- The cost estimates will be broken down by jurisdiction for funding purposes (ADOT: southerly approach to Sunset Rd Traffic Interchange & UPRR bridge) (PCDOT; Sunset Rd from UPRR bridge to River Rd & improvements associated with the Sunset Campus intersections).

### **TASK 3.3 UTILITY COORDINATION**

**Assumptions:**

1. *Utility Coordination meetings will be scheduled on an as-needed basis. The CONSULTANT is required to attend these meetings.*
2. *Data collected will be consistent with the level of information needed to designate, locate, and map all utilities.*
3. *Resources are provided for up to 40 potholes under Additional Services. If additional potholes are needed, their number and location will be identified, and a Contract Modification will be prepared to cover this additional pothole work. Potholing shall not begin until the area has received cultural clearance and utility coordination.*
4. *PCDOT will provide utility base maps that have been provided to-date from: Pima County Regional Water Reclamation District, Tucson Electric Power, Southwest Gas, Century Link, and Comcast Cable, Kinder-Morgan and other utilities not yet identified. The CONSULTANT is required to obtain base maps from other utilities present. Additional research may be required by the CONSULTANT to verify and supplement the utility base maps.*
5. *Resources to gather data for utilities is being provided under Task 3.3.1., not Task 3.7.1.*
6. *Resources for surveying Blue Stake information are provided in Task 3.10.7.*

7. Subsurface utility designations will be shown in the strip map derived in Task 3.10.8.
8. Sewer modification plans are not included in this work; however, the Consultant will summarize sewer modifications and manhole adjustments to match the proposed road grade. The cost of those sheets is included under task 3.20, Preparation of Initial Documents.
9. Coordination efforts by the CONSULTANT will include initiating design efforts by utility companies whose facilities are determined to be in conflict.
10. Joint Trench coordination efforts are considered Additional Services.
11. Consultant shall adhere to Pima County Ordinance 2008-72, Regulations for the Use of Public Right of Way.
12. An existing 72" diameter sewer is located along the I-10 Eastbound Frontage Road. It is anticipated that the sewer will require protection from additional loading due to the addition of roadway embankment of Sunset Road.
13. Tucson Water has proposed a new water main along Sunset Road from Silverbell Road across I-10 and the UPRR that connects to an existing 12" water main in Camino de la Tierra. Incorporation of Tucson Water's proposed water main within the limits of the Sunset Road: I-10 to River Road project will be included in the project.
14. **AECOM will be providing support to the CONSULTANT for Utility Coordination pursuant to the Scope of Work and Fee proposal as indicated in Appendix A. EEC will be providing survey support for Utility Coordination pursuant to the Scope of Work and Fee proposal as indicated in Appendix C.**

**Task 3.3.1. Data Gathering, Utility Designation, Letter of Acceptance.** Please refer to Appendix A (AECOM).

**Task 3.3.2. Design Coordination, Utility Impact Identification.** Please refer to Appendix A (AECOM) and Appendix C (EEC).

**Task 3.3.3. Utility Impact Mitigation.** Please refer to Appendix A (AECOM).

**Task 3.3.4. Quality Control Review.** The CONSULTANT will provide quality control reviews of the deliverables listed below.

**Deliverables:**

- Initial Utility Report
- Plans for distribution to utilities
- Letters of Acceptance
- Meeting minutes prepared, distributed to project team, and revised as needed.
- Design plans containing updated mapping of utility information, including potholing information.
- List of utility impacts and mitigation measures.
- Responses to all review comments.

## **TASK 3.4 PUBLIC PARTICIPATION**

**Assumptions:**

1. Pima County will lead all public participation activities
2. Pima County will take the lead in organizing, staffing and preparing for all public meetings.
3. Pima County anticipates obtaining a waiver from the CAC process due to the public outreach process required by the Environmental Assessment.
4. For estimating purposes, it is assumed that approximately 12 hours will be required (2 team members at 4 hours each) for CONSULTANT staff to prepare for and attend each of the two public meetings and one public hearing. PCDOT Staff will prepare for, attend, and produce meeting summaries of public meetings, but not other follow-up tasks.
5. PCDOT will place & pay for public notification advertisements & reproduce and mail surveys.
6. PCDOT will coordinate meeting dates, times, locations, and set-up for all public meetings, including rental of all meeting facilities and providing insurance.
7. PCDOT will place ad announcements in the local newspapers.
8. PCDOT will develop, establish, and control a project web site and will post public notices and other information provided by the consultant.
9. PCDOT will distribute news releases to appropriate media.

10. PCDOT will distribute government official notifications.
11. PCDOT will be the primary contact for community inquiries and concerns.
12. Subconsultants AECOM, Wilder and EcoPlan will be contributing to Public Participation, see Scopes in Appendix A, D and E.

**Task 3.4.1. Public Participation Plan.** Pima County will develop and implement the Public Participation Plan for the project. The CONSULTANT will provide as-needed services in support of the Plan.

**Deliverables:**

- Displays/Roll plots as needed.

**Task 3.4.2. Public Meetings.** The CONSULTANT will attend approximately two public open houses and one public hearing.

**Deliverables:**

- Displays/Roll plots as needed.

**Task 3.4.3. Quality Control Review.** The CONSULTANT will provide quality control reviews of all the deliverables listed in Task 3.4.

### **TASK 3.5 FEDERAL, STATE, AND LOCAL COORDINATION**

**Assumptions:**

1. Federal funding will not be used for the DCR and EA phase of the project.
2. The Design-Build Phase of the project will be funded with federal monies.
3. Subconsultant EcoPlan will be contributing to Federal, State and Local Coordination, see scope of work in Appendix E.

**Task 3.5.1. Coordinate Between Participating Agencies.** The CONSULTANT will prepare an agency scoping list, prepare agency scoping letters inviting agencies to a scoping meeting, and facilitate an agency scoping meeting. The scoping letters will follow the ADOT Local Public Agency guidelines. Meeting arrangement logistics (room reservation, setup, etc.) will be made by Pima County. The CONSULTANT will prepare an agency scoping meeting summary report. If needed, the CONSULTANT will prepare up to five written scoping response letters.

The CONSULTANT will assist PCDOT with coordinating with ADOT, FHWA, and the City of Tucson. The CONSULTANT will budget twelve coordination meetings. The CONSULTANT will coordinate and attend one Clean Water Act Section 404 meeting with Pima County and the U.S. Army Corps of Engineers. It is anticipated that the work will be completed under a non-notifying Nationwide Permit. The meeting is anticipated prior to submittal of the Preliminary Jurisdictional Delineation. If a submittal of a Nationwide Permit application is required, the effort will be identified as Additional Services. The CONSULTANT will identify and coordinate with other agencies, such as Arizona State Land Department, etc., as identified necessary.

The CONSULTANT will maintain an agency coordination log documenting coordination efforts.

**Deliverables:**

- Agency scoping list, draft and final scoping letters, a scoping meeting summary report, draft and final scoping response letter.
- Display materials as needed.
- Meeting Agenda, meeting minutes, and distributed to project team, and revised as needed.
- Record of communication that documents all coordination efforts.
- Responses to all review comments.

### **TASK 3.6 PUBLIC ART**

**Assumptions:**

1. The artist selection panel will not be included in the DCR and EA phase.
2. No subconsultant effort is included for Public Art.



**Task 3.6.1. Coordination of Art Concepts with Pima County.** The DCR will include discussion of possible art concepts thought to be appropriate to the site and of interest to the public. Public art will be developed during the Design-Build phase of the project or as appropriate.

**Task 3.6.2. Quality Control Review.** The CONSULTANT will provide quality control reviews of the deliverables listed below.

**Deliverables:**

- Include discussion of possible art concepts in DCR.

## **TASK 3.7 DATA GATHERING**

**Assumptions:**

1. *Utility data to be gathered under Task 3.3.1*
2. *Subconsultants AECOM and EcoPlan will be contributing to Data Gathering pursuant to Scope and Fee proposals in Appendices A and E..*

**Task 3.7.1. Gather Existing Information.** The CONSULTANT will obtain and review assessor maps, zoning maps, plats, reports, and other publicly available data described in Section 3.7 of the Design Manual for use in completing the DCR, EA, 15% Plans and Cross-Section and other technical studies, reports and memorandums.

**Task 3.7.2. Site Visits During Project Design.** The CONSULTANT will visit the site as required to obtain necessary design information.

**Task 3.7.3. Quality Control Review.** The CONSULTANT will provide quality control reviews of the deliverables listed below.

**Deliverables:**

- All data necessary to complete the DCR, EA, 15% Plans and Cross-Section and other technical studies, reports and memorandums.
- Responses to all review comments.

## **TASK 3.8 ENVIRONMENTAL IMPACT SCREENING**

Project design should follow the ESR guidelines listed in the Pima County RDM. The project is identified as an ESR because the project borders some Important Riparian Areas. Generally, modification of Important Riparian Areas requires preservation of 95 percent as natural undisturbed open space, and mitigation is required for modification of up to five percent of the areas. Mitigation varies depending on the type of riparian habitat and may be as much as re-vegetating at a 1.5:1.0 ratio of acres of mitigation land to modified land with 90 trees per acre, 200 shrubs per acre, hydro-seeding with native species, installing irrigation, and providing maintenance. Project coordination and design must follow the ESR guidelines detailed in the Pima County RDM.

**Assumptions:**

1. *Pima County Department of Environmental Quality will serve as a resource to the CONSULTANT, as well as reviewing draft documents.*
2. *Pima County's Environmentally Sensitive Roadway Design guidelines apply to this project.*
3. *The Office of Sustainability and Conservation will develop the Cultural Resources Assessment and Report by a separate contract. The CONSULTANT will coordinate with the Office of Sustainability and Conservation regard cultural efforts to be included in the DCR and EA.*
4. *A "No Build" alternative will be included in the analysis of the project.*
5. *Subconsultants EEC, Wilder and EcoPlan will contribute to Environmental Impact Screening, see Appendices C, D, and E.*

**Task 3.8.1. Environmental Coordination Meeting.** The CONSULTANT will conduct field visits of the project area and arrange a meeting with the project design team to discuss issues that would assist in completing the Questionnaire for Areas of Impact and to review the Summary Impact Matrix. The CONSULTANT will coordinate with Game and Fish regarding potential wildlife corridors.

**Task 3.8.2. Questionnaire for Establishing Potential Areas of Impact.** The CONSULTANT will complete the questionnaire using field visits, correspondence, other reports, specialists, and other information. All sources will be cited.

**Task 3.8.3. Summary Impact Matrix.** The CONSULTANT will complete the matrix. The CONSULTANT will use the matrix to establish potential adverse environmental impacts. The Summary Impact Matrix will incorporate the results of the Cultural Resources review effort (by others), Jurisdictional Delineation conducted as part of Task 3.18.4, Section 401 and 404 permitting requirements, and Hazardous Materials Investigation conducted as part of Task 3.18.5. Additional data collection for zoning, planned developments, potential annexation and planned developments and relevant planning documents collected as part of Task 3.7.1 will be incorporated as necessary to consider potential design modifications.

**Task 3.8.4. Environmental Results Memorandum.** The CONSULTANT will prepare a memo to summarize the screening process, discuss issues noted, recommend courses of action, and identify issues that exceed original scope of work. The CONSULTANT will review and discuss the results of the screening with the design team and ADOT to determine the proper NEPA "class of action" and level of NEPA determination for the project.

**Task 3.8.5. Team Review.** The CONSULTANT will plan, prepare for, and attend a project team meeting to review and discuss environmental concerns.

**Task 3.8.6. Project Modifications/Alternatives.** The CONSULTANT will document project changes and their anticipated environmental effects. A "No Build" alternative will be included in the analysis for the project.

**Task 3.8.7. Quality Control Review.** The CONSULTANT will provide quality control reviews of the deliverables listed below.

**Deliverables:**

- Meeting minutes, prepared, distributed to project team, and revised as needed.
- Completed Questionnaire for Establishing Potential Areas of Impact.
- Completed Summary Impact Matrix.
- Completed Environmental Results Memorandum.
- Memorandum detailing project changes and anticipated environmental effects.
- Responses to all review comments.

### **TASK 3.9 LOCATION REPORT**

**Assumption:**

1. A Location Report is not required for this project.

### **TASK 3.10 SURVEY AND MAPPING**

**Assumptions:**

1. The CONSULTANT will review survey and mapping available for the project that was obtained during the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project to determine the extent of additional survey and mapping needed for the project. The CONSULTANT will update the existing surveying and mapping as necessary to comply with Task 3.10.6.
2. The CONSULTANT shall meet or exceed Aerial Mapping accuracy standards based on the ASPRS (American Society of Photogrammetry and Remote Sensing) for large scale maps. These standards include the following, Horizontal 1/100 of map scale, Vertical 1/3 of contour interval, spot elevation 1/6 of contour interval. The CONSULTANT will perform additional cross sections on the roadway to enhance vertical accuracy and to aid the design in determining pay quantities in accordance with the Standard Specifications for earthwork, e.g. – roadway excavation, drainage excavation, embankment demand and borrow. This task will require the CONSULTANT checking assumptions 3 and 4 below.
3. The CONSULTANT shall perform a Design Survey as necessary for the project to verify mapping accuracies such that the topographic mapping and differential digital terrain model (DTM) are sufficiently accurate

4. The CONSULTANT will coordinate its survey activities with PIMA COUNTY SURVEY. Field surveys will be conducted in conformance with established Arizona Boundary Survey Minimum Standards and Pima County RDM.
5. The CONSULTANT will perform a Geodetic Control Survey based upon the Arizona State Plane Coordinate System of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88) by using N.G.S. control points and tying into PCDOT approved G.I.S. control.
6. The PIMA COUNTY SURVEY will provide Vertical and Horizontal control to be utilized by the CONSULTANT.
7. The CONSULTANT will provide right-of-way, utility base mapping, and supplemental surveys along with the appropriate document research to support these surveys.
8. The CONSULTANT will coordinate utility location activities with utilities. CONSULTANT shall coordinate with County appointed representative coordinating blue stake locating activity.
9. Additional survey research will be conducted at the County to identify any benchmarks from previous improvement projects with descriptions and elevations, copies of any section corner recovery records along the right-of-way that tie the project to the Public Land and Survey System (PLSS) corners.
10. The Right of Way plans will depict the existing and proposed Right of Way Lines for the length of the project.
11. Existing right-of-way will be documented in the form of a CAD reference file. This information will be used for the DCR phase of the project.
12. The CONSULTANT will stake approximately 40 pothole locations as for utilities and provide existing pipe/conduit elevations at said locations. This work is described under Task 3.30.1 Additional Services.
13. **Subconsultant EEC will be providing Surveying and Mapping for CONSULTANT pursuant to Scope and Fee as indicated in Appendix C.**

**Task 3.10.1. Initial Planning and Reconnaissance.** The CONSULTANT will hold a formal coordination meeting with PIMA COUNTY SURVEY prior to the start of any survey efforts to identify/discuss survey mapping project requirements and procedures and how the survey efforts will be coordinated with the CONSULTANT design team.

**Task 3.10.2. Horizontal Control.** The CONSULTANT will run a Geodetic Control Survey based on NAD 83 and NAVD 88 datums by using PCDOT provided N.G.S. control points and tying to PC/COT approved GIS control points. The CONSULTANT will run a closed field traverse through, or incorporate into, the primary project controls provided by County Survey. The CONSULTANT will also field reference control points, and other found monuments, within the existing right-of-way, outside of the construction area. County Survey will review the closed field traverse run by the CONSULTANT and the field references.

**Task 3.10.3. Vertical Control Traverse.** The CONSULTANT will establish a bench circuit originating from PCDOT provided GIS vertical control points to prescribed field accuracy. The work will include mathematically adjusting the remaining error. The work also includes setting construction benchmarks at 500' intervals outside of the proposed construction areas and on alternating sides of the roadway. County Survey will field verify all vertical control points set from the PCDOT approved GIS points.

**Task 3.10.4. Results of Survey Drawing.** The CONSULTANT will prepare a Results of Survey Drawing showing existing section lines, right-of-way, ownership, and existing features for the length of the project. Approximate property lines will be included on the Results of Survey by the CONSULTANT. If necessary, for easement or R/W acquisitions, the CONSULTANT will perform parcel survey(s) limited to the budget included in the Fee Calculation.

**Task 3.10.5. Topographic Mapping.** The CONSULTANT will provide photogrammetric mapping in Microstation V8 and AutoCAD 2016 or newer version, including a digital terrain model, ortho-photos, and digital files in County .tif format. Aerial ground control will be provided by the CONSULTANT and will be field checked by the County Survey prior to the results being transmitted to the aerial company. The CONSULTANT will perform cross sections at 100-ft intervals along the existing roadway centerline and edges of pavement, and at critical drainage elements (v-ditches, culvert depressions, drainage break-lines, and all other drainage features) to enhance the aerial ground DTM so that it meets or exceeds 0.1 foot accuracy.

**Task 3.10.6. Utility Surveys.** The CONSULTANT will locate underground utilities as identified and marked by others from for the length of the project. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities will be by the CONSULTANT.

**Task 3.10.7. Culture Surveys.** The CONSULTANT will locate fences, mail boxes, culverts and manhole inverts, drainage features and flows, and match-in locations along the project length. The work will also include the CONSULTANT converting field results into Microstation V8 CAD and AutoCAD 2016 or newer version format.

**Task 3.10.8. Right-of-way of Surveys.** After analyzing the initial field survey, the CONSULTANT will field locate all relevant survey monuments including right-of-way centerline monuments, property corners and existing occupation, to determine the existing right-of-way lines. The CONSULTANT will coordinate with County Survey in defining the existing right-of-way for the project. The CONSULTANT will analyze the results and prepare Right-of-Way plans as part of this task.

**Task 3.10.9. Roadway Design Manual Survey Efforts.** The CONSULTANT will complete other survey related tasks as identified and provided within the Design Manual.

**Task 3.10.10. Legal Descriptions & Reference Maps.** The CONSULTANT will prepare legal descriptions and maps for new right-of-way, drainage easements, temporary construction easements, and other land acquisition needs as requested by the County. Legal description reference maps will be 8.5"x11". The CONSULTANT shall include effort for the preparation of legal descriptions and associated reference maps and the probable need for determining parcel property lines.

**Task 3.10.11. Boring Locations.** The CONSULTANT will stake boring hole locations as provided by geotechnical investigation and provide existing ground elevations at said locations.

**Task 3.10.12. Quality Control Review.** County Survey and the CONSULTANT will provide quality control reviews of the Survey and Mapping deliverables listed below.

**Deliverables:**

- Digital black & white files (uncolored digital photo) to the County in .tif format and digital ASCII points files in comma delimited format.
- Results of survey drawings by PIMA COUNTY of existing right of way conditions.
- Results of right of way survey will be provided in accordance with the Pima County RDM in strip map format showing right-of-way data (including existing and proposed right-of-way lines, parcel lot lines, parcel numbers, locations of buildings close to or within right-of-way takes, etc.) with the preliminary Right-of-Way Plan submittal. Potential acquisition and easements will be identified on the drawing.
- Responses to all review comments.

## **TASK 3.11 DRAINAGE REPORT**

**Assumptions:**

1. *The CONSULTANT will field survey drainage features under Task 3.10.8.*
2. *Existing condition models will be provided by PCRFC.*
3. *The CONSULTANT shall coordinate its activities with the City of Tucson. PCRFC is available for courtesy reviews and will review and approve any floodplain impacts for the any portion of the analysis within unincorporated Pima County.*
4. *The proposed embankment fill for Sunset Road from the UPRR bridge to The Loop is assumed to be located within the 100-year and 500-year floodplain limits of the Rillito River.*
5. ***Subconsultant WSP will be responsible for Drainage Report pursuant to Scope and Fee as indicated in Appendix B.***

**Task 3.11.1. Review Existing Plans and Reports.** The CONSULTANT will review available plans and reports for existing improvements and identify drainage features and flows, including but not limited to the following:

- Floodplain Delineation Study of Rillito Creek, dated December 2003, PCRFC
- Ruthrauff Basin Management Plan, dated February 2017, PCRFC

**Task 3.11.2. Hydrologic and Hydraulic Modeling.** The CONSULTANT will prepare a drainage map showing watercourses and associated drainage areas for drainage crossing the roadway. The work will include determining basin areas and other hydrologic properties for offsite drainages impacting the project unless otherwise provided by the City of Tucson or PCRFCFCD. The work will also include determining the peak discharges and precipitation-induced hydrographs at key points within the watershed using PCRFCFCD methodology. This Task will include evaluating local offsite flows and roadway flows. Riverine modelling for the Rillito River shall employ the most recent effective model approved by FEMA as a basis for establishing existing conditions, unless FEMA requires a corrected effective model to account for terrain and development changes since the date of the effective model.

The CONSULTANT will obtain the latest approved PCRFCFCD modeling for flows which impact the project.

The CONSULTANT will model the 10-year, 50-year, 100-year and 500-year peak discharges, hydrographs and water surface elevations for existing and proposed conditions. The aerial extent of the project models shall include the floodplain limits for the Rillito River for sufficient coverage to accurately model the water surface elevations in the Rillito River and local flows adjacent to the project limits.

The models shall include any improvements that impact water surface elevations caused by the I-10 widening project from Ina Road to Ruthrauff Road.

The latest available hydraulic and hydrology models provided by PCRFCFCD shall be used for riverine regional modelling. Flo-2D Pro with a 10-foot grid shall be used for modeling local offsite flows. These methods shall be used unless justification for using a different modeling software is approved by the governing flood control jurisdiction, either City of Tucson or PCRFCFCD. All work shall follow PCRFCFCD Technical Policies or as directed by the governing flood control jurisdiction.

The CONSULTANT shall coordinate with the City of Tucson and PCRFCFCD prior to initiating modeling to verify that modeling strategy is acceptable. At the first coordination meeting, CONSULTANT and PCRFCFCD will determine if the CONSULTANT has sufficient information and electronic files, and PCRFCFCD will provide available data. A schedule for milestone meetings will be developed. The CONSULTANT shall prepare a Modeling Memorandum documenting modeling protocols accepted by PCRFCFCD, including a table of Flo-2D modeling parameters and a milestone meeting schedule.

The CONSULTANT will analyze the local scour associated with substructure for the bridge over the Rillito River and an electrical transmission pole foundation located in the Rillito River. The scour analysis will follow the procedures in the PCRFCFCD and PCDOT "Guidelines for Establishing Scour and Freeboard for Bridges in Pima County" dated August 2012. The CONSULTANT will prepare plans (if required) for scour countermeasures to be included in the Bridge Selection Report and the 30% Plans.

**Task 3.11.3. Drainage Maps and Exhibits.** The CONSULTANT will prepare existing and proposed conditions drainage maps showing floodplain limits for 10-year, 50-year, 100-year and 500-year peak discharges. Additional exhibits required are existing and proposed conditions flow depths and velocities and exhibits showing the differences between existing and proposed conditions in accordance with PCRFCFCD mapping standards. Roadway drainage structures may need to be revised to improve flow conditions, to avoid utility conflicts or to optimize upstream and downstream flow diversions, channels or erosion protection.

**Task 3.11.4. Drainage Reports.** The CONSULTANT will prepare a report described in Appendix B.

**Task 3.11.5. FEMA Requirements.** CLOMR and LOMR will be completed during the Design-Build Phase.

**Task 3.11.6. Quality Control Review.** The CONSULTANT will provide quality control reviews of the drainage report for each submittal.

**Deliverables:**

- Drainage Overview with Graphics, see Appendix B
- Drainage maps and exhibits with Drainage Overview
- Scour Analysis and scour countermeasure plans (if required)
- Responses to all review comments.

## **TASK 3.12 GEOTECHNICAL INVESTIGATION**

### **Assumptions:**

1. The CONSULTANT will review the Geotechnical Report that was prepared during the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road (Phase 1) project which included two borings in the Rillito River and one boring on Sunset Road between the UPRR structure and The Loop. The CONSULTANT will incorporate previous geotechnical data into the Geotechnical Report for the project.
2. The Geotechnical Report will include subsurface investigations and recommendations for bridge foundations on Sunset Road at the UPRR & Rillito River.
3. The CONSULTANT will be apprised of trenching for cultural sites (approximately 10' deep) that will be done by an on-call consultant contract from the Office of Sustainability and Conservation for the area under proposed embankment fills between the UPRR bridge and The Loop. The CONSULTANT will propose coordinated efforts, if possible.
4. ***Subconsultant Golder will be conducting Geotechnical Investigation pursuant to Scope and Fee proposal indicated in Appendix F.***

**Task 3.12.1. Geotechnical Testing and Analysis and Report.** The CONSULTANT will provide geotechnical testing, analysis, and report per Section 3.12 of the Design Manual and the Preliminary Engineering & Design (PE&D) manual of the ADOT Material Group. The recommendations from the geotechnical investigation will be incorporated into the DCR, 15% Plans and Bridge Selection Reports.

The scope of fieldwork is estimated to include approximately 13 soil borings. Approximately 2 will be located in pavement widening areas and will typically be to depths of 5 feet. Approximately 6 soil borings are locations identified as bridge abutments and piers (not previously investigated) and will be approximately 140 to 150 feet deep. The remaining 5 borings approximately 60 to 70 feet deep will be at locations where large amounts of roadway embankment will be placed and where settlement may occur. The CONSULTANT will obtain up to 5 shallow depth grab samples for use in resistivity and PH testing in the case metal pipes are used on the project due to Value Engineering.

The CONSULTANT will provide appropriate laboratory testing for representative soil samples. Recommendations will be developed based on applicable PCDOT, and ADOT standards. The results of all investigations, as well as recommendations will be provided in one consolidated Geotechnical Report.

Note: Prior to performing any fieldwork, Consultant will obtain right-of-way permits from Pima County, contact Arizona Bluestake for underground utility location(s), and provide traffic control according to the permit while working.

**Task 3.12.2. Quality Control Review.** The CONSULTANT will provide a quality control review on the Geotechnical Report.

### **Deliverables:**

- Initial Geotechnical Report per Section 3.12 of the Design Manual.
- Responses to all review comments.

## **TASK 3.13 PAVEMENT DESIGN REPORT**

### **Assumptions:**

1. ESAL calculations will be provided by the CONSULTANT to assist with the pavement design.
2. ***Subconsultant Golder will be preparing Pavement Design Report pursuant to Scope and Fee proposal indicated in Appendix F.***

**Task 3.13.1. Pavement Design Report.** The CONSULTANT will perform pavement design following the updated PCDOT methodology. The CONSULTANT will prepare the Pavement Design Report per Section 3.13 of the Design Manual and include the following:

- A summary of the general geotechnical characteristics of the soil;
- Traffic data considerations being used for the development of the pavement structure;
- Discussion concerning the procedures and results of the pavement structure design;
- Recommended structural sections, including alternatives, with criteria such as cost, construction and other factors considered;

**Task 3.13.2. Quality Control Review.** The CONSULTANT will provide a quality control review on the Initial Pavement Design Report.

**Deliverables:**

- Initial Pavement Design Report per Section 3.13 of the Design Manual.
- Responses to all review comments.

**TASK 3.14 BRIDGE STRUCTURE SELECTION REPORT**

**Assumptions:**

1. None

**Task 3.14.1. Bridge Structure Selection Report.** The CONSULTANT will evaluate various materials and approaches to determine the most suitable structure type to be used for the bridge carrying Sunset Road over the Union Pacific Railroad and the Rillito River. Alternatives will be developed for foundation systems, substructures, and superstructures. Comparative cost estimates and advantages and disadvantages will be studied. Consideration will be given to driven piles, drilled shafts, and spread footing foundations. Superstructure alternatives will include cast-in-place box girders, precast concrete I-girders, precast concrete box girders, and steel girders. The results of the study will be documented in the Preliminary Bridge Structure Selection Report.

**Task 3.14.2. Quality Control Review.** The CONSULTANT will provide a quality control review on the Bridge Structure Selection Report.

**Deliverables:**

- Preliminary Bridge Structure Selection Report
- Responses to all review comments.

**TASK 3.15 TRAFFIC ENGINEERING REPORT**

**Assumptions:**

1. The CONSULTANT will review the Initial Traffic Report that was prepared for the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project. The limits for the Initial Traffic Report are from Silverbell Road to River Road. The Consultant will use this information as the basis for developing the Initial and Final Traffic Engineering Report for the project.
2. The CONSULTANT will obtain current design year traffic volumes from the current PAG 2045 regional model and use the future traffic volumes to model traffic for the project.
3. CONSULTANT will participate in monthly progress meetings, over-the-shoulder review meetings, comment review meetings, public open houses and other coordination Meetings as necessary.
4. The CONSULTANT will include in the analysis a new full access intersection and a right-in/right-out intersection on Sunset Road on the southerly approach to the Sunset Road Traffic Interchange for the proposed Sunset Campus development.
5. The CONSULTANT will prepare exhibits and visual simulations for public open house meetings.
6. CONSULTANT to provide three copies of the Traffic Engineering Report at each submittal.
7. Subconsultant Kittelson will be preparing Traffic Engineering Report pursuant to Scope and Fee as indicated in Appendix G.

**Task 3.15.1. Initial Traffic Engineering Report.** The CONSULTANT will complete an Initial Traffic Engineering Report for the project in accordance with the RDM.

**Task 3.15.2. Final Traffic Engineering Report.** The CONSULTANT will complete a Final Traffic Engineering Report for the project in accordance with the RDM.

**Task 3.15.3. Meetings.** CONSULTANT's Traffic Engineering Report Task Leader will attend project meetings, PCDOT Traffic meetings, and public meetings as needed.

**Task 3.15.4. Quality Control Review.** The CONSULTANT will provide quality control review of the Traffic Engineering Report.

**Deliverables:**

- Initial Traffic Report
- Final Traffic Report
- Display materials and Visual Simulations as needed.
- Meeting minutes, distributed to project team, and revised as needed.
- Responses to all review comments.

**TASK 3.16 ARTERIAL STREET LIGHTING DESIGN REPORT**

**Assumptions:**

1. None
2. *Subconsultant AECOM will be preparing Arterial Street Lighting Report pursuant to Scope and Fee indicated in Appendix A.*

**Task 3.16.1. Lighting Design Report.** The CONSULTANT will prepare a Draft and Final Street Lighting Report in accordance with the Pima County Roadway Design Guideline for the following locations:

- Sunset Road southerly approach to Traffic Interchange
- Sunset Road from Traffic Interchange to River Road
- Sunset Road and River Road Intersection CONSULTANT will perform the analysis as follows:
  1. Lighting Design per Section 3.16 of the Design Manual.

**Task 3.16.2. Quality Control Review.** The CONSULTANT will provide quality control review of the Street Lighting Report.

**Deliverables:**

- Initial Arterial Street Lighting Design Report
- Lighting layout and cost estimates to be included in the DCR and 15% Plans and cost estimate.
- Meeting minutes, distributed to project team, and revised as needed.
- Display materials as needed.
- Responses to all review comments.

**TASK 3.17 DESIGN CONCEPT REPORT (DCR)**

**Assumptions:**

1. *The CONSULTANT will review the DCR that was prepared for the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project. The CONSULTANT will incorporate pertinent information into the DCR for this project.*
2. *The CONSULTANT will include a new intersection having full access and a right-in/right-out intersection on Sunset Road on the southerly approach to the Sunset Road Traffic Interchange for the proposed Sunset Campus development.*
3. *Assume no major opposition and a 12 month project duration for the development of the DCR and EA.*
4. *This project is identified as an ESR and is subject to the additional requirements found in Section 4.0 of the RDM.*
5. *The CONSULTANT prepare the DCR per Section 3.17 of the RDM except that the format will be acceptable to ADOT.*
6. *Subconsultants AECOM, WSP, Wilder & EcoPlan will be contributing to DCR pursuant to Scopes and Fees indicated in Appendices A, B, D, and E.*

**Task 3.17.1. Executive Summary/Project Overview and Description.** The CONSULTANT will prepare the executive summary and project overview and description for the Design Concept Report.

**Task 3.17.2. Project Area Characteristics (Existing Conditions).** The CONSULTANT will prepare the description of existing conditions, including traffic and crash data for the DCR. The COUNSULTANT will include descriptions of conditions that could result in design modifications within the project study area for the following topics:

- Surrounding Topography and Terrain
- Existing Roadway and Geometric Deficiencies
- Rights-of-Way



- Drainage
- Signals and Lighting
- Utilities
- Existing Vegetation
- Biological Resources
- Archaeological and Historical Resources
- Visual Resources
- Existing and Future Land Use
- Current Zoning
- Public Lands Jurisdiction
- Intergovernmental Agreements
- Traffic and Accident Data (Provided by PCDOT and PAG)

**Task 3.17.3. Design Standards, Criteria and Features/Alternatives.** The CONSULTANT will prepare the description of design standards and criteria and description of major design features and alternatives considered for the DCR including but not limited to geometric standards, design standards, slope standards, pavement structure, design speed, drainage design, access control, cross-section elements, right-of-way width. The CONSULTANT will prepare a detailed Design Criteria Summary for the project. The Design Criteria Summary shall include all pertinent design related criteria for each Agency's jurisdiction for roadway and bridge designs to be used for the project. The Design Criteria Summary shall be coordinated with PCDOT, ADOT and COT staff (as appropriate) so that a final approved listing is developed prior to the start of the development of the project.

**Task 3.17.4. Social, Economic, and Environmental Considerations/Public Involvement Efforts & Agency Coordination.** The CONSULTANT will prepare the description of social, economic, and environmental considerations, summarize public involvement efforts, and describe agency coordination for *the DCR*. This description will be consistent with the information necessary to evaluate design alternatives for an Environmentally Sensitive Roadway. The follow areas will be addressed; air quality, biological resources, community resource impact, hazardous materials, historic/cultural resources, noise and visual/aesthetic resources.

**Task 3.17.5. Design Concept Report with Conclusions and Recommendations.** The CONSULTANT will compile information developed from this effort and from other studies and reports into a Design Concept Report. Additionally, the CONSULTANT will prepare the conclusions and recommendations. The CONSULTANT will identify, develop, evaluate, and describe roadway design and as and if applicable: project constraint avoidance alternatives; construction phasing concepts; and implementation strategy. The CONSULTANT will include in the DCR a summary of the recommendations where appropriate from the various supporting reports including but not limited to; Preliminary Bridge Selection Reports, traffic Report, Initial Geotechnical Report, Initial Pavement Design Report, Drainage Overview, Initial Utility Report and any other information pertinent to the project. The CONSULTANT will coordinate the initial and final DCR with ADOT for their review and comment. The DCR will be in a format acceptable to ADOT for their use in the Design-Build phase.

**Task 3.17.6. Cost Estimate.** The CONSULTANT will prepare preliminary project cost estimate, with quantity take-off calculations based on approximate quantities of major cost items. Right-of-way costs will be provided by PCDOT.

**Task 3.17.7. Quality Control Review of DCR.** The CONSULTANT will provide a quality control review of the Design Concept Report.

**Deliverables:**

- Initial and Final Design Concept Report (30 copies with format acceptable to ADOT)
- Cost estimates and quantity take-off calculations.
- Design Criteria Summary
- Responses to all review comments.

### **TASK 3.18 ENVIRONMENTAL ASSESSMENT (EA)**

#### **Assumptions:**

1. The CONSULTANT will review the Environmental Assessment and Mitigation Report (EAMR) that was prepared for the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project. The CONSULTANT will incorporate pertinent information into the EA for this project.
2. An Environmental Assessment (EA) is assumed to be the appropriate level of NEPA documentation for the project. No major opposition to the project is anticipated.
3. A 12 month schedule is assumed for the DCR and EA phase of the project.
4. A "No Build" alternative will be included in the analysis of the project.
5. Pima County's Environmentally Sensitive Roadway Design guidelines apply to this project.
6. The Cultural Resources Assessment and Report will be done by a separate contract from the Office of Sustainability and Conservation.
7. Thirty copies of the final EA will be provided.
8. Subconsultants EcoPlan, Wilder and EEC will be participating the preparation of the EA pursuant to the Scopes and Fees indicated in Appendices E, D and C.

**Task 3.18.1. Cultural Resources Assessment and Report.** The CONSULTANT will coordinate the Sunset Road: I-10 to River Road project with the Office of Sustainability and Conservation and their consultant who will be performing all work required to complete the Cultural Resource Assessment and Report.

The CONSULTANT will incorporate the initial and final Cultural Resources Assessment and Reports (done by others) into the EA. The CONSULTANT's efforts will include coordination of review comments and assuring that all aspects of the project have been considered.

The Office of Sustainability and Conservation anticipates subsurface investigations as part of the resource assessment efforts. The CONSULTANT will include environmental clearance for cultural resource efforts in the project.

**Task 3.18.2. Section 4(f) Resources.** The CONSULTANT will evaluate if any Section 4(f) properties are within a ¼ mile of the project. If there are 4(f) properties affected by the project, the CONSULTANT propose mitigation strategies for impacts attributable to the project. A list of potential 4(f) facilities will be identified in the DCR.

**Task 3.18.3. Biological Evaluation/Wildlife Habitat.** The CONSULTANT will prepare a biological evaluation using the ADOT format. The CONSULTANT shall conduct a Pima Pineapple Cactus (PPC) survey. Technical assistance from the USFWS shall be included for all federal threatened or endangered species. The CONSULTANT shall include a summary of the Biological Evaluation in the EA and include the report in the Appendix. The CONSULTANT shall provide five copies of the Draft Biological Evaluation for Pima County's review and comments. Upon approval of the Draft report, five copies of the Final Report shall be forwarded to Pima County for their records. Final review and approval of the Biological Evaluation will be by ADOT.

**Task 3.18.4. Vegetation Sampling/Measurement.** After wash disturbances are identified, the CONSULTANT will conduct an inventory of vegetation and protected plant species using methods described in Chapter 4 of the RDM for an ESR and as modified by the July 2015 update to Appendix 4D of the Environmentally Sensitive Roadway Design Guidelines. The CONSULTANT will develop a technical report detailing the methodology and outcome of said investigation, along with the appropriate mitigation requirements. The CONSULTANT shall include a summary of this effort and results in the EA.

**Task 3.18.5. Clean Water Act Permitting.** The CONSULTANT will prepare a preliminary Jurisdictional Delineation Report and identify Section 404 Permit requirements. The CONSULTANT shall prepare appropriate documents for a non-notifying nationwide permit.

**Task 3.18.6. Hazardous Materials Survey.** The CONSULTANT will complete a Preliminary Initial Site Assessment (PISA) for hazardous materials within the current right-of-way, potential right-of-way, and easements associated with the project and provide a Draft and Final PISA Report (CONSULTANT shall use appropriate ADOT form). The PISA shall comply with ASTM E-1528-14 per the 2017 ADOT Hazmat procedures (Standard Practice for Limited Environmental Due Diligence). This will include:

1. Conduct Site Reconnaissance (Section 9 of Standard)
2. Regulatory Database Review (Section 10.1 of Standard)
3. Historical Source Review (Section 10.2 of Standard)

**Task 3.18.7. Air Quality.** The CONSULTANT will review potential effects on air quality and report findings. The project is not within the Pima County Rillito PM10 non-attainment area, thus no Project-Level PM10 Quantitative Hot-Spot Analysis – Project of Air Quality Concern Questionnaire will be required. No quantitative Mobile Source Air Toxins (MSAT) analysis is required as the project meets MSAT Tier 1 – No meaningful potential for MSAT effect. This project is located within a CO Maintenance Area.

**Task 3.18.8. Environmental Documentation.** The CONSULTANT will prepare an EA following Section 3.18 of the Roadway Design Manual that will satisfy both Pima County and ADOT requirements for this phase of the project. The CONSULTANT will coordinate the initial and final EA with PDEQ and ADOT for their review and comment. The final EA will be in a format acceptable to ADOT for their use in the Design-Build phase.

**Task 3.18.9. Noise Analysis.** The CONSULTANT will provide a Traffic Noise Analysis, evaluating potential traffic noise impacts to sensitive uses adjacent to Sunset Road in accordance with current PCDOT Procedure 03-5, FHWA requirements, and as discussed in Chapter 4 of the RDM for an ESR. The Traffic Noise Model will be used to predict future (2045 or approved other) noise levels within the project area and to identify, as appropriate, noise mitigation components. A Draft and Final Traffic Noise Analysis Report will be prepared.

**Task 3.18.10. Visual Analysis.** The CONSULTANT will provide a Visual Analysis, discussing important views and other aesthetic resources affected by the project and include any special measures under consideration. The Draft and Final Visual Analysis Report will be reviewed by Pima County and ADOT.

**Task 3.18.11. Riparian Habitat Impact Assessment.** CONSULTANT will identify riparian areas located within the project limits and determine impacts to riparian habitat in compliance with Article X of the Floodplain Ordinance (Title 16 of the Pima county Code). The CONSULTANT will coordinate with PCRCD and COT staff to confirm the documentation and mitigation requirements for a riparian permit. CONSULTANT will prepare necessary documentation for the floodplain use permit application. The CONSULTANT will rely on the inventory and analysis conducted for the vegetative inventory (see Task 3.18.3) in support of the application and no further vegetation inventory will be conducted.

**Task 3.18.12. Quality Control Review of EA.** The CONSULTANT will provide a quality control review of the Environmental Assessment.

**Task 3.18.13. Environmental Assessment.** The CONSULTANT will provide an Environmental Commitments memorandum to ADOT Environmental Planning (EP) at the completion of the appropriate technical reports to include; Biological Evaluation, Cultural Resources Class I/III report and consultation, Preliminary Initial Site Assessment and noise analysis. The technical reports and memorandum will be submitted with the Initial DCR documents. The CONSULTANT will coordinate any non-standard environmental commitments (mitigation measures) with PCDOT and ADOT to obtain both of their approvals.

**Deliverables:**

- Cultural resources inventory and report; consultation letters (prepared by others).
- Biological Evaluation prepared to U. S. Fish and Wildlife Service and ADOT requirements.
- Vegetation Inventory, including listing of protected plants done in conformance with methods identified in the RDM for an ESR.
- Preliminary Jurisdictional Delineation Report and appropriate nationwide permits prepared to meet COE standards and ADOT requirements.
- Draft and Final Preliminary Initial Site Assessment for hazardous materials.
- Draft and Final Traffic Noise Analysis Report.
- Draft and Final Visual Analysis
- EA including 15% Design Plans per ADOT requirements.
- Responses to all review comments.
- Environmental Commitments Memorandum

### **TASK 3.19 RIGHT-OF-WAY ACQUISITION SUPPORT**

#### **Assumptions:**

1. The CONSULTANT will identify parcels from which right-of-way or easements will be required, with title research for said parcels being the responsibility of the County.
2. PCDOT will obtain any Rights-of-Entry required for this project.
3. The preparation of legal descriptions and reference maps by CONSULTANT are covered under Task 3.10.12.
4. Subconsultant EEC will be providing Right-of-Way Acquisition Support pursuant to Scope and Fee indicated in Appendix C.

**Task 3.19.1. Existing Right-of-Way and Easements.** The CONSULTANT will provide PCDOT with a list of parcels from which right-of-way or easements will be required. PCDOT will furnish any title reports required for this project based on the CONSULTANT's list. The CONSULTANT will review title reports and other recorded information to verify current right-of-way and easements. The CONSULTANT will perform any research, calculations, and additional survey needed to establish existing property and right-of-way lines to be affected by this project and integrate into mapping.

**Task 3.19.2. Right-of-Way Plans.** The CONSULTANT will prepare 1"=40' right-of-way plans for the project, as per Pima County RDM 3.19 and Appendix 3-O-1. In addition to existing information, all proposed right-of-way and/or easements required shall be shown with complete dimensions. Ownership data and areas required shall be shown. The CONSULTANT will coordinate with and incorporate feedback from Pima County in preparing documents and in identifying properties for potential acquisition and easements.

**Task 3.19.3. Quality Control Review of Right-of-Way Documents.** PIMA COUNTY SURVEY will provide a quality control review of the Right-of-Way documents prior to acceptance.

#### **Deliverables:**

- Initial and Final Right-of-Way Report
- List of parcels from which right-of-way or easements will be required.
- Right-of-way plans.
- Responses to all review comments.

### **TASK 3.20 PREPARATION OF PLANS AND CROSS-SECTIONS**

#### **Assumptions:**

1. The CONSULTANT will review the plan and profile sheets that were prepared for the Sunset Road: I-10 to River Road as part of the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project. The CONSULTANT will incorporate pertinent information into the DCR for this project.
2. Roadway cross sections will be provided by the CONSULTANT.
3. Noise wall layout and cost estimation is included in the project.
5. Final 15% Design Plans will be at a level of detail such that right-of-way acquisition and environmental studies can proceed without rework.
6. It is assumed that construction sequencing concepts will be addressed in the DCR.
7. The CONSULTANT will incorporate designs for a new intersection having full access and a right-in/right-out intersection on Sunset Road on the southerly approach to the Sunset Road Traffic Interchange for the proposed Sunset Campus development.
8. The CONSULTANT will identify potential staging areas for the project.
9. No Landscape plan sheets are included in the Preparation of Plans and Cross Sections.
10. Subconsultant AECOM, WSP and Golder will be contributing to Preparation of Plans and Cross-Sections pursuant to Scopes and Fees indicated in Appendices A, B and F.

**Task 3.20.1. 15% Plans.** The CONSULTANT will prepare 15% plan and profile, typical sections and striping plans for Sunset Road. The 15% Plans will be at 1"=40' and will address horizontal and vertical alignment, cross sections, channelization, drainage, right-of-way, major and minor structures. The plans will include a portion of the proposed Sunset Road interchange.

**Task 3.20.2. 30% Plans.** 30% plans and cost estimate will not be required.

**Task 3.20.3. IGA Exhibit.** The CONSULTANT will develop an exhibit showing the improvements for Sunset Road and clearly identify the limits of funding participation by each jurisdiction.

**Task 3.20.4. Quality Control Review of Plans.** The CONSULTANT will provide a quality control review of each submittal of the construction documents.

**Deliverables:**

- 15% Plans cost estimate and quantity take-off calculations.
- Exhibit for IGA
- Responses to all review comments.

### **TASK 3.30 ADDITIONAL SERVICES**

#### **Assumptions:**

1. *Additional services are speculative in nature as the need for them, and the ultimate level of effort to be required is unknown. Therefore, relative budgets for each of these potential tasks have been identified, but may be further defined, and or modified, should the need for them or other efforts arise as part of the overall scope of work.*
2. **CONSULTANT has included hours for staff for staff to provide Additional Services as described in Fee proposal as detailed in Workhour Estimate by Task.**
3. **Subconsultants AECOM, EEC, Ecoplan and Cardno are prepared to contribute to Additional Services as described in Appendices A, C, E and H.**

**Task 3.30.1. Utility Coordination and Survey (Additional Services).** In the event a utility is unable to provide the ground marking and certified survey data requested in Task 3.3.1, the CONSULTANT shall provide Utility Quality Level B information for the utility in accordance with ASCE Standard Guidelines for the collection and Depiction of Existing Subsurface Data (CI/ASCE 38-02), page 3.

- 40 potholes per the attached sub-consultant scope of services
- Updated mapping of utility information, including potholing information
- This task also accounts for additional drafting and records research to achieve Quality Level C utility line work (valves, manholes, utility lines) and then provide approximate location points to potholing service to then achieve Quality B.
- Quality Level B information for the project waterlines

**Task 3.30.2. Other Services.** The CONSULTANT may be called upon to perform services unknown of or identified subsequent to the original scoping of the project. These efforts may be caused by unforeseen issues that arise after the development of this scope of work. Potential services could include the need to attend additional meetings, provide displays or summaries, perform additional analysis, provide additional design.

**Task 3.30.3. ADOT Design-Build Procurement Phase Services.** The CONSULTANT may be called upon to provide services beyond the DCR and EA phase. ADOT and PCDOT will coordinate all questions for Design-Build procurement phase of the project. The following additional efforts may be required:

Design-Build Procurement Phase Services may include but are not limited to:

- Attending meetings
- Assisting in the preparation of addendums
- Addressing questions regarding the portion of the project pertaining to Sunset Road: I-10 to River Road
- Price proposal evaluation

**END OF EXHIBIT "A" – SCOPE OF SERVICES**

## **EXHIBIT "B" - COMPENSATION SCHEDULE (153 pages)**

### **1. *COST PLUS FIXED FEE SCHEDULE OF PAYMENTS***

(Detailed by Major Milestone, Not to Exceed Cost by Task (Direct Labor, Indirect, and Other Direct Costs), and Fixed Fee)

(DO NOT SUBMIT THIS SCHEDULE WITH THE SOQ)

### **2. *COMPENSATION DETAILS***

#### **A. Cost Allocation and Ceilings**

The compensation schedule will contain the negotiated cost allocations for each individual task. The compensation schedule will be used to monitor cost expenditures and sets the fixed price that can be charged for work pursuant to the specified task.

#### **B. Cost Adjustments**

If, for valid reason(s), CONSULTANT notifies the Project Manager that the requisite work cannot be performed within the task's compensation allocation, and the Project Manager (PM) concurs, PCRWRD will consider modifying cost allocations. The total compensation may be increased only by formal amendment to this agreement.

#### **C. Progress Payments**

It is anticipated certain elements of the Project may take longer than one (1) month to complete. These elements may be at considerable cost to CONSULTANT prior to their full completion and acceptance by COUNTY. In such cases, at the sole discretion of COUNTY, COUNTY may authorize interim progress payments to CONSULTANT. The invoice from CONSULTANT will be proportionate to the actual percentage of work completed through the period covered by the invoice, as accepted by the PM.

#### **D. The Fixed Fee for each assignment will be negotiated on a case-by-case basis. The fee will be a percent of CONSULTANT or co-consultants level of effort cost estimate agreed to by the County excluding sub-consultants and other direct cost estimates. The fee will be fixed for the scope of work detailed in the contract. The fixed fee percentage will be based upon historical departmental percentages for similar assignments, published industry guidelines and magnitude and duration of the assignment. Fixed Fee for engineering sub-consultants will generally follow the same guidelines established for the prime consultants but can also be negotiated on a case-by-case basis as appropriate.**

#### **E. COST ITEMS**

##### **1. Hourly Billing**

##### **a. Hourly Billing Rates**

- Actual Payroll Rates within published industry standards
- Actual payroll rates for each person anticipated to be performing services on the assignment will be provided in advance of execution of the contract. Said listing will be updated on an annual basis during the term of the contract
- Hourly fee schedules for various position titles are not allowed

##### **b. Annual Salaried Professionals**

- Annual Salary individuals working a normal forty (40) hour week will be divided by two thousand eighty (2,080) hours to arrive at hourly billing rates
- Annual Salary individuals working a normal thirty-seven and one-half (37.5) hour week will be divided by one thousand nine hundred fifty (1,950) to arrive at hourly billing rates

##### **c. Allowable Annual Increases**

- Reasonable annual salary increases within published industry standards will be allowed and approved in advance

- Unusually high proposed increases and increases above published industry standards will be agreed to on a case by case basis.
- d. Sub consultants
 

Specific billing arrangements will be negotiated with specialty sub-consultants such as the following:

    - Attorneys
    - Financial Advisors
    - Surveyors
    - Subsurface Consultants
    - Specialty Consultants
  - e. Vacation/Holidays
    - Included in firm's audited multiplier
  - f. Sick Time
    - Included in firm's audited multiplier
  - g. Billing for non-productive idle time
    - No billing for vehicle driving time (commuting time)
    - Allow billing during air travel to Pima County for actual time worked on Pima County projects
    - Short-term assignments are negotiable
2. Multipliers
    - a. Only audited multipliers following Generally Accepted Accounting Principles (GAAP) or Federal Single Audit principles are allowed
    - b. Corporate, Regional or Local Audited Multipliers of firms will be negotiated for each contract
    - c. Job Site multipliers will be negotiated in the event the County provides office space or job site trailers for CONSULTANT
    - d. County will consider annual audited multipliers or fixed multipliers for the contract period
  3. Travel Time
    - a. Air Travel
      - Allow only for time spent on aircraft working on Pima County projects
    - b. Land Travel
      - Not allowed from Phoenix Metro Area to Pima County (both ways)
      - Not allowed to and from airports
    - c. Local Travel between meetings and job sites
      - Allowed
  4. Expenses
    - a. Mileage (Between Phoenix Metro Area and Pima County)
      - Approve at the established County mileage rate
      - Included in firm's audited multiplier or as other direct cost
      - Mileage for commuting not allowed
  5. Mileage – local
    - Approve at the established County mileage rate
    - Included in firm's audited multiplier or as other direct cost
    - Mileage for commuting to and from work place not allowed



- b. Car Rental/Lease/Corporate Vehicles
    - Included in firm's audited multiplier or as other direct cost
  - c. Hotel/Meals
    - Allow only for infrequent call-in of an out of state consultant for a limited period of time
    - Establish daily limits in accordance with Federal Guidelines and negotiable for unusual circumstances
    - Allowed charges to be identified as other direct costs
  - d. IT/ Phone/Internal Delivery Charges/Normal Postage/ Miscellaneous/Other Administrative Charges
    - Include in firm's audited multiplier
  - e. Relocation, second domicile or subsistence expenses
    - Negotiable on a case by case basis
  - f. Reproduction Costs
    - Bill as other direct costs if not in audited multiplier
  - g. All other direct costs will be detailed in the contract billing
6. Unallowable Costs
- a. Bonus
    - Not allowed as a direct charge or in the multiplier
  - b. Entertainment Costs
  - c. Marketing Costs
    - Only as allowed in audited multipliers
  - d. Non-identifiable Costs
  - e. Donations
    - Only as allowed in audited multipliers
  - f. Mark-up on sub-consultants
  - g. Travel time from Phoenix Metro Area to Pima County (both ways)
  - h. Air travel for commuting purposes
  - i. Interest Expense
  - j. Political and Charitable Contributions
  - k. Lobbying Costs
  - l. Fines & Penalties
  - m. Alcohol
  - n. Contingencies
  - o. Bad Debt Expense
  - p. Profit Distribution

- q. Public Relations and Related Advertising
- r. Accelerated Depreciation
- s. Losses on Other Contracts
- t. Organization / Reorganization
- u. Patents
- v. Goodwill
- w. Labor Relations
- x. Legal Expenses Caused by Negligence or Mistakes
- y. Personal Use of Company Assets (Vehicles, e.g.)
- z. Related Party Expenses that Exceed the Costs of Ownership
- aa. Unreasonably High Executive Compensation
- bb. Unreasonably High Indirect Labor
- cc. Unreasonably High Rent

**5. INVOICING**

CONSULTANT will submit invoices monthly, at the Monthly Progress Meeting, to the Project Manager, with appropriate supporting data and documentation and in a format as prescribed by the Project Manager. (Acceptance of the invoice at this meeting is not mandatory. The Project Manager may delay approval for up to five (5) work days to review the Progress Report and invoice.). The invoice will tabulate the costs associated with each individual task. All Task (deliverables) and Subcontracted Service costs will be appropriately documented. The Project Manager will review and check the invoice to determine if it is complete and acceptable. If the Project Manager determines the invoice to be complete and acceptable, the Project Manager will approve the invoice and forward it for processing the payment.

**PIMA COUNTY  
FEE ESTIMATE SUMMARY**

PROJECT: **Sunset Road: I-10 to River Road**  
TASK(s): DCR/EA I-10 to River Rd

CONSULTANT: Structural Grace  
1430 E. Ft. Lowell Road, Suite 200  
Tucson, AZ 85719  
(520) 320-0156

CONTRACT NO.:  
CONTRACT TYPE: CPFF

**Direct Labor Cost**

Classification	Estimated Hours	Contracted Avg DL Rate	Labor Cost
Project Principal	71	\$69.00	\$4,899.00
Project Manager	631	\$67.00	\$42,277.00
Senior Project Engineer	200	\$63.80	\$12,760.00
Project Engineer	236	\$41.00	\$9,676.00
Project Architect	36	\$40.00	\$1,440.00
Project Designer	140	\$32.00	\$4,480.00
Drafting / CADD / Graphics	188	\$39.00	\$7,332.00
Clerical	84	\$29.50	\$2,478.00
(A) Direct Labor	1,586 Hrs		<b><u>\$85,342.00</u></b>

**OVERHEAD**

(B) OH Rate x (A) 177.02% x \$85,342.00 = **\$151,072.41**

**PROFIT**

(C) % Profit Rate x (A+B) 10.0% x \$236,414.41 = **\$23,641.44**

**Estimated Direct Expenses**

Travel	\$204.70
Plotting	\$0.00
Reproductions	\$1,205.00
Exhibits	\$1,152.00
Specialized Vendors	\$0.00
Reports	\$5,027.40
Van/Bus Rental	\$0.00
(D) Total Estimated Direct Expenses	<b><u>\$7,589.10</u></b>

**Estimated Outside Services & Subconsultants**

AECOM	\$217,200.65
WSP	\$168,094.20
EEC	\$105,036.75
Wilder	\$37,390.65
EcoPlan	\$142,053.31
Golder	\$104,498.43
Kittelson	\$37,750.09
(F) Total Estimated Outside Services & Subconsultants	= <b><u>\$812,024.08</u></b>

**Estimated Fees**

(H) **TOTAL CONSULTANT FEE** = **\$1,079,669.03**

**PIMA COUNTY  
FEE ESTIMATE SUMMARY  
ADDITIONAL SERVICES**

PROJECT: **Sunset Road: I-10 to River Road**  
TASK(s): DCR/EA I-10 to River Rd

CONSULTANT: Structural Grace  
1430 E. Ft. Lowell Road, Suite 200  
Tucson, AZ 85719  
(520) 320-0156

CONTRACT NO.:  
CONTRACT TYPE: CPFF

**Estimated Additional Services**

**Direct Labor Cost**

<u>Classification</u>	<u>Estimated Hours</u>	<u>Contracted Avg DL Rate</u>	<u>Labor Cost</u>
Project Principal	32	\$69.00	\$2,208.00
Project Manager	48	\$67.00	\$3,216.00
Senior Project Engineer	32	\$63.80	\$2,041.60
Project Engineer	-	\$41.00	\$0.00
Project Architect	-	\$40.00	\$0.00
Project Designer	-	\$32.00	\$0.00
Drafting / CADD / Graphics	-	\$39.00	\$0.00
Clerical	-	\$29.50	\$0.00
(A) Direct Labor	112 Hrs		<u><b>\$7,465.60</b></u>
OVERHEAD			
(B) OH Rate x (A)		177.02% x	7,465.60 = <u><b>\$13,215.61</b></u>
PROFIT			
(C) % Profit Rate x (A+B)		10.0% x	20,681.21 = <u><b>\$2,068.12</b></u>

**Estimated Direct Expenses**

Travel	\$204.70
Plotting	\$0.00
Reproductions	
Exhibits	
Specialized Vendors	
Reports	
Van/Bus Rental	
(D) Total Estimated Direct Expenses	<u><b>\$204.70</b></u>

**Estimated Outside Services & Subconsultants**

AECOM	\$12,454.18
WSP	
EEC	\$9,165.75
Wilder	
EcoPlan	\$3,280.84
Golder	
Cardno	<u>\$45,902.61</u>
(F) Total Estimated Outside Services & Subconsultants	= <u><b>\$70,803.38</b></u>

**Estimated Fees**

(H) TOTAL CONSULTANT FEE	= <u><b>\$93,757.40</b></u>
--------------------------	-----------------------------

# Fee Estimate Worksheets by Task and Team Member

## Fee Summary by Task and Team Member

MAIN TASK #	Main Task Description	Structural Grace	AECOM	WSP	EEC	Wilder	EcoPlan	Golder	Kittelson	Cardno	COST
Task 3.2	Quality Control Plan and Project Management	\$83,488.34	\$30,961.96	\$38,824.12	\$5,142.50	\$5,775.00	\$15,229.76	\$0.00	\$0.00	\$0.00	\$179,421.70
Task 3.3	Utility Coordination	\$18,734.31	\$48,670.54	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$67,404.85
Task 3.4	Public Participation	\$16,458.04	\$1,888.88	\$0.00	\$0.00	\$6,050.00	\$6,089.10	\$0.00	\$0.00	\$0.00	\$30,486.01
Task 3.5	Coordination with Government Agencies	\$7,398.65	\$0.00	\$0.00	\$0.00	\$0.00	\$6,133.40	\$0.00	\$0.00	\$0.00	\$13,532.05
Task 3.6	Integration of Public Art As Applicable	\$2,161.09	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,161.09
Task 3.7	Gathering of Relevant Data	\$6,418.66	\$2,333.09	\$0.00	\$0.00	\$0.00	\$10,807.04	\$0.00	\$0.00	\$0.00	\$19,558.80
Task 3.8	Environmental Impact Screening	\$1,633.31	\$0.00	\$0.00	\$0.00	\$1,498.75	\$12,240.26	\$0.00	\$0.00	\$0.00	\$15,372.32
Task 3.10	Surveying and Mapping	\$1,633.31	\$0.00	\$0.00	\$74,582.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$76,216.06
Task 3.11	Drainage Report	\$1,435.24	\$0.00	\$98,011.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$99,446.69
Task 3.12	Geotechnical Issue Investigation	\$2,593.79	\$1,362.60	\$0.00	\$0.00	\$0.00	\$1,604.70	\$56,645.49	\$0.00	\$0.00	\$62,206.58
Task 3.13	Pavement Design	\$204.16	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$9,451.74	\$0.00	\$0.00	\$9,655.90
Task 3.14	Bridge Structure Selection Report	\$51,759.47	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51,759.47
Task 3.15	Traffic Engineering	\$2,449.96	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37,479.09	\$0.00	\$39,929.05
Task 3.16	Arterial Lighting Design	\$408.33	\$16,972.55	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$17,380.88
Task 3.17	Design Concept Report (DCR)	\$51,286.54	\$25,800.78	\$13,183.24	\$0.00	\$4,372.50	\$4,477.64	\$0.00	\$0.00	\$0.00	\$99,120.70
Task 3.18	Environmental Assessment/Mitigation	\$4,899.93	\$0.00	\$0.00	\$3,839.00	\$18,645.00	\$63,223.44	\$0.00	\$0.00	\$0.00	\$90,607.37
Task 3.19	ROW Acquisition Support	\$2,371.96	\$0.00	\$0.00	\$17,682.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20,054.46
Task 3.20	Preparation of Plans and Cross Sections	\$4,720.75	\$88,008.72	\$17,160.39	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$109,889.87
	Subtotal	\$260,055.85	\$215,999.15	\$167,179.20	\$101,246.75	\$36,341.25	\$119,805.34	\$66,097.23	\$37,479.09	\$0.00	\$1,004,203.86
	Direct Expenses	\$7,589.10	\$1,201.50	\$915.00	\$3,790.00	\$1,049.40	\$22,247.97	\$38,401.20	\$271.00		\$75,465.17
	Contract Total	\$267,644.95	\$217,200.65	\$168,094.20	\$105,036.75	\$37,390.65	\$142,053.31	\$104,498.43	\$37,750.09	\$0.00	\$1,079,669.03
Task 3.30	Additional Services	\$22,749.33	\$12,406.68	\$0.00	\$9,165.75	\$0.00	\$3,280.84	\$0.00	\$0.00	\$20,540.61	\$68,143.20
	Direct Expenses	\$204.70	\$47.50							\$25,382.00	\$25,614.20
	Additional Services Total	\$22,954.03	\$12,454.18	\$0.00	\$9,165.75	\$0.00	\$3,280.84	\$0.00	\$0.00	\$45,902.61	\$93,757.40

Structural Grace

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$210.26	\$204.16	\$194.41	\$124.94	\$121.89	\$97.51	\$118.84	\$89.89		
Task 3.2	Quality Control Plan and Project Management	26	296	24	40	0	12	16	54	468	\$83,488.34
Task 3.3	Utility Coordination	4	76	0	0	0	0	20	0	100	\$18,734.31
Task 3.4	Public Participation	3	54	0	0	16	0	24	0	97	\$16,458.04
Task 3.5	Coordination with Government Agencies	0	24	0	20	0	0	0	0	44	\$7,398.65
Task 3.6	Integration of Public Art As Applicable	0	2	4	0	8	0	0	0	14	\$2,161.09
Task 3.7	Gathering of Relevant Data	0	20	8	0	0	8	0	0	36	\$6,418.66
Task 3.8	Environmental Impact Screening	0	8	0	0	0	0	0	0	8	\$1,633.31
Task 3.10	Surveying and Mapping	0	8	0	0	0	0	0	0	8	\$1,633.31
Task 3.11	Drainage Report	1	6	0	0	0	0	0	0	7	\$1,435.24
Task 3.12	Geotechnical Issue Investigation	0	4	4	8	0	0	0	0	16	\$2,593.79
Task 3.13	Pavement Design	0	1	0	0	0	0	0	0	1	\$204.16
Task 3.14	Bridge Structure Selection Report	30	16	76	80	12	52	84	10	360	\$51,759.47
Task 3.15	Traffic Engineering	0	12	0	0	0	0	0	0	12	\$2,449.96
Task 3.16	Arterial Lighting Design	0	2	0	0	0	0	0	0	2	\$408.33
Task 3.17	Design Concept Report (DCR)	7	64	72	88	0	68	28	20	347	\$51,286.54
Task 3.18	Environmental Assessment/Mitigation	0	24	0	0	0	0	0	0	24	\$4,899.93
Task 3.19	ROW Acquisition Support	0	4	8	0	0	0	0	0	12	\$2,371.96
Task 3.20	Preparation of Plans and Cross Sections	0	10	4	0	0	0	16	0	30	\$4,720.75
		71	631	200	236	36	140	188	84	1,586	\$260,055.84
	Direct Expenses										\$7,589.10
										Total	\$267,644.94
Task 3.30	Additional Services	32	48	32	0	0	0	0	0	112	\$22,749.33
	Direct Expenses										\$204.70
										Total	\$22,954.03

AECOM - Appendix A

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$325.67	\$188.89	\$191.49	\$164.14	\$130.27	\$109.42	\$85.98	\$110.73		
Task 3.2	Quality Control Plan and Project Management	0	102	2	40	6	16	0	20	186	\$30,961.98
Task 3.3	Utility Coordination	0	52	0	0	272	0	32	6	362	\$48,670.54
Task 3.4	Public Participation	0	10	0	0	0	0	0	0	10	\$1,888.88
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	0	3	0	6	6	0	0	0	15	\$2,333.09
Task 3.8	Environmental Impact Screening	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.11	Drainage Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.12	Geotechnical Issue Investigation	0	2	0	6	0	0	0	0	8	\$1,362.60
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.16	Arterial Lighting Design	0	15	22	0	0	86	6	0	129	\$16,972.55
Task 3.17	Design Concept Report (DCR)	0	54	0	76	24	0	0	0	154	\$25,800.78
Task 3.18	Environmental Assessment/Mitigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.20	Preparation of Plans and Cross Sections	0	48	0	216	84	112	236	0	696	\$88,008.72
		0	286	24	344	392	214	274	26	1,580	\$215,999.15
	Direct Expenses										\$1,201.50
										Total	\$217,200.65
Task 3.30	Additional Services	0	20	0	24	36	0	0	0	80	\$12,406.68
	Direct Expenses										\$47.50
										Total	\$12,454.18

WSP - Appendix B

MAIN TASK#	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$282.67	\$193.09	\$139.65	\$91.69	\$130.01	\$77.22	\$80.13	\$103.79		
Task 3.2	Quality Control Plan and Project Management	0	142	46	0	0	0	0	48	236	\$38,824.12
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.4	Public Participation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.8	Environmental Impact Screening	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.11	Drainage Report	0	128	284	256	0	32	96	0	796	\$98,011.45
Task 3.12	Geotechnical Issue Investigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.17	Design Concept Report (DCR)	0	18	38	48	0	0	0	0	104	\$13,183.24
Task 3.18	Environmental Assessment/Mitigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.20	Preparation of Plans and Cross Sections	0	20	48	16	0	0	64	0	148	\$17,160.39
		0	308	416	320	0	32	160	48	1,284	\$167,179.20
	Direct Expenses										\$915.00
										Total	\$168,094.20
Task 3.30	Additional Services	0	0	0	0	0	0	0	0	0	
	Direct Expenses										



EEC - Appendix C

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Surveyor	Project Surveyor	Project 2 Man Field Crew	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$192.50	\$151.25	\$137.50	\$110.00	\$96.25	\$88.00	\$79.75	\$0.00		
Task 3.2	Quality Control Plan and Project Management	0	34	0	0	0	0	0	0	34	\$5,142.50
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.4	Public Participation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.8	Environmental Impact Screening	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.10	Surveying and Mapping	0	71	97	138	146	104	152	0	708	\$74,582.75
Task 3.11	Drainage Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.12	Geotechnical Issue Investigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.17	Design Concept Report (DCR)	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.18	Environmental Assessment/Mitigation	0	12	0	0	0	23	0	0	35	\$3,839.00
Task 3.19	ROW Acquisition Support	0	20	32	28	0	0	90	0	170	\$17,682.50
Task 3.20	Preparation of Plans and Cross Sections	0	0	0	0	0	0	0	0	0	\$0.00
		0	137	129	166	146	127	242	0	947	\$101,246.75
	Direct Expenses										\$3,790.00
										Total	\$105,036.75
Task 3.30	Additional Services	0	20	8	16	16	8	13	0	0	\$9,165.75
	Direct Expenses										

Wilder - Appendix D

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$123.75	\$96.25	\$0.00	\$0.00	\$0.00	\$68.75	\$0.00	\$0.00		
Task 3.2	Quality Control Plan and Project Management	0	60	0	0	0	0	0	0	60	\$5,775.00
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.4	Public Participation	4	12	0	0	0	64	0	0	80	\$6,050.00
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.8	Environmental Impact Screening	2	13	0	0	0	0	0	0	15	\$1,498.75
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.11	Drainage Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.12	Geotechnical Issue Investigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.17	Design Concept Report (DCR)	12	20	0	0	0	14	0	0	46	\$4,372.50
Task 3.18	Environmental Assessment/Mitigation	24	60	0	0	0	144	0	0	228	\$18,645.00
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.20	Preparation of Plans and Cross Sections	0	0	0	0	0	0	0	0	0	\$0.00
		42	165	0	0	0	222	0	0	429	\$36,341.25
	Direct Expenses										\$1,049.40
										Total	\$37,390.65
Task 3.30	Additional Services	0	0	0	0	0	0	0	0	0	
	Direct Expenses										

EcoPlan - Appendix E

MAIN TASK #	Main Task Description	Project Manager	Senior Environmental Planner III	Environmental Planner	Senior Biologist	Cultural Principal Investigator	Cultural Crew Chief	Senior Quality Control Specialist	Senior GIS Graphics Specialist	TOTAL HOURS	COST
		\$146.44	\$125.52	\$59.07	\$113.22	\$105.83	\$71.70	\$98.45	\$82.46		
Task 3.2	Quality Control Plan and Project Management	104	0	0	0	0	0	0	0	104	\$15,229.76
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.4	Public Participation	16	16	6	0	0	0	4	12	54	\$6,089.10
Task 3.5	Coordination with Government Agencies	24	0	16	2	0	0	8	8	58	\$6,133.40
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	38	38	8	0	0	0	0	0	84	\$10,807.04
Task 3.8	Environmental Impact Screening	22	22	62	4	4	2	16	0	132	\$12,240.26
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.11	Drainage Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.12	Geotechnical Issue Investigation	8	0	4	0	0	0	2	0	14	\$1,604.70
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.17	Design Concept Report (DCR)	10	4	24	2	0	2	4	4	50	\$4,477.64
Task 3.18	Environmental Assessment/Mitigation	186	56	266	20	4	6	66	44	648	\$63,223.44
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.20	Preparation of Plans and Cross Sections	0	0	0	0	0	0	0	0	0	\$0.00
		408	136	386	28	8	10	100	68	1,144	\$119,805.34
	Direct Expenses										\$22,247.97
										Total	\$142,053.31
Task 3.30	Additional Services	0	6	40	0	0	0	0	0	0	\$3,280.84
	Direct Expenses										

Golder - Appendix F

MAIN TASK #	Main Task Description	Senior Consultant	Senior Engineer / PM	Senior Project Engineer	Project Engineer	Staff Engineer	Engineer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$185.96	\$161.31	\$119.10	\$114.57	\$87.74	\$84.07	\$69.44	\$80.96		
Task 3.2	Quality Control Plan and Project Management	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.4	Public Participation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.8	Environmental Impact Screening	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.11	Drainage Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.12	Geotechnical Issue Investigation	32	106	56	76	40	140	26	14	490	\$56,645.49
Task 3.13	Pavement Design	12	18	0	30	0	0	8	4	72	\$9,451.74
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.17	Design Concept Report (DCR)	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.18	Environmental Assessment/Mitigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.20	Preparation of Plans and Cross Sections	0	0	0	0	0	0	0	0	0	\$0.00
		44	124	56	106	40	140	34	18	562	\$66,097.23
	Direct Expenses										\$38,401.20
										Total	\$104,498.43
Task 3.30	Additional Services	0	0	0	0	0	0	0	0	0	
	Direct Expenses										

Kittelson - Appendix G

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL HOURS	COST
		\$257.49	\$188.77	0	\$129.50	0	0	\$98.17	\$60.81		
Task 3.2	Quality Control Plan and Project Management	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.4	Public Participation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.7	Gathering of Relevant Data	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.8	Environmental Impact Screening	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.11	Drainage Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.12	Geotechnical Issue Investigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.15	Traffic Engineering	8	62	0	164	0	0	24	2	260	\$37,479.09
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.17	Design Concept Report (DCR)	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.18	Environmental Assessment/Mitigation	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.20	Preparation of Plans and Cross Sections	0	0	0	0	0	0	0	0	0	\$0.00
		8	62	0	164	0	0	24	2	260	\$37,479.09
	Direct Expenses										\$271.00
										Total	\$37,750.09
Task 3.30	Additional Services	0	0	0	0	0	0	0	0	0	
	Direct Expenses										

Cardno - Appendix H

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Vacuum Excavation Crew	Survey Crew	Drafting / CADD / Graphics	Clencal	TOTAL HOURS	COST
		\$68.96	\$58.08	\$42.88	\$41.25	\$31.59	\$30.27	\$25.00	\$29.15		
Task 3.2	Quality Control Plan and Project Management	0	0	0	0	0	0	0	0	0	\$0.00
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0	
Task 3.4	Public Participation	0	0	0	0	0	0	0	0	0	
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0	
Task 3.6	Integration of Public Art As Applicable	0	Using numbers from proposed fee documents directly in the Fee Summary by Task Table, as all Cardno's work is in Task 3.30. No need to break out separately.							0	0
Task 3.7	Gathering of Relevant Data	0								0	0
Task 3.8	Environmental Impact Screening	0								0	0
Task 3.10	Surveying and Mapping	0								0	0
Task 3.11	Drainage Report	0								0	0
Task 3.12	Geotechnical Issue Investigation	0	0	0	0	0	0	0	0	0	
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0	
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0	
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0	
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0	
Task 3.17	Design Concept Report (DCR)	0	0	0	0	0	0	0	0	0	
Task 3.18	Environmental Assessment/Mitigation	0	0	0	0	0	0	0	0	0	
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0	
Task 3.20	Preparation of Plans and Cross Sections	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
	Direct Expenses										
										Total	
Task 3.30	Additional Services	0	0	0	0	0	0	0	0	0	
	Direct Expenses										

**Structural Grace Workhour Estimate by Sub-Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.2</b>											
<b>Quality Control Plan and Project Management</b>	<b>AECOM, WSP, EEC, Wilder, &amp; EcoPlan Contributing to QC Plan and PM, see appendices A, B, C, D &amp; E</b>										
3.2.1 Quality Control Plan	2	16	4			4		4	30		
3.2.2 Project Management											
a) Coordination with team members	16	104							120		
b) Website establishment and maintenance		52					16	28	94		
3.2.3 Meetings and Communication											
a) Monthly team progress meetings (12)		24						24	48		
b) In house team meetings (12 @ 2 hrs)		24							24		
c) Other meetings with agencies (12 @ 2 hrs ea)		24							24		
3.2.4 Schedule	4	32							36		
3.2.5 Cost Estimating	4	20	20	40		8			92		
<b>Subtotal</b>	<b>29</b>	<b>296</b>	<b>24</b>	<b>40</b>	<b>0</b>	<b>12</b>	<b>16</b>	<b>54</b>	<b>468</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.3</b>											
<b>Utility Coordination</b>	<b>Utility Coordination by AECOM, see appendix A</b>										
3.3.1 Data Gathering Utility Designation Letter of Acceptance											
a) Individual utility meetings (4)		16							16		
b) Utility Company Acceptance Letters									0		
3.3.2 Design Coordination, Utility Impact Identification											
a) Website info Prep and Posting		16					20		36		
3.3.3 Utility Impact Mitigation											
a) Impact mitigation Meetings w/Courty (3)		12							12		
b) Comment Review Responses		16							16		
3.3.4 QA	4	16							20		
<b>Subtotal</b>	<b>4</b>	<b>75</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>100</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.4</b>											
<b>Public Participation</b>	<b>AECOM, Wilder &amp; EcoPlan contributing to Public Participation, see appendices A, D &amp; E</b>										
3.4.1 Public Participation Plan Support		24			16		24		64		
3.4.3 Public Meetings (3 w/ travel time)		24							24		
3.4.5 QC Review	3	6							9		
<b>Subtotal</b>	<b>3</b>	<b>54</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>97</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.5</b>											
<b>Coordination with Government Agencies</b>	<b>EcoPlan contributing to Coordination with Government Agencies, see appendix E</b>										
3.5.1 Agency coordination log, agenda, minutes, response, etc.		24		20					44		
<b>Subtotal</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44</b>		

**Structural Grace Workhour Estimate by Sub-Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.6</b>											
Integration of Public Art As Applicable	<b>Only SGI contributing to Integration of Public Art</b>										
3.6.1 Coordination of Art Concepts with Pinna County		2	4		8				14		
3.6.2 QC Review									0		
<b>Subtotal</b>	0	2	4	0	8	0	0	0	14		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.7</b>											
Gathering of Relevant Data	<b>AECOM &amp; EcoPlan Contributing to Data Gathering, see appendices A &amp; E</b>										
3.7.1 Gather Existing Information		8				8			16		
3.7.2 Site Visits		8	8						16		
3.7.3 QC Review		4							4		
<b>Subtotal</b>	0	20	8	0	0	8	0	0	36		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.8</b>											
Environmental Impact Screening	<b>Environmental Impact Screening by EcoPlan, Wilder and EEC, see appendices E, D, &amp; C</b>										
3.8.1 Environmental Coordination Meeting									0		
3.8.2 Questionnaire for Establishing potential Areas of Impact									0		
3.8.3 Summary Impact Matrix									0		
3.8.4 Environmental Results Memorandum									0		
3.8.5 Team Review									0		
3.8.6 Project Modifications/Alternatives									0		
3.8.7 QC Review		8							8		
<b>Subtotal</b>	0	8	0	0	0	0	0	0	8		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.9</b>											
<b>N/A Alternative Locations Study</b>	<b>No Alternative Locations Study is anticipated as part of the project</b>										
									0		
<b>Subtotal</b>	0	0	0	0	0	0	0	0	0		



**Structural Grace Workhour Estimate by Sub-Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.10</b>											
<b>Surveying and Mapping</b>	<b>Survey by EEC, see appendix C</b>										
3.10.1 Initial Planning and Reconnaissance									0		
3.10.2 Horizontal Control									0		
3.10.3 Vertical Control Traverse									0		
3.10.4 Results of Survey Drawing									0		
3.10.5 Topographic Mapping									0		
3.10.6 Utility Surveys									0		
3.10.7 Culture Surveys									0		
3.10.8 Right-of-Way Surveys									0		
3.10.9 Roadway Design manual Survey Efforts									0		
3.10.10 Legal Descriptions & Reference Maps									0		
3.10.11 Boring Locations									0		
3.10.12 QC Review									5		
Subtotal	0	8	0	0	0	0	0	0	8		
<b>Task 3.11</b>											
<b>Drainage Report</b>	<b>Drainage Report by WSP, see appendix B</b>										
3.11.1 Review Existing Plans and Reports									0		
3.11.2 Hydrologic and Hydraulic Modeling									0		
3.11.3 Drainage Maps and Exhibits									0		
3.11.4 Drainage Reports									0		
3.11.5 FEMA Requirements									0		
3.11.6 QC Review	1	6							7		
Subtotal	1	6	0	0	0	0	0	0	7		
<b>Task 3.12</b>											
<b>Geotechnical Issue Investigation</b>	<b>Geotechnical Report by Golder, see appendix F</b>										
3.12.1 Geotechnical Testing and Analysis and Report			4	8					12		
3.12.2 QC Review			4						4		
Subtotal	0	4	4	8	0	0	0	0	16		
<b>Task 3.13</b>											
<b>Pavement Design</b>	<b>Pavement Design by Golder, see appendix F</b>										
3.13.1 Pavement Design Report									0		
3.13.2 QC Review			1						1		
Subtotal	0	1	0	0	0	0	0	0	1		

**Structural Grace Workhour Estimate by Sub-Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.14</b>											
<b>Bridge Structure Selection Report</b>	<b>Only SGI contributing to BSSR</b>										
3.14.1 Bridge Structure Selection Report											
Preliminary Report UPRR (200 ft, 3 span x 115 ft wide)		4	36	40	0	20	36	4	140		
Preliminary Report RIRto (360 ft, 2 span x 62 ft wide)		4	40	40	12	32	48	6	182		
3.14.2 QC Review	30	8							38		
<b>Subtotal</b>	<b>30</b>	<b>16</b>	<b>76</b>	<b>80</b>	<b>12</b>	<b>52</b>	<b>84</b>	<b>10</b>	<b>360</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.15</b>											
<b>Traffic Engineering</b>	<b>Traffic Engineering Report by Kittelson, see appendix G</b>										
3.15.1 Initial Traffic Engineering Report		4							4		
3.15.2 Final Engineering Report									0		
3.15.3 Meetings		4							4		
3.15.4 QC Review		4							4		
<b>Subtotal</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.16</b>											
<b>Arterial Lighting Design</b>	<b>Arterial Lighting Report AECOM, see appendix A</b>										
3.16.1 Lighting Design Report									0		
3.16.2 QC Review		2							2		
<b>Subtotal</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.17</b>											
<b>Design Concept Report (DCR)</b>	<b>AECOM, WSP, Wilder, &amp; EcoPlan Contributing to DCR, see appendices A, B, D, &amp; E</b>										
3.17.1 Executive Summary/Project Overview and Description	1	8	8	8		4	8	4	41		
3.17.2 Project Area Characteristics	1	8	8	8		4	4	4	37		
3.17.3 Design Standards, Criteria and Features/Alternatives	1	8	8	8		4	4	4	37		
3.17.4 Social, Econ., and Env. / Public Involvement and Agency Coord.	1	8	8	8		4	4	4	37		
3.17.5 Design Concept Report with Conclusions and Recommendations	1	8	8	8		4	4	4	37		
3.17.6 Cost Estimates	1	8	32	48		48	4		141		
3.17.7 QC Review	1	16							17		
<b>Subtotal</b>	<b>7</b>	<b>64</b>	<b>72</b>	<b>88</b>	<b>0</b>	<b>68</b>	<b>28</b>	<b>20</b>	<b>347</b>		

**Structural Grace Workhour Estimate by Sub-Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.18											
Environmental Assessment/Mitigation	Environmental Assessment / Mitigation by EcoPlan, Wilder & EEC, see appendices E, D, & C										
3.18.1 Cultural Resources Assessment and Report									0		
3.18.2 Section 4(f) Resources									0		
3.18.3 Biological Evaluation / Wildlife Habitat									0		
3.18.4 Vegetation Sampling / Measurement									0		
3.18.5 Clean Water Act Permitting									0		
3.18.6 Hazardous Materials Survey									0		
3.18.7 Air Quality									0		
3.18.8 Environmental Documentation									0		
3.18.9 Noise Analysis									0		
3.18.10 Visual Analysis									0		
3.18.11 Riparian Habitat Impact Assessment									0		
3.18.12 QC Review		18							18		
3.18.13 Environmental Assessment		8				0			8		
Subtotal	0	24	0	0	0	0	0	0	24		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.19											
ROW Acquisition Support	ROW Acquisition support by EEC, see Appendix C										
3.19.1 Existing Right-of-Way and Easements			4						4		
3.19.2 Right-of-Way Plans			4						4		
3.19.3 QC Review		4							4		
Subtotal	0	4	8	0	0	0	0	0	12		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.20											
Preparation of Plans and Cross Sections	AECOM, WSP, & Golder contributing to Preparation of Plans and Cross Sections, see Appendices A, B & F										
3.20.1 15% Plans											
UPRR Bridge General Plan & Elev and Typ Section		1	2				8		11	3	
Rio Grande Bridge General Plan & Elev and Typ Sections		1	2				8		11	3	
3.20.2 IGA Exhibit									0		
3.20.3 QC Review		8							8		
Subtotal	0	10	4	0	0	0	16	0	30		

**Structural Grace Workhour Estimate by Sub-Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Project Architect	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.30											
Additional Services	Additional Services support by AECOM, EEC, EcoPlan, and Cardno, see appendices A, C, E & H										
3.30.1 Utility Coordination and Survey (Additional Services)		16							16		
3.30.2 Other Services	16	16	16						48		
3.30.3 ADOT Design-Build Procurement Phase Services	16	16	16						48		
Subtotal	32	48	32	0	0	0	0	0	112		
TOTAL WORKHOURS	103	679	232	236	36	140	186	84	1,698		

# STRUCTURAL GRACE EXHIBIT A: ESTIMATED DIRECT EXPENSES

## TRAVEL:

Mileage:	avg. mi.				
	# of Trips	per trip	Cost/mi.	Cost	
	4	115	\$0.445	\$204.70	Trips to Phoenix
Car:					
	# of Trips		Cost/trip	Cost	
				\$0.00	
Air:					
	# of Trips		Cost/trip	Cost	
				\$0.00	
Lodging:					
	Nights	People	Cost/night	Cost	
				\$0.00	
Per Diem:	Meal	# of Meals	Cost/Meal	Cost	
	Breakfast			\$0.00	
	Lunch			\$0.00	
	Dinner			\$0.00	

TOTAL TRAVEL = \$204.70

## PLOTTING

say 0 total

	No. of Copies	Cost per Copy	Cost
Vellum Plots (24x36)		\$4.00	\$0.00
Photo Mylars		\$16.36	\$0.00

TOTAL PLOTS = \$0.00

## REPRODUCTIONS:

Reports (See EXHIBIT B)

\$5,027.40

Copies other than reports

	No. of Copies	Cost per Copy	Cost
Color Copies			
8 1/2"x11"	500	\$0.75	\$375.00
11"x17"	100	\$1.50	\$150.00
Black & White Copies			
8 1/2"x11"	10000	\$0.06	\$600.00
11"x17"	1000	\$0.08	\$80.00
Blacklines (22x34)		\$1.00	\$0.00

TOTAL REPRODUCTIONS = \$1,205.00

## EXHIBITS

	No. of Copies	Cost per Copy	Cost
Aerial Photo, 40 scale		\$30.63	\$0.00
(Mounting on Foam Board for public meetings)	9	\$120.00	\$1,080.00
Presentation Blacklines		\$4.00	\$0.00
Color Photo Reductions	9	\$8.00	\$72.00

TOTAL EXHIBITS = \$1,152.00

## SPECIALIZED VENDORS

Vendor Name	Cost
Vendor Name	\$0.00
Vendor Name	\$0.00
Vendor Name	\$0.00

TOTAL SPECIALIZED VENDORS = \$0.00

STRUCTURAL GRACE EXHIBIT B:

COST OF REPORTS

Type of Report	Covers & Binding	Black & White				Color Copies				COST PER REPORT	No. of Copies	TOTAL
		8 1/2"x11"		11"x17"		8 1/2"x11"		11"x17"				
		Pages	Cost per Copy	Pages	Cost per Copy	Pages	Cost per Copy	Pages	Cost per Copy			
Quality Control Plan	\$10.00	20	\$0.06	0	\$0.08	1	\$0.75	0	\$1.50	\$11.95	4	\$47.80
Utility Report (2 sub)	\$10.00	50	\$0.06	5	\$0.08	3	\$0.75	3	\$1.50	\$20.15	8	\$161.20
Env. Results Memo (2 sub)	\$10.00	20	\$0.06	0	\$0.08	3	\$0.75	0	\$1.50	\$13.45	8	\$107.60
Drainage Report (by others)	\$10.00	0	\$0.06	0	\$0.08	0	\$0.75	0	\$1.50	\$10.00		\$0.00
Geotech Rpt (2 sub)	\$10.00	200	\$0.06	10	\$0.08	10	\$0.75	10	\$1.50	\$45.30	8	\$362.40
Pavem't Rpt (2 sub)	\$10.00	50	\$0.06	5	\$0.08	5	\$0.75	0	\$1.50	\$17.15	8	\$137.20
BSRR (2 sub)	\$10.00	50	\$0.06	10	\$0.08	5	\$0.75	0	\$1.50	\$17.55	8	\$140.40
Traffic Rpt (2 sub)	\$10.00	100	\$0.06	20	\$0.08	10	\$0.75	5	\$1.50	\$32.60	8	\$260.80
DCR (2 sub)	\$10.00	200	\$0.06	50	\$0.08	30	\$0.75	10	\$1.50	\$63.50	60	\$3,810.00
										REPORTS TOTAL =		
												\$5,027.40

# STRUCTURAL GRACE EXHIBIT A: ADDITIONAL SERVICES ESTIMATED DIRECT EXPENSES

## TRAVEL:

Mileage:	<u># of Trips</u>	<u>avg. mi. per trip</u>	<u>Cost/mi.</u>	<u>Cost</u>	
	4	115	\$0.45	\$204.70	Trips to ADOT / Phoenix
Car:	<u># of Trips</u>		<u>Cost/trip</u>	<u>Cost</u>	
				\$0.00	
Air:	<u># of Trips</u>		<u>Cost/trip</u>	<u>Cost</u>	
				\$0.00	
Lodging:	<u>Nights</u>	<u>People</u>	<u>Cost/night</u>	<u>Cost</u>	
				\$0.00	
Per Diem:	<u>Meal</u>	<u># of Meals</u>	<u>Cost/Meal</u>	<u>Cost</u>	
	Breakfast			\$0.00	
	Lunch			\$0.00	
	Dinner			\$0.00	

TOTAL TRAVEL = \$204.70

## PLOTTING

say 0 total

	<u>No. of Copies</u>	<u>Cost per Copy</u>	<u>Cost</u>
Vellum Plots (24x36)		\$4.00	\$0.00
Photo Mylars		\$16.36	\$0.00

TOTAL PLOTS = \$0.00

## REPRODUCTIONS:

Reports (See EXHIBIT B)

Copies other than reports

	<u>No. of Copies</u>	<u>Cost per Copy</u>	<u>Cost</u>
Color Copies			
8 1/2"x11"		\$0.75	\$0.00
11"x17"		\$1.50	\$0.00
Black & White Copies			
8 1/2"x11"		\$0.06	\$0.00
11"x17"		\$0.08	\$0.00
Blacklines (22x34)		\$1.00	\$0.00

TOTAL REPRODUCTIONS = \$0.00

## EXHIBITS

	<u>No. of Copies</u>	<u>Cost per Copy</u>	<u>Cost</u>
Aerial Photo, 40 scale		\$30.63	\$0.00
(Mounting on Foam Board for public meetings)		\$120.00	\$0.00
Presentation Blacklines		\$4.00	\$0.00
Color Photo Reductions		\$8.00	\$0.00

TOTAL EXHIBITS = \$0.00

## SPECIALIZED VENDORS

Vendor Name	<u>Cost</u>
Vendor Name	\$0.00
Vendor Name	\$0.00
Vendor Name	\$0.00

TOTAL SPECIALIZED VENDORS = \$0.00

# **APPENDIX A**

## **AECOM**





AECOM  
333 E Wetmore Road, Suite 400  
Tucson, AZ 85705  
www.aecom.com

520 887 1800 tel  
520 887 8438 fax

September 17, 2019

Mr. James Glock, P.E.  
Structural Grace, Inc.  
1430 E. Fort Lowell Road, Suite 200  
Tucson, AZ 85719

**SUBJECT: Pima County Department of Transportation  
Sunset Road: I-10 to River Road  
PCDOT Contract No.: 4SRRIV**

Dear Mr. Glock:

AECOM is pleased to offer this Scope of Work and Fee Estimate Summary proposal for developing the scoping documents for the Sunset Road project. The accompanying detailed scope of work describes the tasks necessary to accomplish the project goals and the fee proposal includes our estimated hours and fee to complete the work within a 12-month schedule.

We look forward to working with you to successfully complete this project. If you have any questions or comments, please feel free to contact me at (602) 861-7442 or Charlene Robinson at (520) 407-2856 or via email at [charlene.robinson@aecom.com](mailto:charlene.robinson@aecom.com).

Sincerely,  
**AECOM Technical Services, Inc.**

Jenny Bixby, PE, PTOE  
Vice President

Charlene Robinson, PE  
Project Manager

Attachments

cc:

File

## EXHIBIT "A" - SCOPE OF SERVICES FOR AECOM

### TASK 3.2 – QUALITY CONTROL PLAN AND PROJECT MANAGEMENT

#### Assumptions:

1. Management resources are provided for a 12-month period for completion of the Design Concept Report, Environmental Assessment, 15% Plans and Cross-Sections, and supporting documents.
2. Attendance by CONSULTANT at meetings will be limited to the Project Manager and an average of one Task Manager. Other team members will attend as required.
3. For estimating purposes, it is assumed that meetings described in Task 3.2.3 will have the following durations, including time for preparation, travel, prepare meeting summaries, revise meeting summaries with County corrections, and distribute the meeting summaries:
  - monthly progress meetings (2 hours);
  - other meetings as necessary (2 hours)
4. The CONSULTANT will be responsible for preparing graphics, handouts, and making arrangements for meetings and for preparing meeting summaries.
5. CONSULTANT's hours for performing quality control shall be billed toward the specific tasks.

#### Assumptions for AECOM:

1. AECOM will provide SGI with a Quality Control Plan (QCP) for the scope of work in which they are responsible for to insert into the overall plan to submit to Pima County (PC).
2. The hours included in our fee estimate summary for Project Management only covers our internal coordination efforts as listed below. Overall Project Management will be provided by SGI.
3. All agency and stakeholder communication will be through SGI.
4. SGI will be responsible for preparing meeting agendas and minutes and facilitating meetings.
5. Entitled to Rely: "Consistent with the professional standard of care and unless otherwise specifically provided herein, AECOM shall be entitled to rely upon the accuracy of data and information provided by SGI or other third parties without independent review or evaluation."
6. Base Cost Estimate: "Any Opinion of the Construction Cost prepared by AECOM represents its judgment as a design professional and is supplied for the general guidance of SGI and/or Owner. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such cost estimates as compared to contractor bids or actual cost to Owner."
7. Hazardous Materials: "Notwithstanding anything in this Agreement, AECOM shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure to persons to hazardous materials in any form, at the Project Site."
8. The level of effort for each phase and work task is limited to the amount of labor and expenses indicated in the attached Project Budget spreadsheet. Costs are itemized to aid in project tracking purposes only. The budget may be transferred between tasks, provided the total contracted amount is not exceeded. Additional services beyond these limits will be considered Extra Work.

**Task 3.2.1. Quality Control Plan.** Develop a project-specific quality control plan that identifies responsible personnel, technical review, checking procedures, and monitoring process. Submit within 15 days of notice to proceed. The process shall follow the tenets of the PCDOT Interactive Project Development Process. Each major submittal shall include verification of the quality control completed on said submittal.

AECOM will provide their QCP to SGI within 10 days of notice to proceed to include in the QCP submittal package to PC, which will include an example of our verification of QC procedures.

#### **Deliverables:**

- AECOM's Scope-Specific Quality Control Plan
- Verification of quality control shall be provided with each major submittal
- Responses to all review comments

**Task 3.2.2. Project Management.** Develop project design by coordinating design efforts. The anticipated management activities are as follows:

- a. Coordinate with all stakeholders through all means necessary, including but not limited to, phone, electronically, paper, face-to-face, etc.
- b. Ensure that project team members are communicating and cooperating on project tasks.
- c. Generate and regularly update a project contact list.

- d. Establish and keep updated correspondence files for all correspondence, including electronic, phone, paper, etc.
- e. Create and maintain a project website containing in a clear and logical order all information, correspondence, documents, and plans related to the project. The website is to be accessible to the County at all times.

For AECOM, this tasks covers our general administration efforts for this contract for a 12-month period. It includes the following:

- Startup activities that are performed for each project (i.e., project and budget setup in ePM, internal healthy start kick-off meeting, etc.)
- Monitoring the planned versus actual rate of expenditure for each task and identifying trends, taking corrective actions if necessary
- Assess on a weekly basis the percent complete as measured against the work remaining for each task
- Maintaining the project files
- Preparing the monthly invoices for work performed and progress reports

**Deliverables:**

- At the close-out of the project, all project files including but not limited to correspondence, reports, plans, emails, faxes, notices, phone records, meeting minutes, and task files (SGI)
- Monthly invoices and progress reports
- Responses to all review comments

**Task 3.2.3. Meetings and Communication.** This task involves coordinating meeting times, inviting meeting participants, preparing for meetings, creating an agenda, facilitating meetings, and providing a meeting summary for all meetings. The anticipated design team meetings and activities are as follows:

- a. Conduct monthly meeting with the project team (12 total).
- b. Conduct sub-consultant and in-house team meetings (as needed/required).
- c. Conduct other meetings including but not limited to, design, review, update, internal, external, etc. (as needed/required). Coordination with ADOT Project Management, Environmental, Geotechnical, Utilities and Railroad, and Right of Way Sections along with the South Central District is essential to the success of the project.

AECOM's scope includes attending the following meetings (up to 24 total):

- Monthly progress meetings at PCDOT (12 total @ 2 hours/meeting for 1 representative/meeting)
- Sub-consultant and in-house team meetings (assumed 6 @ 2 hours/meeting for 1 representative/meeting)
- Design Review meetings (no meetings assumed for this task)
- External agency meetings (ADOT South Central District, ADOT Utilities and Railroad and City of Tucson (3 @ 2 hours/meeting for 1 representative/meeting)

**Deliverables:**

- Meeting agendas and displays (SGI)
- Meeting summaries as required (SGI)
- Responses to all review comments

**Task 3.2.5. Cost Estimating.** The CONSULTANT will develop a Base Estimate that identifies the major components of project scope and their cost, defines all components of scope, and describes all scope and cost assumptions within 15 days of notice to proceed. The CONSULTANT will update the Cost by reviewing, updating and documenting assumptions and costs for each item, and including contingency information in the report during major plan submittals.

AECOM will assist SGI with developing a Base Estimate that identifies the major components of the project scope and costs, defines all components of scope, and describes all scope and cost assumptions. This Base Estimate will be updated at each submittal along with the documentation of the assumptions.

**Deliverables:**

- Base cost estimate - Incorporate risk analysis and contingency information into the estimate, identifying all assumptions.
- Costs estimates for Initial DCR Phase and Final DCR submittals. Incorporate risk analysis and contingency information into the estimate. Identify all assumptions.
- The cost estimates will be broken down by jurisdiction for funding purposes (ADOT: southerly approach to Sunset Rd Traffic Interchange & UPRR bridge) (PCDOT: Sunset Rd from UPRR bridge to River Rd & improvements associated with the Sunset Campus intersections).
- AECOM's Quantity take-off calculations

**TASK 3.3 UTILITY COORDINATION****Assumptions:**

1. *Utility Coordination meetings will be scheduled on an as-needed basis. The CONSULTANT is required to attend these meetings.*
2. *Data collected will be consistent with the level of information needed to designate, locate, and map all utilities.*
3. *Resources are provided for up to 40 potholes under Additional Services. If additional potholes are needed, their number and location will be identified, and a Contract Modification will be prepared to cover this additional pothole work. Potholing shall not begin until the area has received cultural clearance and utility coordination.*
4. *PCDOT will provide utility base maps that have been provided to-date from: Pima County Regional Water Reclamation District, Tucson Electric Power, Southwest Gas, Century Link, and Comcast Cable, Kinder-Morgan and other utilities not yet identified. The CONSULTANT is required to obtain base maps from other utilities present. Additional research may be required by the CONSULTANT to verify and supplement the utility base maps.*
5. *Resources to gather data for utilities is being provided under Task 3.3.1., not Task 3.7.1.*
6. *Resources for surveying Blue Stake information are provided in Task 3.10.7.*
7. *Subsurface utility designations will be shown in the strip map derived in Task 3.10.8.*
8. *Sewer modification plans are not included in this work; however, the Consultant will prepare sheets summarizing sewer modifications and manhole adjustments to match the proposed road grade. The cost of those sheets is included under task 3.20, Preparation of Initial Documents.*
9. *Coordination efforts by the CONSULTANT will include initiating design efforts by utility companies who's facilities are determined to be in conflict.*
10. *Joint Trench coordination efforts are considered Additional Services.*
11. *Consultant shall adhere to Pima County Ordinance 2008-72, Regulations for the Use of Public Right of Way.*
12. *An existing 72" diameter sewer is located along the I-10 Eastbound Frontage Road. It is anticipated that the sewer will require protection from additional loading due to the addition of roadway embankment of Sunset Road.*
13. *Tucson Water has proposed a new water main along Sunset Road from Silverbell Road across I-10 and the UPRR that connects to an existing 12" water main in Camino de la Tierra. Incorporation of Tucson Water's proposed water main within the limits of the Sunset Road: I-10 to River Road project will be included in the project.*

**Assumptions for AECOM:**

1. *AECOM will be responsible for all Utility Coordination as outlined under Task 3.3.*
2. *AECOM will participate in up to five (5) utility coordination meetings at 2 hours/meeting to discuss utility conflicts and facilitate the development of mitigation measures.*
3. *AECOM will coordinate with SGI to obtain any as-builts not already obtained during the Sunset Road Segment I project and from PCDOT.*
4. *AECOM will coordinate with the utility companies to identify prior rights and obtain documentation.*
5. *AECOM will update the electronic utility basefile in Microstation.*
6. *Utilities will be shown in the roadway cross-sections.*
7. *This work does not include the preparation of utility modification/relocation plans.*

**Task 3.3.1. Data Gathering, Utility Designation, Letter of Acceptance.** The CONSULTANT will verify that utility base maps and prior rights documentation are complete for each utility. For consistency, a utility coordinator will be designated to be the main point of contact for all utility coordination work. The CONSULTANT will provide and maintain a website for project and utility information and make it accessible to utilities, County, and project team members.

The CONSULTANT and County will determine the utilities that will be required to clear the project of utility impacts identified in *Task 3.3.2 Design Coordination, Utility Impact Identification*. All formal utility correspondence is to be reviewed and approved by the County prior to distribution. The CONSULTANT will initiate and conduct meetings as needed with the five known utility franchises within the corridor (PCRWRD, TEP, SW Gas, CenturyLink, Comcast), and any other utilities present in the corridor. Meetings are assumed to be attended by two CONSULTANT team members and have a duration of 2 hours per meeting (2 hours per attendee) to prepare, attend, and provide minutes. Prior to the completion of *Task 3.10.7 Existing Conditions Surveys*, the CONSULTANT will request each utility to mark its facilities, providing the approximate horizontal position on the ground surface and provide electronic files of certified horizontal survey data associated with these ground surface markings and also their above grade facilities, including service connections, all of which being tied to an accepted County control and datum, being accurate to within six inches. CONSULTANT shall draft onto an Existing Utilities Mapping Package (40 scale) the horizontal data surveyed by PIMA COUNTY and as horizontally designated by CONSULTANT (if necessary) and provide the COUNTY with a Letter of Acceptance from each utility indicating that the representation of the utility's facilities on the

Existing Utilities Mapping Package is accurate. All utilities will be designated, located, and mapped according to ASCE Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02). The CONSULTANT will conduct a field review of utility information shown on the Existing Utilities Mapping Package for consistency with utility base maps and utility field survey data.

**Task 3.3.2. Design Coordination, Utility Impact Identification.** The CONSULTANT will monitor the project's design for utility impacts, distribute progress design drawings to utilities for review and identification of utility impacts; and maintain a List of Utility Impacts, said list being available to the County upon request. The CONSULTANT will update the County as necessary on the status of utility activities and notify the County immediately of any utility unable to meet the Utility Relocation Date. Initial Design Phase Plans will be provided to all utilities for their review and comments. Resources are also being provided in this task for the Utility Coordinator to attend up to ten individual meetings (2 per franchise, 5 franchises, 2 hours per meeting) plus correspondences with all utilities.

**Task 3.3.3. Utility Impact Mitigation.** The CONSULTANT will initiate, coordinate and facilitate utility impact meetings with County, utility and appropriate team members to develop mitigation measures acceptable to the County that will clear the project of utility impacts by the Utility Relocation Date.

AECOM's scope of work assumed that one representative would attend up to two (2) meetings at 2 hours per meeting with the County.

**Task 3.3.4. Quality Control Review.** The CONSULTANT will provide quality control reviews of the deliverables listed below.

**Deliverables:**

- Initial Utility Reports (five hardcopies will be submitted for review).
- Plans for distribution to utilities.
- Letters of Acceptance.
- Meeting minutes prepared, distributed to project team, and revised as needed.
- Design plans containing updated mapping of utility information, including potholing information.
- List of utility impacts and mitigation measures.
- Responses to all review comments.

## **TASK 3.4 PUBLIC PARTICIPATION**

**Assumptions:**

1. Pima County will lead all public participation activities
2. Pima County will take the lead in organizing, staffing and preparing for all public meetings.
3. Pima County anticipates obtaining a waiver from the CAC process due to the public outreach process required by the Environmental Assessment.
4. For estimating purposes, it is assumed that approximately 12 hours will be required (2 3 team members at 4 hours each) for CONSULTANT staff to prepare for and attend each of the two public meetings and one public hearing. PCDOT Staff will prepare for, attend, and produce

- meeting summaries of public meetings, but not other follow-up tasks.*
5. PCDOT will place & pay for public notification advertisements & reproduce and mail surveys.
  6. PCDOT will coordinate meeting dates, times, locations, and set-up for all public meetings, including rental of all meeting facilities and providing insurance.
  7. PCDOT will place ad announcements in the local newspapers.
  8. PCDOT will develop, establish, and control a project web site and will post public notices and other information provided by the consultant.
  9. PCDOT will distribute news releases to appropriate media.
  10. PCDOT will distribute government official notifications.
  11. PCDOT will be the primary contact for community inquiries and concerns.

**Assumptions for AECOM:**

1. SGI will be responsible for coordinating with Pima County on all public participation activities. AECOM will be available to participate in the pre-planning for each of the public meetings, therefore, the scope assumes attendance to 2 meetings at 2 hours/meeting.
2. AECOM will plan to attend two public meetings (1 representative at 3 hours/meeting)
3. AECOM does not anticipate developing any displays for the public meetings.

**Task 3.4.1. Public Participation Plan.** Pima County will develop and implement the Public Participation Plan for the project. The CONSULTANT will provide as-needed services in support of the Plan.

AECOM assumed that one representative would attend two public participation meetings at 2 hours per meeting with SGI and the County.

**Deliverables:**

- Displays/Roll plots as needed (SGI).

**Task 3.4.2. Public Meetings.** The CONSULTANT will attend approximately two public open houses and one public hearing.

AECOM assumed that one representative would attend two public open houses at 3 hours each.

**Deliverables:**

- Displays/Roll plots as needed (SGI).

## **TASK 3.7 DATA GATHERING**

**Assumptions:**

1. Utility data to be gathered under Task 3.3.1.

**Assumptions for AECOM:**

1. SGI will provide AECOM with applicable existing conditions information to prepare the text for their specific sections of the DCR and verify information on the plans.
2. SGI will provide AECOM with basefiles of the existing conditions.

**Task 3.7.2. Site Visits During Project Design.** The CONSULTANT will visit the site as required to obtain necessary design information.

Two (2) AECOM staff will attend up to two (2) site visits with the project team and one (1) AECOM staff will attend one (1) site visit. It is anticipated that these site visits will last approximately three (3) hours. Information from these visits will assist with the existing conditions text for the DCR and verifying the information on the plans.

**Deliverables:**

- All data necessary to complete the DCR, EA, 15% Plans and Cross-Section and other technical studies, reports and memorandums.
- Responses to all review comments.

### **TASK 3.12 GEOTECHNICAL INVESTIGATION**

#### **Assumptions:**

1. The CONSULTANT will review the Geotechnical Report that was prepared during the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road (Phase 1) project which included two borings in the Rillito River and one boring on Sunset Road between the UPRR structure and The Loop. The CONSULTANT will incorporate previous geotechnical data into the Geotechnical Report for the project.
2. The Geotechnical Report will include subsurface investigations and recommendations for bridge foundations on Sunset Road at the UPRR & Rillito River.
3. The CONSULTANT will be apprised of trenching for cultural sites (approximately 10' deep) That will be done by an on-call consultant contract from the Office of Sustainability and Conservation for the area under proposed embankment fills between the UPRR bridge and The Loop. The CONSULTANT will propose coordinated efforts, if possible.

#### **Assumptions for AECOM:**

1. AECOM will coordinate with SGI under Task 3.12.1 to identify any geotechnical needs for the roadway (entire corridor). Upon completion of this task, no further action will be required on AECOM's part.

**Task 3.12.1. Geotechnical Testing and Analysis and Report.** The CONSULTANT will provide geotechnical testing, analysis, and report per Section 3.12 of the Design Manual and the Preliminary Engineering & Design (PE&D) manual of the ADOT Material Group. The recommendations from the geotechnical investigation will be incorporated into the Final DCR, 15% Plans and Bridge Selection Reports.

The scope of fieldwork is estimated to include approximately 13 soil borings. Approximately 2 will be located in pavement widening areas and will typically be to depths of 5 feet. Approximately 6 soil borings are locations identified as bridge abutments and piers (not previously investigated) and will be approximately 140 to 150 feet deep. The remaining 5 borings approximately 60 to 70 deep will be at locations where large amounts of roadway embankment will be placed and where settlement may occur. The CONSULTANT will obtain up to 5 shallow depth grab samples for use in resistivity and PH testing in the case metal pipes are used on the project due to Value Engineering.

The CONSULTANT will provide appropriate laboratory testing for representative soil samples. Recommendations will be developed based on applicable PCDOT, and ADOT standards. The results of all investigations, as well as recommendations will be provided in one consolidated Geotechnical Report.

Note: Prior to performing any fieldwork, Consultant will obtain right-of-way permits from Pima County, contact Arizona Bluestake for underground utility location(s), and provide traffic control according to the permit while working.

### **TASK 3.16 ARTERIAL STREET LIGHTING DESIGN REPORT**

#### **Assumptions:**

1. None

#### **Assumptions for AECOM:**

1. AECOM will be responsible for the elements associated with this task.

**Task 3.16.1. Lighting Design Report.** The CONSULTANT will prepare an Initial Street Lighting Report in accordance with the Pima County Roadway Design Guideline for the following locations:

- Sunset Road southerly approach to Traffic Interchange
- Sunset Road from Traffic Interchange to River Road
- Sunset Road and River Road Intersection - CONSULTANT will perform the analysis as follows:
  1. Lighting Design per Section 3.16 of the Design Manual.

**Task 3.16.2. Quality Control Review.** The CONSULTANT will provide quality control review of the Street Lighting Report.

**Deliverables:**

- Initial Arterial Street Lighting Design Report (five hardcopies will be submitted for review).
- Lighting layout and cost estimates to be included in the DCR and 15% Plans and cost estimate.
- Meeting minutes, distributed to project team, and revised as needed.
- Display materials as needed.
- Responses to all review comments.

**TASK 3.17 DESIGN CONCEPT REPORT (DCR)**

**Assumptions:**

1. The CONSULTANT will review the DCR that was prepared for the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project. The CONSULTANT will incorporate pertinent information into the DCR for this project.
2. The CONSULTANT will include a new intersection having full access and a right-in/right-out intersection on Sunset Road on the southerly approach to the Sunset Road Traffic Interchange for the proposed Sunset Campus development.
3. Assume no major opposition and a 12 month project duration for the development of the DCR and EA.
4. This project is identified as an ESR and is subject to the additional requirements found in Section 4.0 of the RDM.
5. The CONSULTANT will prepare the DCR per Section 3.17 of the RDM except that the format will be acceptable to ADOT.

**Assumptions for AECOM:**

1. AECOM will provide SGI with the text, figures and drawings for the following design elements to incorporate into the DCR:

*Roadway Elements*

- Existing roadway features
- Proposed roadway design standards, criteria and major design features based on the applicable design speeds for each facility
- Description of the proposed horizontal and vertical alignment and cross section
- Typical section diagrams
- Earthwork

*Utility Elements*

- Existing utilities
- Summary of utility impacts from Utility Report
- Summary of utility mitigation measures from Utility Report

*Arterial Street Lighting Elements*

- Existing street lighting features
- Proposed street lighting design standards and criteria
- Proposed street lighting layout

*Traffic Elements*

- Pavement Marking

**Task 3.17.2. Project Area Characteristics (Existing Conditions).** The CONSULTANT will prepare the description of existing conditions, including traffic and crash data for the DCR. The COUNSULTANT will include descriptions of conditions that could result in design modifications within the project study area for the following topics:

- Existing Roadway and Geometric Deficiencies
- Utilities



**Task 3.17.3. Design Standards, Criteria and Features/Alternatives.** The CONSULTANT will prepare the description of design standards and criteria and description of major design features and alternatives considered for the DCR including but not limited to geometric standards, design standards, slope standards, pavement structure, design speed, drainage design, access control, cross-section elements, right-of-way width. The CONSULTANT will prepare a detailed Design Criteria Summary for the project. The Design Criteria Summary shall include all pertinent design related criteria for each Agency's jurisdiction for roadway and bridge designs to be used for the project. The Design Criteria Summary shall be coordinated with PCDOT, ADOT and COT staff (as appropriate) so that a final approved listing is developed prior to the start of the development of the project.

AECOM will provide the writeups for the roadway, utilities, arterial street lighting and pavement marking.

**Task 3.17.5. Design Concept Report with Conclusions and Recommendations.** The CONSULTANT will compile information developed from this effort and from other studies and reports into a Design Concept Report. Additionally, the CONSULTANT will prepare the conclusions and recommendations. The CONSULTANT will identify, develop, evaluate, and describe roadway design and as and if applicable: project constraint avoidance alternatives; construction phasing concepts; and implementation strategy. The CONSULTANT will include in the DCR a summary of the recommendations where appropriate from the various supporting reports including but not limited to; Bridge Selection Reports, Traffic Report, Geotechnical Report, Pavement Design Report, Drainage Report, Utility Report and any other information pertinent to the project. The CONSULTANT will coordinate the initial and final DCR with ADOT for their review and comment. The final DCR will be in a format acceptable to ADOT for their use in the Design-Build phase.

AECOM will provide the writeups for the roadway, utilities, arterial street lighting and pavement marking.

**Task 3.17.6. Cost Estimate.** The CONSULTANT will prepare preliminary project cost estimate, with quantity take-off calculations based on approximate quantities of major cost items. Right-of-way costs will be provided by PCDOT.

AECOM will provide the cost estimates for the roadway, utilities, arterial street lighting and pavement marking.

## **TASK 3.20 PREPARATION OF PLANS AND CROSS-SECTIONS**

### **Assumptions:**

1. The CONSULTANT will review the plan and profile sheets that were prepared for the Sunset Road: I-10 to River Road as part of the Sunset Road: Silverbell Road to I-10 Eastbound Frontage Road project. The CONSULTANT will incorporate pertinent information into the DCR for this project.
2. Roadway cross sections will be provided by the CONSULTANT.
3. Noise wall layout and cost estimation is included in the project.
4. It is assumed that construction sequencing concepts will be addressed in the DCR.
5. The CONSULTANT will incorporate designs for a new intersection having full access and a right-in/right-out intersection on Sunset Road on the southerly approach to the Sunset Road Traffic Interchange for the proposed Sunset Campus development.
6. The CONSULTANT will identify potential staging areas for the project.

### **Assumptions for AECOM:**

1. AECOM will update the geometry and perform the roadway modeling to determine the earthwork quantity, establish the cut and fill lines and develop the cross-sections.
2. AECOM will update the plan sheets developed under the Sunset Road: I-10 to River Road project to be in conformance with ADOT standards and practices to be used by ADOT for the Design-Build process.
3. AECOM will provide the project team with the roadway, utility, pavement marking, and lighting basefiles.
4. AECOM will submit the construction documents to SGI to assemble into the design package.

**Task 3.20.1. 15% Plans.** The CONSULTANT will prepare 15% plan and profile, typical sections and striping plans for Sunset Road. The 15% Plans will be at 1"=40' and will address horizontal and vertical alignment, cross-sections, channelization, drainage, right-of-way, major and minor structures. The plans will include a portion of the proposed Sunset Road interchange.

AECOM's 15% Plan Sheets are anticipated to be as follows:

<u>Plan Sheets</u>	<u>No. of Sheets</u>
Design Data Sheet	1
Typical Sections & Pavement Structural Sections	2
Geometric Data Sheets	3
Barrier Summary Sheets	1
Roadway Plan & Profile Sheets	13
Pavement Marking General Notes and Plans	4
Cross-Sections	20
<b>Total</b>	<b>44</b>

**Task 3.20.4. Quality Control Review of Plans.** The CONSULTANT will provide a quality control review of each submittal of the construction documents.

AECOM will conduct a QC review for our plan sheets.

**Deliverables:**

- 15% Plans cost estimate and quantity take-off calculations.
- Earthwork Summary
- Electronic files of plan sheets (half and full size (22"x34"))
- Responses to all review comments.

### **TASK 3.30 ADDITIONAL SERVICES**

**Assumptions:**

1. *Additional services are speculative in nature as the need for them, and the ultimate level of effort to be required is unknown. Therefore, relative budgets for each of these potential tasks have been identified, but may be further defined, and or modified, should the need for them or other efforts arise as part of the overall scope of work.*

**Assumptions for AECOM:**

1. *AECOM will be available to provide additional services to identify the need for subsurface utility engineering services (SUE) horizontal locating and potholes for the hours shown.*
2. *Upon receipt of the information, AECOM will update the utility basefiles and Utility Report to reflect the updated information within the hours budgeted.*
3. *AECOM will be available to assist as needed for Tasks 3.30.2. and 3.30.3 within the hours budgeted.*

**Task 3.30.1. Utility Coordination and Survey (Additional Services).** In the event a utility is unable to provide the ground marking and certified survey data requested in Task 3.3.1, the CONSULTANT shall provide Utility Quality Level B information for the utility in accordance with ASCE Standard Guidelines for the collection and Depiction of Existing Subsurface Data (C/ASCE 38-02), page 3.

- 40 potholes per the attached sub-consultant scope of services
- Updated mapping of utility information, including potholing information
- This task also accounts for additional drafting and records research to achieve Quality Level C utility line work (valves, manholes, utility lines) and then provide approximate location points to potholing service to then achieve Quality B.
- Quality Level B information for the project waterlines

**Task 3.30.2. Other Services.** The CONSULTANT may be called upon to perform services unknown of or identified subsequent to the original scoping of the project. These efforts may be caused by unforeseen issues that arise after the development of this scope of work. Potential services could include the need to attend additional meetings, provide displays or summaries, perform additional analysis, provide additional design.

**Task 3.30.3. ADOT Design-Build Procurement Phase Services.** The CONSULTANT may be called upon to provide services beyond the DCR and EA phase. ADOT and PCDOT will coordinate all questions for Design-Build procurement phase of the project. The following additional efforts may be required:

Design-Build Procurement Phase Services may include but are not limited to:

- Attending meetings
- Assisting in the preparation of addendums
- Addressing questions regarding the portion of the project pertaining to Sunset Road: I-10 to River Road
- Price proposal evaluation

**END EXHIBIT "A"**

**PIMA COUNTY  
FEE ESTIMATE SUMMARY**

PROJECT: **Sunset Road: I-10 to River Road**  
TASK(s): Roadway, Pavement Marking, Signing & Lighting

CONSULTANT: AECOM Technical Services

CONTRACT NO.:  
CONTRACT TYPE: CPFF

**Direct Labor Cost**

<u>Classification</u>	<u>Estimated Hours</u>	<u>Contracted Avg DL Rate</u>	<u>Labor Cost</u>
Project Principal	-	\$125.00	\$0.00
Project Manager	286	\$72.50	\$20,735.00
Senior Project Engineer	24	\$73.50	\$1,764.00
Project Engineer	344	\$63.00	\$21,672.00
Utility Coordinator	392	\$50.00	\$19,600.00
Project Designer	214	\$42.00	\$8,988.00
Drafting / CADD / Graphics	274	\$33.00	\$9,042.00
Clerical	26	\$42.50	\$1,105.00
(A) Direct Labor	1,560 Hrs		<b><u>\$82,906.00</u></b>

**OVERHEAD**

(B) OH Rate x (A) or 136.85% x \$82,906 = **\$113,456.86**

**PROFIT**

(C) % Profit Rate x (A+B) 10.0% x \$196,363 = **\$19,636.29**

**Estimated Direct Expenses**

Travel	\$135.70
Plotting	\$0.00
Reproductions	\$900.00
Exhibits	\$0.00
Specialized Vendors	\$0.00
Reports	\$165.80
Van/Bus Rental	\$0.00
(D) Total Estimated Direct Expenses	<b><u>\$1,201.50</u></b>

**Estimated Outside Services & Subconsultants**

(F) Total Estimated Outside Services & Subconsultants = **\$0.00**

**Estimated Fees**

(H) TOTAL CONSULTANT FEE = **\$217,200.65**

## Workhour Estimate by Task

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL
Task 3.2	Quality Control Plan and Project Management	0	102	2	40	6	16	0	20	186
Task 3.3	Utility Coordination	0	52	0	0	272	0	32	6	362
Task 3.4	Public Participation	0	10	0	0	0	0	0	0	10
Task 3.7	Gathering of Relevant Data	0	3	0	6	6	0	0	0	15
Task 3.12	Geotechnical Issue Investigation	0	2	0	6	0	0	0	0	8
Task 3.16	Arterial Lighting Design	0	15	22	0	0	86	6	0	129
Task 3.17	Design Concept Report (DCR)	0	54	0	76	24	0	0	0	154
Task 3.20	Preparation of Plans and Cross-Sections	0	48	0	216	84	112	236	0	696
		0	286	24	344	392	214	274	26	1,560
Task 3.30	Additional Services	0	20	0	24	36	0	0	0	80

### Workhour Estimate by Task

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
<b>Task 3.2</b>											
<b>Quality Control Plan and Project Management</b>											
3.2.1. Quality Control Plan		8	2	2				4	16		
3.2.2. Project Management (12 months)		60						16	76		
3.2.3. Meetings and Communication											
a) Monthly team progress meetings (assumed 12 @ 2 hours/meeting)		12		8	4				24		
b) In-house team meetings (as needed) (assumed 6 @ 2 hours/meeting)		6		4	2				12		
c) Design reviews and other meetings with agencies (assumed 3 @ 2 hours/meeting)		4		2					6		
3.2.5. Cost Estimating		12		24		16			52		
<b>Subtotal</b>	<b>0</b>	<b>102</b>	<b>2</b>	<b>40</b>	<b>6</b>	<b>16</b>	<b>0</b>	<b>20</b>	<b>186</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
<b>Task 3.3</b>											
<b>Utility Coordination</b>											
3.3.1. Data Gathering, Utility Designation, Letter of Acceptance											
a) Data gathering (i.e., as-builts, prior rights documentation, etc.)		4			12				16		
b) Update and maintain utility basemap		4			36		24		64		
c) Utility coordination meetings (assumed 5 @ 2 hours/meeting)					10				10		
d) Utility Company Acceptance Letters		6			30			4	42		
3.3.2. Design Coordination, Utility Impact Identification											
a) Design coordination		4			40				44		
b) Utility impact identification		4			40				44		
c) Individual utility meetings (10 @ 2 hours/meeting)					20				20		
d) Initial Utility Report		6			56		8	2	74		
3.3.3. Utility Impact Mitigation											
a) Develop utility impact mitigation measures		8			16				24		
b) Impact mitigation meetings w/ County (assumed 2 @ 2 hours/meeting)					4				4		
c) Comment Review Responses		2			8				10		
3.3.4. QC Review		10							10		
<b>Subtotal</b>	<b>0</b>	<b>52</b>	<b>0</b>	<b>0</b>	<b>272</b>	<b>0</b>	<b>32</b>	<b>6</b>	<b>362</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
<b>Task 3.4</b>											
<b>Public Participation</b>											
3.4.1. Public Participation Plan Support (assumed 2 meetings @ 2 hours/meeting)		4							4		
3.4.2. Public Meetings (assumed 2 meetings @ 3 hours/meeting)		6							6		
<b>Subtotal</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>		

**Workhour Estimate by Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
Task 3.7											
Gathering of Relevant Data											
3.7.2. Site Visits (assumed 2 staff for 2 visits @ 3 hours/visit and 1 staff for 1 visit @ 3 hours)		3		6	6				15		
Subtotal	0	3	0	6	6	0	0	0	15		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
Task 3.12											
Geotechnical Issue Investigation											
3.12.1. Geotechnical Testing and Analysis and Report (AECOM Coordination w/ SGI)		2		6					8		
Subtotal	0	2	0	6	0	0	0	0	8		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
Task 3.16											
Arterial Lighting Design											
3.16.1. Lighting Design Report											
a) Field visit						6			6		
b) Perform lighting analysis in accordance with Pima County and City of Tucson Requirements		1	8			24			33		
c) Initial Arterial Street Lighting Design Report		4	8			48			60		
d) Display materials as needed		2					6		8		
e) Responses to all review comments		4	6			8			18		
3.16.2. QC Review		4							4		
Subtotal	0	15	22	0	0	86	6	0	129		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
Task 3.17											
Design Concept Report (DCR)											
3.17.2. Project Area Characteristics		10		20	8				38		
3.17.3. Design Standards, Criteria and Features/Alternatives		16		24	16				56		
3.17.5. Design Concept Report with Conclusions and Recommendations		24		24					48		
3.17.6. Cost Estimates		4		8					12		
Subtotal	0	54	0	76	24	0	0	0	154		

### Workhour Estimate by Task

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
Task 3.20											
Preparation of Plans and Cross-Sections											
3.20.1. 15% Plans											
Roadway Design and Modeling				50		24	40		114		
Design Data Sheet				5					5	1	6
Typical Sections & Pavement Structural Sections		2		8			12		22	2	11
Geometric Data Sheets		2		15			24		42	3	14
Barrier Summary Sheets		2		6			12		20	1	20
Roadway Plan & Profile Sheets		6		40	40	36	80		204	13	16
Pavement Marking General Notes and Plans		4		2		8	12		26	4	7
Cross-Sections		6		40	32	20	40		138	20	7
Earthwork Summary		4		12		16			32		
Quantity Take-offs Calculations & Cost Estimate		4		12		8			24		
Review Comment Responses		8		16	12		16		52		
3.20.4. QC Review		8		8					16		
Subtotal	0	48	0	216	84	112	236	0	696		
<b>TOTAL WORKHOURS</b>	<b>0</b>	<b>286</b>	<b>24</b>	<b>344</b>	<b>392</b>	<b>214</b>	<b>274</b>	<b>26</b>	<b>1,560</b>		



EXHIBIT A: ESTIMATED DIRECT EXPENSES					
TRAVEL:					
Mileage:	# of Trips	avg. mi. per trip	Cost/mi.	Cost	
	2	130	\$0.445	\$115.70	
Car:	# of Trips		Cost/trip	Cost	
				\$0.00	
Air:	# of Trips		Cost/trip	Cost	
				\$0.00	
Lodging:	Nights	People	Cost/night	Cost	
				\$0.00	
Per Diem:	Meal	# of Meals	Cost/Meal	Cost	
	Breakfast			\$0.00	
	Lunch	2	\$10.00	\$20.00	
	Dinner			\$0.00	
				TOTAL TRAVEL =	\$135.70
PLOTING					
					say 0 total
			No. of Copies	Cost per Copy	Cost
	Vellum Plots (24x36)			\$4.00	\$0.00
	Photo Mylars			\$16.36	\$0.00
				TOTAL PLOTS =	\$0.00
REPRODUCTIONS:					
Reports (See EXHIBIT B)					\$165.80
Copies other than reports					
	Color Copies		No. of Copies	Cost per Copy	Cost
	8 1/2"x11"		200	\$0.75	\$150.00
	11"x17"		100	\$1.50	\$150.00
	Black & White Copies				
	8 1/2"x11"		3600	\$0.06	\$216.00
	11"x17"		4800	\$0.08	\$384.00
	Blacklines (22x34)			\$1.00	\$0.00
				TOTAL REPRODUCTIONS =	\$900.00
EXHIBITS					
			No. of Copies	Cost per Copy	Cost
	Aerial Photo, 40 scale			\$30.63	\$0.00
	(Mounting on Foam Board for public meetings)			\$120.00	\$0.00
	Presentation Blacklines			\$4.00	\$0.00
	Color Photo Reductions			\$8.00	\$0.00
				TOTAL EXHIBITS =	\$0.00
SPECIALIZED VENDORS					
				Cost	
	Vendor Name			\$0.00	
	Vendor Name			\$0.00	
	Vendor Name			\$0.00	
				TOTAL SPECIALIZED VENDORS =	\$0.00

EXHIBIT B:				COST OF REPORTS									
				Black & White			Color Copies						
	Covers &												
		8 1/2"x11"		11"x17"		8 1/2"x11"		11"x17"					
Type of Report	Binding	Pages	Cost per Copy	Pages	Cost per Copy	Pages	Cost per Copy	Pages	Cost per Copy	COST PER REPORT	No. of Copies	TOTAL	
Initial Utility Reports	\$5.00	30	\$0.06	6	\$0.08	0	\$0.75	0	\$1.50	\$7.28	5	\$36.40	
Initial Arterial Street Lighting Reports	\$5.00	40	\$0.06	6	\$0.08	0	\$1.50	12	\$1.50	\$25.88	5	\$129.40	
						</							

**PIMA COUNTY  
FEE ESTIMATE SUMMARY**

PROJECT: **Sunset Road: I-10 to River Road**  
TASK(s): Roadway, Pavement Marking, Signing & Lighting

CONSULTANT: AECOM Technical Services

CONTRACT NO.:

CONTRACT TYPE: CPFF

**Estimated Additional Services**

**Direct Labor Cost**

<u>Classification</u>	<u>Estimated Hours</u>	<u>Contracted Avg DL Rate</u>	<u>Labor Cost</u>
Project Principal	-	\$125.00	\$0.00
Project Manager	20	\$72.50	\$1,450.00
Senior Project Engineer	-	\$73.50	\$0.00
Project Engineer	24	\$63.00	\$1,512.00
Utility Coordinator	36	\$50.00	\$1,800.00
Project Designer	-	\$42.00	\$0.00
Drafting / CADD / Graphics	-	\$33.00	\$0.00
Clerical	-	\$42.50	\$0.00
(A) Direct Labor	80 Hrs		<b><u>\$4,762.00</u></b>
OVERHEAD			
(B) OH Rate x (A)	or	136.85% x	\$4,762 = <b><u>\$6,516.80</u></b>
PROFIT			
(C) % Profit Rate x (A+B)		10.0% x	\$11,279 = <b><u>\$1,127.88</u></b>

**Estimated Direct Expenses**

Travel	\$0.00
Plotting	\$0.00
Reproductions	\$47.50
Exhibits	\$0.00
Specialized Vendors	\$0.00
Reports	\$0.00
Van/Bus Rental	\$0.00
(D) Total Estimated Direct Expenses	<b><u>\$47.50</u></b>

**Estimated Outside Services & Subconsultants**

(F) Total Estimated Outside Services & Subconsultants = **\$0.00**

**Estimated Fees**

(H) **TOTAL CONSULTANT FEE** = **\$12,454.18**

**Workhour Estimate by Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Utility Coordinator	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL	No. of Shts	Hrs Per Sht
Task 3.30											
<b>Additional Services</b>											
3.30.1 Utility Coordination and Survey (Additional Services)		4			36				40		
3.30.2 Other Services		8		12					20		
3.30.3 ADOT Design-Build Procurement Phase Services		6		12					20		
Subtotal	0	20	0	24	36	0	0	0	80		

<b>TOTAL HOURS FOR ADDITIONAL SERVICES</b>	0	20	0	24	36	0	0	0	80		
--	---	----	---	----	----	---	---	---	----	--	--

EXHIBIT A: ESTIMATED DIRECT EXPENSES					
TRAVEL:					
Mileage:	# of Trips	avg. mi. per trip	Cost/mi.	Cost	
			\$0.55	\$0.00	
Car:	# of Trips		Cost/trip	Cost	
				\$0.00	
Air:	# of Trips		Cost/trip	Cost	
				\$0.00	
Lodging:	Nights	People	Cost/night	Cost	
				\$0.00	
Per Diem:	Meal	# of Meals	Cost/Meal	Cost	
	Breakfast			\$0.00	
	Lunch			\$0.00	
	Dinner			\$0.00	
				TOTAL TRAVEL =	\$0.00
PLOTING					
					say 0 total
			No. of Copies	Cost per Copy	Cost
	Vellum Plots (24x36)			\$4.00	\$0.00
	Photo Mylars			\$16.36	\$0.00
				TOTAL PLOTS =	\$0.00
REPRODUCTIONS:					
Reports (See EXHIBIT B)					\$165.80
Copies other than reports					
	Color Copies		No. of Copies	Cost per Copy	Cost
	8 1/2"x11"		50	\$0.75	\$37.50
	11"x17"			\$1.50	\$0.00
	Black & White Copies				
	8 1/2"x11"		100	\$0.06	\$6.00
	11"x17"		50	\$0.08	\$4.00
	Blacklines (22x34)			\$1.00	\$0.00
				TOTAL REPRODUCTIONS =	\$47.50
EXHIBITS					
			No. of Copies	Cost per Copy	Cost
	Aerial Photo, 40 scale			\$30.63	\$0.00
	(Mounting on Foam Board for public meetings)			\$120.00	\$0.00
	Presentation Blacklines			\$4.00	\$0.00
	Color Photo Reductions			\$8.00	\$0.00
				TOTAL EXHIBITS =	\$0.00
SPECIALIZED VENDORS					
				Cost	
	Vendor Name			\$0.00	
	Vendor Name			\$0.00	
	Vendor Name			\$0.00	
				TOTAL SPECIALIZED VENDORS =	\$0.00

# **APPENDIX B**

## **WSP**

WSP

September 19, 2019

Jim Glock, Tucson Office Manager  
Structural Grace  
a CONSOR Company  
1430 East Fort Lowell Road, Suite 200  
Tucson, Arizona 85719

**Subject: SUNSET ROAD: I-10 To River Road (4SRRIV)**

Dear Mr. Glock:

At your request, WSP is providing you with the enclosed scope of services and fee estimate for the subject project. WSP will be providing Preliminary Engineering Services for the following tasks:

- Offsite Drainage Analysis & Design
- River Hydraulics/Bridge Response

Our total fee estimate for the enclosed scope of services is \$ 168,089.77 for all services. Please feel free to contact me with any questions.

Kind regards,



Gregory A. Bambauer

Encl.  
cc: File

WSP USA  
Suite 1105  
177 N. Church Avenue  
Tucson, AZ 85701

Tel: +1 520 319-0725  
Fax: +1 520 882-8830  
wsp.com

SUNSET ROAD  
I-10 TO RIVER ROAD

**Scope of Services**

WSP, as a sub-consultant to Structural Grace Inc. (SGI), is being tasked to provide the following engineering design and oversight services for Sunset Road: I-10 to River Road (4SRRIV). The following main tasks; Task 3.11 Drainage Report for offsite drainage and major watercourse (Rillito Creek) analysis and, Task 3.17 DCR and Task 3.20 Preparation of Plans and Cross-Sections. The drainage component includes the preliminary design concept for offsite drainage analysis and riverine analysis and flood control design concept. The detailed scope of services outlined below provides clarification and assumptions to the Request for Proposal (RFP) Exhibit "A" Scope of Services.

This project is from I-10 to River Road and it will consist of revising the current traffic interchange configuration at Sunset Road and I-10 by realigning Sunset Road to cross over I-10, the UPRR and the Rillito Creek to tie into River Road and will only progress through the DCR stage with 15% plans for the offsite drainage facilities, and riverine appurtenances for scour mitigation or channel modification; which will establish construction costs for a future project. WSP tasks for this project will be complete within 12 months from Notice to Proceed.

Deliverables, submittals and review process for this project include:

Plans	
Submittal	Review
Draft DCR	OTS & C/RM

OTS – Over the Shoulder, C/RM – Comment/Resolution Meeting, N/A – Not Applicable

WSP's work effort is described in detail in the following task items and hour/fee associated with each in the attached worksheet.

Additional Services are **not** included as part of this scope of services; WSP will add Additional Services with a contract modification.

If task items listed on the RFP Exhibit "A" Scope of services are not included in this scope of services, each task is not included in WSP's scope of service. WSP can add these services upon request through a contract modification.

The items listed below are specifically omitted from the WSP scope of services even though they are included in the RFP Scope of Services. If directed by the owner, these items can be included under additional services.

**Excluded Scope Items:**

- Traffic Signal Design
- Traffic Signal Quantity and Cost Estimate
- Onsite Drainage Design
- Offsite Drainage Design using a 10-ft Grid FLO-2D Model (I-10 to River Road)
- Draft and Final Drainage Report



SUNSET ROAD  
I-10 TO RIVER ROAD

**Task 3.2      Quality Control Plan & Project Management**

**Task 3.2.2**

WSP will provide internal Project Management to deliver this project. Included in the Project Management task are:

- Project Set up
- Project Monitoring
- Project Accounting
- Internal Schedule Development

**Task 3.2.3      Meetings & Communications**

- Monthly Meetings – WSP PM will attend twelve (12) monthly meetings.
- In-house Team Meetings – WSP PM will attend meetings as needed; estimated six (6) meetings for the PM and 3 meetings for a PE.
- Other Agency Meetings – WSP will coordinate through SGI and attend four (4) additional meetings to specifically coordinate with two (2) PCRFCO/COT for the Rillito Creek and two (2) PCRFCO for the FLO-2D coordination.
- Site Visit – WSP will attend one (1) Team site visit (PM + 2-PEs). WSP will visit site as needed to progress the design, estimate two (2) designer visits (PM + PE). Hours associated with site visits are included in the design hours.

**Task 3.2.4      Schedule**

WSP will coordinate with SGI and develop an internal schedule to deliver this project within the main schedule constraints.

**Task 3.2.5      Cost Estimating**

Cost estimating is included in design tasks provided below.

**Task 3.11      Drainage Report**

Drainage consideration for each of the key submittal packages will be as follows:

- River Hydraulic Analyses and Scour Countermeasure Design for Rillito Creek
- Drainage Overview for inclusion in the DCR and Calculation Submittal

The following subtasks describe the associated work for the project:

**ASSUMPTIONS**

- River Hydraulics
  - Discussion with PCRFCO Staff (Terry Hendricks & Evan Canfield) identified that the FEMA Effective (Duplicate Effective) Model will be adequate to use for the basis of analysis for this project. Therefore; no corrective effective model will be used.

SUNSET ROAD  
I-10 TO RIVER ROAD

- PCRFCFCD will provide WSP with the current FEMA regulatory flow rates for the Rillito Creek, which will be the basis of design and analysis.
- PCRFCFCD will provide most current FEMA regulatory effective hydraulic model and work maps for the Rillito Creek; which will be the basis for design. This will provide for future submittal to FEMA if the need arises.
- The project will determine the hydraulic response of the proposed Sunset Road bridge at Rillito Creek and will include the impact of the future re-constructed I-10 bridges spanning Rillito Creek between Ruthrauff and Ina Roads. The information utilized for these future structures will be the Design Concept Report (DCR) for this section of I-10 by HDR.
- WSP will model the 10-yr, 50-yr, 100-yr, and 500-yr discharges, hydrographs, and water surface elevations for the Rillito Creek.
- Scour Analysis
  - WSP will perform a scour evaluation for the proposed Sunset Rd. bridge spanning Rillito Creek and the existing electrical transmission pole foundation in Rillito Creek. If required, preliminary scour countermeasures plans will be provided for inclusion in the bridge Selection Report and 30% Plans. No sediment transport analysis is included in this scope of work.
  - Discussion with PCRFCFCD Staff (Terry Hendricks & Evan Canfield) identified that no sediment transport study is required with this analysis; therefore, it is omitted from this scope of services.
- Onsite Drainage Analysis & Design
  - No analysis will be conducted for the onsite drainage design, see Task 3.11 for approach.
- Offsite Drainage Analysis & Design
  - For the offsite flow approaching the segment west of I-10, the design will be based on the existing condition. It is assumed that the future I-10 improvement and the future development immediately south will maintain the existing drainage pattern and will not increase any discharges. It is assumed that no culvert is required along the existing collector channel to accommodate future access to the site immediately south.
  - For the offsite flow approaching the segment east of I-10, the existing FLO-2D model from the Ruthrauff BMP study will be used to identify the existing drainage pattern. No new FLO-2D will be prepared.
  - Discussion with PCRFCFCD Staff (Terry Hendricks & Evan Canfield) identified that PAG lidar/mapping (2015 Bare Earth Model) will be made available for this project. Actual limits will be determined after NTP.
- Drainage Report
  - Drainage overview with exhibits and Calculation Package.

**Task 3.11.1 Review Existing Plans & Report**

WSP will conduct research to determine the available drainage reports and plans that may cover portions of this project's limits. WSP will request, through SGI, specific drainage reports and plans in the vicinity of the project. WSP will review H&H reports and verify pertinent information to reduce the amount of duplicate work needed for this project. WSP will coordinate, through SGI, with PCRFCFCD for information regarding Rillito Creek.

SUNSET ROAD  
I-10 TO RIVER ROAD

**Task 3.11.2 Hydrologic and Hydraulic Modeling**

Offsite – West of I-10

WSP will compute peak discharges using PC-Hydro version 7 in accordance with the Pima County Hydrology Method. A collector channel will be evaluated, if needed, south along the proposed roadway embankment to collect the offsite flows approaching from south. The channel will outlet to its historical outfall approximately 1,300 feet west of I-10.

Offsite – I-10 to Rillito Creek

WSP will extract flow rate discharges from the existing Ruthrauff Management Plan FLO-2D existing conditions model. The flow rates will be used with traditional methods (Manning's Equation FLOWMASTER, HDS 5 Culvert Design *HY-8* and HEC-14 Scour mitigation *HY-8*) to design the conceptual cross drainage appurtenances.

Onsite Drainage

WSP will estimate the spacing required for inlets along Sunset Road based on the conceptual roadway geometry to provide an estimated quantity and cost for the onsite facilities. No plans or other documentation will be provided for the onsite drainage facilities.

Riverine

WSP will coordinate with PCRFCF to obtain the latest approved hydraulic model for the Rillito Creek. The most recent FEMA approved "Effective" model will be the basis for establishing existing and proposed conditions for the project. WSP will modify the "Effective" model to incorporate the proposed Sunset Road bridge spanning the Rillito Creek, all improvement associated with the bridge and include all proposed improvements that impact the Rillito Creek that are associated with the I-10, Ina Road to Ruthrauff Road project as depicted in the final DCR. It is anticipated that WSP will establish the existing and proposed hydraulic condition for Rillito Creek and will utilize the latest available mapping for this project to cut new cross sections (600-feet downstream and 300-feet upstream for the Rillito Creek). A maximum of three (3) bridge configurations will be evaluated to determine the most hydraulically and cost efficient bridge configuration for Sunset Road over Rillito Creek.

Prior work under the Sunset Road Phase II DCR did not include the planned/DCR level I-10 bridges. This is an added scope item that is required to be coded in the Rillito Creek hydraulic model. WSP will obtain the DCR plans and incorporate the DCR level proposed I-10 bridge configuration in the Rillito Creek proposed hydraulic model. The inclusion of the I-10 bridges will change the hydraulics for the Rillito Creek. The team's prior design and analysis progression may not be viable for this design; WSP will use it as the starting point for this evaluation. There is the potential to step back and re-evaluate the river configuration due to the I-10 bridges. This approach is factored in with the three iterations identified below.

The intent of the proposed bridge and river improvements is to produce a design with a "No-Rise" condition on insurable structures. Given this condition, there may be the need to adjust channel banks or change the river grade in this area. PCRFCF has indicated that it is preferred that the left (south) bank left in its current alignment due to deposition downstream. WSP has incorporated a

SUNSET ROAD  
I-10 TO RIVER ROAD

estimate of three (3) iterations to accomplish this once the appropriate bridge configuration is determined.

Scour analyses

Upon determination of the bridge and river improvements, WSP will perform analyses to estimate potential scour depths at both the new Sunset Road bridge spanning the Rillito Creek as well as at the existing adjacent electrical transmission pole foundation. Scour analyses will follow the procedures in the PCRFC and PCDOT "Guidelines for Establishing Scour and Freeboard for Bridges in Pima" (2012). If required, WSP will prepare preliminary plans for scour mitigation measures to be included in the Bridge Selection Report and 30% Plans.

**Task 3.11.3 Drainage Maps and Exhibits**

WSP will prepare typical exhibits to be included with the drainage overview including offsite hydrology maps. For the Rillito Creek, WSP will prepare existing and proposed conditions work maps showing floodplain limits for the 10-yr, 50-yr, 100-yr, and 500-yr return periods. In addition, exhibits will be prepared showing existing and proposed conditions flow depths and velocities in accordance with PCRFC mapping standards.

**Task 3.11.4 Drainage Overview**

WSP will document the findings from the offsite and riverine analyses in a drainage overview document that will be submitted to SGI in lieu of a drainage report. An electronic calculation package will be packaged and submitted with the written overview.

**Task 3.11.5 FEMA Requirements**

Based upon the comparative analysis of the existing conditions and proposed conditions hydraulic modeling of Rillito Creek, WSP will make a determination of impacts to the FEMA regulated Floodplain and Floodway and document the findings in the drainage overview, see Task 3.11.4.

**Task 3.11.6 Quality Control Review**

WSP will conduct Quality Assurance Quality Control (QA/QC) reviews for all items of the drainage analyses, design and report segments associated with Task 3.11

**DELIVERABLES**

- Electronic drainage overview with exhibits for inclusion in the DCR.
- Electronic drainage calculation files (HECRAS, HY-8, PDFs) sipped together in a single package.

**Task 3.17 Design Concept Report**

WSP will assist in development of the Design Concept Report (DCR) by providing necessary data to the team from WSP's specific drainage tasks.

SUNSET ROAD  
I-10 TO RIVER ROAD

**Task 3.17.3 Design Standards, Criteria and Features**

WSP will compile all pertinent PCDOT and PCRFC design standards to use as design guidance for WSP's specific tasks on this project. This compilation will be provided to SGI for inclusion into the DCR.

Project specific Onsite Drainage standards, criteria and features are excluded from this task; there is no onsite drainage design associated with this project.

**Task 3.17.5 Design Concept Report w/ Conclusions & Recommendations**

WSP will provide written sections for the DCR documenting the results of the preliminary design. The sections will include offsite drainage and riverine design elements.

**Task 3.17.6 Cost Estimate**

WSP will provide SGI with quantity take-off and unit cost documentation for the drainage design concept-to-be included in the overall project opinion of probable cost. Onsite drainage quantities will be based on the estimated quantity as discussed in Section 3.11.2.

**Task 3.17.7 Quality Control Review of DCR**

WSP will conduct a QC of the DCR documentation to be delivered to SGI, including drainage and riverine documentation, cost estimate and design criteria.

Deliverables:

- Documentation of design specific data to be included in DCR.
- 15% Level Cost Estimate and quantity take-off summaries.
- Design Criteria Summary
- Comment Responses

**Task 3.20 Preparation of Plans and Cross - Sections**

WSP will prepare 15% level plans drainage facilities required to meet the design criteria for the project.

**Task 3.20.1 15% Plans**

WSP will prepare the following drainage plans for Task 3.20.1:

Sheet Description	Est. Number of Sheets
Offsite Drainage P&Ps	4
Misc. Drainage Details	2
Riverine Details	5
Total	11

Although, onsite drainage plans and profiles are not part of the scope of services, WSP will approximate catch basin locations in accordance with the spacing described under Task 3.22.2. Inlets and storm drains can be shown on the roadway plans for informational purposes.

SUNSET ROAD  
I-10 TO RIVER ROAD

**Task 3.20.4 Quality Control Review of Plans**

WSP will conduct a QC of the traffic signal and drainage plans (15% and 30%) and each respective quantity take-off & cost estimate.

Deliverables:

- 15% Plans, cost estimate and quantity take-off calculations.
- Responses to all review comments will be summarized and included in a separate document for future inclusion in the documents.

**Task 3.30 Additional Services**

Upon request, WSP will prepare a contract modification to include additional services that were identified under Task 3.30 in the RFP scope of services.

Services that WSP can add through a contract modification are included below:

**Task 3.30.2 Other Services**

These other services could include:

- Additional Meetings
- Prepare additional displays
- Prepare additional summaries
- Perform additional Analyses
- Provide additional Design
  - Traffic Signal at Sunset Road / Sunset Professional Campus
  - Onsite Drainage Design/Analysis
  - 10-ft Grid FLO-2D Analysis for Proposed Design Condition

**Task 3.30.3 ADOT Design-Build Procurement Phase Services**

The ADOT D Design-Build Procurement Phase Services could include:

- Attend meetings
- Assist in preparing addendums
- Price proposal evaluations
- Respond to RFIs



**PIMA COUNTY  
FEE ESTIMATE SUMMARY**

PROJECT: **Sunset Road: I-10 to River Road**  
TASK(s):

CONSULTANT: WSP USA Inc.

CONTRACT NO.:  
CONTRACT TYPE: CPFF

**Direct Labor Cost**

<u>Classification</u>	<u>Estimated Hours</u>	<u>Contracted Avg DL Rate</u>	<u>Labor Cost</u>	
Project Principal	-	\$108.86	\$0.00	
Project Manager	308	\$74.36	\$22,902.88	\$22,902.88
Senior Project Engineer	416	\$53.78	\$22,372.48	\$22,372.48
Project Engineer	320	\$35.31	\$11,299.20	\$11,299.20
Senior Project Designer	-	\$50.07	\$0.00	\$0.00
Project Designer	32	\$29.74	\$951.68	\$951.68
Drafting / CADD / Graphics	160	\$30.86	\$4,937.60	\$4,937.60
Clerical	48	\$39.97	\$1,918.56	\$1,918.56
(A) Direct Labor	1,284 Hrs			<b><u>\$64,382.40</u></b>

**OVERHEAD**

(B) OH Rate x (A) 136.06% x \$64,382 = **\$87,598.69**

**PROFIT**

(C) % Profit Rate x (A+B) 10.0% x \$151,981 = **\$15,198.11**

**Estimated Direct Expenses**


Travel	\$218.00	
Plotting	\$0.00	Assume Submit PDFs
Reproductions	\$300.00	Work Maps & Floodplain
Exhibits	\$0.00	
Specialized Vendors	\$0.00	
Reports	\$397.00	
Van/Bus Rental	\$0.00	
(D) Total Estimated Direct Expenses		<b><u>\$915.00</u></b>

**Estimated Outside Services & Subconsultants**

(F) Total Estimated Outside Services & Subconsultants = **\$0.00**

**Estimated Fees**

(H) TOTAL CONSULTANT FEE = **\$168,094.20**

  
Signature

9/19/19  
Date

## Workhour Estimate by Task

MAIN TASK #	Main Task Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL
Task 3.2	Quality Control Plan and Project Management	0	142	46	0	0	0	0	48	236
Task 3.3	Utility Coordination	0	0	0	0	0	0	0	0	0
Task 3.4	Public Participation	0	0	0	0	0	0	0	0	0
Task 3.5	Coordination with Government Agencies	0	0	0	0	0	0	0	0	0
Task 3.6	Integration of Public Art As Applicable	0	0	0	0	0	0	0	0	0
Task 3.7	Gathering of Relevant Data	0	0	0	0	0	0	0	0	0
Task 3.8	Environmental Impact Screening	0	0	0	0	0	0	0	0	0
Task 3.10	Surveying and Mapping	0	0	0	0	0	0	0	0	0
Task 3.11	Drainage Overview	0	128	284	256	0	32	96	0	796
Task 3.12	Geotechnical Issue Investigation	0	0	0	0	0	0	0	0	0
Task 3.13	Pavement Design	0	0	0	0	0	0	0	0	0
Task 3.14	Bridge Structure Selection Report	0	0	0	0	0	0	0	0	0
Task 3.15	Traffic Engineering	0	0	0	0	0	0	0	0	0
Task 3.16	Arterial Lighting Design	0	0	0	0	0	0	0	0	0
Task 3.17	Design Concept Report (DCR)	0	18	38	48	0	0	0	0	104
Task 3.18	Environmental Assessment/Mitigation	0	0	0	0	0	0	0	0	0
Task 3.19	ROW Acquisition Support	0	0	0	0	0	0	0	0	0
Task 3.20	Preparation of Plans and Cross Sections	0	20	48	16	0	0	64	0	148
		0	308	416	320	0	32	160	48	1,284
Task 3.30	Additional Services	0	0	0	0	0	0	0	0	0



### Workhour Estimate by Task

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.2</b>											
<b>Quality Control Plan and Project Management</b>											
3.2.1 Quality Control Plan									0		
3.2.2 Project Management									0		
a) Coordination with team members									0		
b) Website establishment and maintenance									0		
WSP Project Management (Proj Initiation, Monitoring Accounting)		78	8					48	134		
									0		
									0		
									0		
									0		
3.2.3 Meetings and Communication									0		
a) Monthly team progress meetings (12-(PM+PE))		24	0						24		
b) In house team meetings (as needed) (Assume 8 PM+PE)		12	6						18		
c) Other meetings with agencies (4-RFCD/COT 2-FLO2D & 2-Flood)		16	24						40		
d) Site Visit (1-Team, 2-Designer) (4-Hours per Visit)		4	8						12		
3.2.4 Schedule		8							8		
3.2.5 Cost Estimating									0		
<b>Subtotal</b>	<b>0</b>	<b>142</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>236</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.3</b>											
<b>Utility Coordination</b>											
3.3.1 Data Gathering Utility Designation Letter of Acceptance									0		
a) Individual utility meetings (5)									0		
b) Utility Company Acceptance Letters									0		
3.3.2 Design Coordination, Utility Impact Identification									0		
a) Website info Prep and Posting									0		
3.3.3 Utility Impact Mitigation									0		
a) Impact mitigation Meetings w/County									0		
b) Comment Review Responses									0		
3.3.4 QA									0		
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		

### Workhour Estimate by Task

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.4											
Public Participation											
3.4.1 Public Participation Plan Support									0		
3.4.3 Public Meetings (3 w/ travel time)									0		
3.4.5 QC Review									0		
Subtotal	0	0	0	0	0	0	0	0	0		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.5											
Coordination with Government Agencies											
3.5.1 Agency coordination log, agenda, minutes, response, etc.									0		
Subtotal	0	0	0	0	0	0	0	0	0		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.6											
Integration of Public Art As Applicable											
3.6.1 Coordination of Art Concepts with Pima County									0		
3.6.2 QC Review									0		
Subtotal	0	0	0	0	0	0	0	0	0		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
Task 3.7											
Gathering of Relevant Data											
3.7.1 Gather Existing Information									0		
3.7.2 Site Visits									0		
3.7.3 QC Review											
Subtotal	0	0	0	0	0	0	0	0	0		

**Workhour Estimate by Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.8</b>											
<b>Environmental Impact Screening</b>											
3.8.1 Environmental Coordination Meeting									0		
3.8.2 Questionnaire for Establishing potential Areas of Impact									0		
3.8.3 Summary Impact Matrix									0		
3.8.4 Environmental Results Memorandum									0		
3.8.5 Team Review									0		
3.8.6 Project Modifications/Alternatives									0		
3.8.7 QC Review									0		
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.9</b>											
<b>N/A Alternative Locations Study</b>	<b>No Alternative Locations Study is anticipated as part of the project</b>										
									0		
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.10</b>											
<b>Surveying and Mapping</b>											
3.10.1 Initial Planning and Reconnaissance									0		
3.10.2 Horizontal Control									0		
3.10.3 Vertical Control Traverse									0		
3.10.4 Results of Survey Drawing									0		
3.10.5 Topographic Mapping									0		
3.10.6 Utility Surveys									0		
3.10.7 Culture Surveys									0		
3.10.8 Right-of-Way Surveys									0		
3.10.9 Roadway Design manual Survey Efforts									0		
3.10.10 Legal Descriptions & Reference Maps									0		
3.10.11 Boring Locations									0		
3.10.12 QC Review									0		
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		

**Workhour Estimate by Task**

Description	Project Principal	Project Manager	Senior Project Engineer	Project Engineer	Senior Project Designer	Project Designer	Drafting / CADD / Graphics	Clerical	TOTAL		Per Sht
<b>Task 3.11</b>											
<b>Drainage Overview</b>											
3.11.1 Review Existing Plans and Reports		24	40	32					96		
3.11.2 Hydrologic and Hydraulic Modelling									0		
3.11.2A West of I-10											
Offsite Drainage		12	24	40					76		
Conceptual Inlet Spacing & Stormdrain Layout based on roadway geometry - Add to Base File but omit plans		8	12	0			8		26		
3.11.2B East of I-10											
Offsite Drainage											
Extract Design Discharges from Existing Condition FLO-2D Model		8	12	24					42		
Conceptual Cross Drainage Design (Traditional Methods, FLO-2D Excluded)		8	12	24					44		
Conceptual Inlet Spacing & Stormdrain Layout based on roadway geometry		4	8	0			8		20		
Riverine Iterations to meet Zero Rise & Scour Analyses No Sed Transport		24	80	64			24		192		
3.11.3 Drainage Maps and Exhibits											
Offsite Drainage (Draft Preliminary Report Only)		4	12	16			8		40		
Riverine		8	12	16		16	24		76		
3.11.4 Drainage Reports											
Prepare Drainage Overview and Graphics to be included in the DCR. Electronic Files will be packaged and submitted with overview. Formal Draft Report omitted from Scope.		4	16	24		16	24		84		
3.11.5 FEMA Requirements											
Inventory of Impacts to FEMA Floodplain & Floodway		8	16	16					40		
3.11.6 QC Review (Initial)											
Offsite Drainage (Initial Only)		8	16						24		
Riverine		12	24						36		
<b>Subtotal</b>	<b>0</b>	<b>128</b>	<b>284</b>	<b>256</b>	<b>0</b>	<b>32</b>	<b>96</b>	<b>0</b>	<b>796</b>		