



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

☐ Award ☒ Contract ☐ Grant

Requested Board Meeting Date: 10/15/2024

or Procurement Director Award: ☐

** = Mandatory, information must be provided*

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

HDR Engineering, Inc. (Headquarters: Omaha, NE)

***Project Title/Description:**

Design Engineering Services For: Madera Canyon, Medium Wash Bridge Replacement (4MADMB) and Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)

***Purpose:**

Award: Contract No. PO2400007958. This award of contract is recommended to the highest qualified consultant in the amount of \$1,469,551.13 for a contract term from 10/15/24 to 10/14/27 for design engineering services for Madera Canyon, Medium Wash Bridge Replacement (4MADMB) and Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL). Administering Department: Project Design and Construction.

***Procurement Method:**

Solicitation for Qualifications No. RFQu-24000075 was conducted in accordance with A.R.S. § 34-603 and Pima County Supervisors Policy D29.1. Four (4) responsive statement of qualifications were received and evaluated by a five (5) member committee using qualifications and experience-based selection criteria. Based on the evaluation of the respondents' written representations of their qualifications and necessary due diligence, a short list of four(4) respondents were invited to interviews. As a result of the combined scoring of the written statements of qualifications and interviews, the highest qualified consultant is recommended for award.

Attachments: Notice of Recommendation for Award, Risk Management Approval, and Contract.

***Program Goals/Predicted Outcomes:**

Madera Canyon Road, as a Scenic Corridor, provides recreational access to the Madera Canyon Recreation area. It also is the only access for lodging and residences within this area. The road is two-lanes except where it is restricted in three locations to single-lane traffic. Two of these locations are the bridges at Medium Wash and Florida Canyon Wash. Between both bridges is a single-lane culvert crossing which is not eligible for OSB funding, and therefore not contained in this scope of work. The existing bridges were built in mid-1930's by the Civilian Conservation Corps and have since aged to a point where they are scour critical and must be replaced. The public benefit with these projects will improve access with less restrictions caused by the single-lane bridges. Additionally, the failing bridges will be replaced with a two-lane bridge, further contributing to the health, safety, and welfare of the constituents using this roadway for life, work, and play needs.

***Public Benefit:**

The goal of these projects is to replace the Florida Canyon Wash and Medium Wash bridges with 2-lane structures meeting all current regulatory agency standards. A secondary goal will be to maintain full access to the Madera Canyon Recreation area for businesses, users, and residents, during construction of the new bridges. The project will repurpose abandoned dirt roads to define a temporary by-pass road to safely route traffic around the work area and provide physical separation between traffic and construction.

***Metrics Available to Measure Performance:**

Consultant and Contractor performance evaluations will be used to measure compliance with the project's scope, schedule, and budget. This assessment will determine if the work was satisfactorily delivered in a manner that meets expectations defined in the program goals.

***Retroactive:**

No.

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THE APPLICABLE SECTION(S) BELOW MUST BE COMPLETED

Click or tap the boxes to enter text. If not applicable, indicate "N/A". Make sure to complete mandatory (*) fields

Contract / Award Information

Document Type: PO Department Code: PDC Contract Number (i.e., 15-123): PO2400007958
Commencement Date: 10/15/24 Termination Date: 10/14/27 Prior Contract Number (Synergen/CMS): _____
☒ Expense Amount \$ \$1,469,551.13 * ☐ Revenue Amount: \$ _____

***Funding Source(s) required: U.S. Department of Transportation Federal Highway Administration (FHWA) Off System Bridge (OSB) Funds**

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? Vendor

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 22-10.

Amendment / Revised Award Information

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

Amendment No.: _____ AMS Version No.: _____

Commencement Date: _____ New Termination Date: _____

Prior Contract No. (Synergen/CMS): _____

☐ Expense ☐ 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): _____

Commencement 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: Procurement Officer: Dawn Dargan Digitally signed by Dawn Dargan
Date: 2024.09.17 08:37:01 -07'00'

Division Manager: Scott Loomis Digitally signed by Scott Loomis
Date: 2024.09.17 10:05:54 -07'00'

Department: Procurement Director: Terri Spencer Telephone: 520-724-9071

Department Director Signature: _____ Date: 9/17/24
Deputy County Administrator Signature: _____ Date: 9/25/2024
County Administrator Signature: _____ Date: 9/25/2024



NOTICE OF RECOMMENDATION FOR AWARD

Date of Issue: September 13, 2024

The Pima County Procurement Department hereby issues formal notice to respondents to **Solicitation No. RFQu-24000075 for Design Engineering Services For: Madera Canyon, Medium Wash Bridge Replacement (4MADMB) and Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)** 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, 2024.

Award is recommended to the Most Qualified Respondent.

AWARDEE NAME

HDR Engineering, Inc.

OTHER RESPONDENT'S NAMES

Conсор Engineers, LLC
Kimley-Horn and Associates, Inc.
WSP USA Inc.

NOTE: Pursuant to A.R.S. §34-603(H), only the names of the firms on the final list may be disclosed.

Issued by: /s/ Judy Cooper

Telephone Number: (520) 724-3727

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



FINANCE & RISK MANAGEMENT

Modification to Insurance or Indemnity Clause

Date: 7/1/2024

Requestor Name: Judy Cooper

Department: Procurement



Change to Insurance



Change to Indemnity

Supplier Name: HDR Engineering, Inc.

Contract No: Number not assigned at this time

Project Title/Description:

Design Engineering Services for Madera Canyon, Medium Wash Bridge Replacement and Florida Canyon Wash Bridge Replacement.

Requested Change:

Change to: ARTICLE 7 - INSURANCE - 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 copies of all insurance policies required by this Contract at any time provided CONSULTANT may redact confidential employee and pricing information from such policies.



Approved



Denied

Risk Management:

Christina Garcia

Comments:

Approved per above changes.

PIMA COUNTY PROJECT DESIGN AND CONSTRUCTION DEPARTMENT

PROJECT: Design Engineering Services For: Madera Canyon, Medium Wash Bridge Replacement (4MADMB) and Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)

CONSULTANT: HDR Engineering, Inc.
1 South Church Avenue, Suite 1400
Tucson, AZ 85701

CONTRACT NO.: PO2400007958

AMOUNT: \$1,469,551.13

FUNDING: U.S. Department of Transportation Federal Highway Administration (FHWA) Off System Bridge (OSB) Funds

CONSULTANT SERVICES CONTRACT

THIS CONTRACT is entered into between Pima County, a body politic and corporate of the State of Arizona, hereinafter called COUNTY, and HDR Engineering, Inc., 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 Design Engineering Services For: Madera Canyon, Medium Wash Bridge Replacement (4MADMB) and Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL) (Project); 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. RFQu-24000075, 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, 2024, and terminates on October 14, 2027, 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 design engineering services for the COUNTY as described in **EXHIBIT "A" – SCOPE OF SERVICES (42 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 Procurement Director, as required by the Pima County Procurement Code, before the work under the amendment commences.

This Contract is funded partially by federal funds and is subject to the additional Federal requirements in **EXHIBIT “C” – Uniform Terms and Conditions Federal Contract Requirements (Project Specific Contract Goals) (55 Pages)**, hereinafter referred to as “UTC”, and **APPENDIX “B” – Professional Services DBE Provisions (23 Pages)**, which are attachments to and hereby made part of this Contract. For this Contract, the Federal Granting Agency is the Federal Highway Administration (FHWA) and the State Agency is the Arizona Department of Transportation (ADOT).

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 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 4**.

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 (129 Pages)**.

Fee. Fee is the amount, independent of actual costs, that 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 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 Cost plus Fixed-Fee (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 Cost plus Fixed Fee (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**.

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**. 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 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 a task, (including acceptance by COUNTY of all associated deliverables), COUNTY will pay the balance of the fee allocated to that task 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.

The total of all payments to CONSULTANT for services provided under this Contract will not exceed One Million Four Hundred Sixty-Nine Thousand Five Hundred Fifty-One Dollars and Thirteen Cents (\$1,469,551.13).

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.

In accordance with A.R.S. § 28-411, COUNTY will issue payments to Prime Consultants within 21 calendar days after receipt of a correct invoice. In addition, CONSULTANT will pay subconsultants within seven (7) calendar days after receiving payment from COUNTY, unless exceptions exist within the agreed-upon consultant/subconsultant agreement. CONSULTANT shall not withhold subconsultants' payment if COUNTY has paid for the full value of services rendered. Failure by the CONSULTANT to invoice COUNTY in accordance with the terms of the Contract and/or pay subconsultants in accordance with A.R.S. § 28-411 shall be constituted as a material breach of contract.

COUNTY reserves the right to request that CONSULTANT provides proof of payment to subconsultants if a complaint of non-payment is made to COUNTY by the subconsultant.

Incomplete or incorrect invoices will be returned to the submitter within seven (7) calendar days of receipt by COUNTY. The twenty-one (21) day calendar payment timeframe for COUNTY payment will begin anew upon receipt of the corrected invoice.

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.

Furthermore, the CONSULTANT and COUNTY recognize that in actual economic practice, overcharges resulting from anti-trust violations are borne by the ultimate user which in this case is the COUNTY. Therefore, the CONSULTANT, acting as a vendor, hereby assigns to the COUNTY any and all claims for such overcharges.

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

ARTICLE 5 – PROJECT BASELINE AND ADJUSTMENTS

- A. COUNTY and CONSULTANT have agreed upon the Project scope and the total Cost Plus Fixed Fee, 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 are 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 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 or Procurement Director 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. CONSULTANT'S insurance will be placed with companies licensed in the State of Arizona and insureds will have an "A.M. Best" rating of not less than A- VII. 1. CONSULTANT shall have the capability and experience to perform and be responsible for negligent acts which may occur in the course and scope of the CONSULTANT's performance under the Contract.

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 three (3) 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: The General Liability and Business Automobile Liability Policies will each be endorsed to include COUNTY, ADOT, and FHWA, their departments, districts, boards, commissions, officers, officials, agents, and employees as additional insureds with respect to liability arising out of the activities performed by or on behalf of the CONSULTANT.

7.2.2 Subrogation: The General Liability, Business Automobile Liability and Workers' Compensation Policies will each contain a waiver of subrogation endorsement in favor of COUNTY, 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: 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.

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:

Each required Insurance policy must provide, and certificates specify, that COUNTY will receive not less than thirty (30) days advance written notice of any policy cancellation, except 10-days prior notice is sufficient when the cancellation is for non-payments of a premium. Notice shall include the COUNTY project or contract number and project description.

7.4 Verification of Coverage:

CONSULTANT will furnish COUNTY with certificates of insurance 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, prior to, commencement of work under the 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 provided CONSULTANT may redact confidential employee and pricing information from such policies.

7.5 Approval and Modifications:

COUNTY Risk Manager may approve a modification of the Insurance Requirements without the necessity of a formal Contract amendment, but the approval must be in writing. Neither the COUNTY'S failure to obtain a required insurance certificate or endorsement, the COUNTY'S failure to object to a non-complying certificate or endorsement, or the COUNTY'S receipt of any other information from the CONSULTANT, its insurance broker(s) and /or insurer(s), constitutes a waiver of any of the Insurance Requirements.

ARTICLE 8 – INDEMNIFICATION

To the fullest extent permitted by law, CONSULTANT will indemnify, defend, and hold harmless COUNTY, 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 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 indemnitees.

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 state statute will be interpreted and applied as if it were consistent with state statute.

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, its agents, employees or indemnitee.

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 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.

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 Contract. 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 Contract, 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.

Pursuant to the Arizona Administrative Code (A.A.C.) R4-30-304 (Use of Seals), which is incorporated herein by reference and hereby made a part of this Contract, the Consultant shall affix a proper engineer's seal to all plans, reports and engineering data furnished under this Contract.

No substitution or transfer of personnel, specifically identified in the approved Key Personnel list shall be made without prior written approval by COUNTY. Key Personnel are those individuals whose qualifications were highly significant and appropriate in evaluating the overall qualifications of the project team Key Personnel includes, at a minimum:

- 1) The Consultant's registered Project Principal/Owner responsible for the overall technical and administration aspects of this Contract;
- 2) The person in direct charge of the overall project work (Project Manager);
- 3) The person in charge of each major engineering disciplines/component of the work (e.g., bridge, pavement design, environmental, etc.);
- 4) Where applicable, the person in charge of overall scheduling of the project work.

Key Personnel may also include, but are not limited to, Project Engineer, Subconsultants' Team members and any other Key Personnel deemed vital to the completion of the project, and whose qualifications were evaluated by the Selection Panel.

The County will review the Consultant's proposed list of Key Personnel presented during contract negotiations and will approve the list of Key Personnel assigned to the Contract. The County's decision as to Key Personnel composition shall be final.

The Consultant shall not change any of the Key Personnel assigned to this Contract until it has obtained written approval from COUNTY. The Consultant shall notify COUNTY in advance of an anticipated change in the Key

Personnel no later than 10 calendar days prior to the change, and shall inform the Department of the reasons the change for the change and shall certify that the overall intent of the Contract will not be impaired by the change. The advance notice requesting a Key Personnel change shall include the name(s) of the Key Personnel, date of departure, the proposed replacement and his/her credentials/resume. Qualifications of any Key Personnel proposed in a change shall be equal to or greater than the original qualifications of the person being replaced.

The County shall have the right to approve or reject the proposed successor. The County will consider any change in Key Personnel, and at its discretion may decide to terminate the Contract for convenience if, in COUNTY's sole discretion, COUNTY believes that the project team is materially different because of the change. The County shall make its decision within 30 days of the Consultant's request to change Key Personnel.

Failure to provide COUNTY with advanced notification may result in termination of the Contract, award of damages to COUNTY or loss of prequalification status.

When technical review establishes that all phases of the Contract have been completed to the satisfaction of COUNTY, COUNTY will notify the Consultant to follow the final closeout procedure specified in UTC Article 4.18.

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

- A. 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.
- B. In cases where a firm changes its name, acquires, or merges with another company, the firm under Contract with COUNTY shall notify COUNTY of name or ownership changes within **10 business days** from the date when the name or ownership change is legally signed/approved **before** the new Consultant begins any work on acquired firm's contract(s). The Consultant changing its name due to merger, acquisition, consolidation and/or transfer of ownership shall be responsible for fulfilling all obligations, liabilities, and Contract terms/conditions for all COUNTY Contracts of the acquired firm. The new/acquiring firm shall provide COUNTY with the required information to approve the name change, including but not limited to the following:
 - 1. A letter, on company letterhead, indicating the new name and reason for the change. The letter shall also include:
 - a. Effective date of the change.
 - b. List of active and pending closeout COUNTY Contracts affected by the change with contract description. Indicate which contract(s) the firm served as a Consultant or Subconsultant.
 - c. A statement certifying that the new/acquiring Consultant shall assume all obligations and liabilities set forth in the respective contracts for all listed contracts between the new/acquiring Consultant and COUNTY.
 - d. A statement certifying that no changes have been made in the Key Personnel responsible for the affected contracts. If a Key Personnel change occurs resulting from the merger, acquisition, consolidation and/or transfers of ownership, the Consultant shall submit a separate request to

obtain COUNTY'S approval for the Key Personnel change in accordance with Section 4.34 (KEY PERSONNEL) of this Contract.

2. A copy of Arizona Corporation Commission (ACC) or home-state equivalent Corporation Commission approval documentation of the new/acquiring Consultant.
 3. Updated professional license(s) of the new/acquiring Consultant.
 4. Updated W-9 Form of the new/acquiring Consultant.
- C. If the acquiring firm is approved by COUNTY to take over the merged or acquired Contracts, the Contracts shall be modified to include the acquiring firm's name by a Contract Modification. The Consultant shall also re-qualify with COUNTY under the new entity/firm name by certification of financial systems.
- D. If a Subconsultant listed in the Contract changes its name due to merger, acquisition, consolidation and/or transfer of ownership, the **Subconsultant shall notify the Consultant** of the name or ownership changes within **10 business days** when the name or ownership change is legally signed/approved **before** the new/acquiring Subconsultant begins any work on the acquired Subconsultant contract(s). The Consultant shall request COUNTY'S written approval within 10 calendar days from the Subconsultant notification. The name-change request shall include, at a minimum, items required in B. 1 and 2 of this Article.

ARTICLE 15 – NON-DISCRIMINATION

CONSULTANT agrees to comply with all provisions and requirements of the authorities listed in Appendix "B" of Exhibit "C", 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 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

The Standard of Conduct and Conflict of Interest laws and guidelines contained in the Arizona Revised Statutes (A.R.S.) § 38-501 through 38-511 and applicable Pima County Conflict of Interest Policies and Procedures apply to this Contract.

See Exhibit "C", UTC Article 4.20.

ARTICLE 18 – TERMINATION OF CONTRACT FOR DEFAULT

See Exhibit "C", UTC Article 4.16.

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 or Procurement Director 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:

Rod Lane, Director
Project Design and Construction
150 W. Congress St., 3rd Floor
Tucson, Arizona 85701
Tel: (520) 724-3106

CONSULTANT:

Michael Barton, Vice President, Principal
HDR Engineering, Inc.
1 South Church Avenue, Suite 1400
Tucson, Arizona 85701
Tel: 520-584-3600

ARTICLE 22 – OTHER DOCUMENTS

The Parties in entering into this Contract have relied upon information provided in REQUEST FOR QUALIFICATIONS RFQu-24000075, and on representations and information in CONSULTANT'S response to said RFQu. 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 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

See Exhibit "C", UTC Article 4.12.

ARTICLE 29 – PUBLIC INFORMATION

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 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

See Exhibit "C", UTC Article 4.14.

ARTICLE 31 – ISRAEL BOYCOTT CERTIFICATION

Pursuant to A.R.S. § 35-393.01, if Consultant engages in for-profit activity and has 10 or more employees, and if this Contract has a value of \$100,000.00 or more, Consultant 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.

ARTICLE 32 – FORCED LABOR of ETHNIC UYGHURS

Pursuant to A.R.S. § 35-394, if Consultant engages in for-profit activity and has 10 or more employees, Consultant certifies it is not currently using, and agrees for the duration of this Contract to not use (1) the forced labor of ethnic

Uyghurs in the People's Republic of China; (2) any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China; and (3) any consultants, subconsultants or suppliers that use the forced labor or any goods or services produced by the forced labor of ethnic Uyghurs in the People's Republic of China. If Consultant becomes aware during the term of the Contract that the Consultant is not in compliance with A.R.S. § 35-394, Consultant must notify the County within five business days and provide a written certification to County regarding compliance within one hundred eighty days.

ARTICLE 33 - HEAT INJURY AND ILLNESS PREVENTION AND SAFETY PLAN.

Pursuant to Pima County Procurement Code 11.40.030, Consultant hereby warrants that if Consultant's employees perform work in an outdoor environment under this Contract, Consultant will keep on file a written Heat Injury and Illness Prevention and Safety Plan. At County's request, Consultant will provide a copy of this plan and documentation of heat safety and mitigation efforts implemented by Consultant to prevent heat-related illnesses and injuries in the workplace. Consultant will post a copy of the Heat Injury and Illness Prevention and Safety Plan where it is accessible to employees. Consultant will further ensure that each subconsultant who performs any work for Consultant under this Contract complies with this provision.

Remainder of Page Intentionally Left Blank.

ARTICLE 33 - 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:

CONSULTANT:

Chair, Board of Supervisors



Signature

Date

Aaron Meilleur, P.E. Senior Vice President
Name and Title (Please Print)

10/1/2024
Date

ATTEST:

Clerk of the Board

Date

APPROVED AS TO FORM



Deputy County Attorney

Cindy Nguyen
Name (Please Print)

9/24/24
Date

EXHIBIT "A" - SCOPE OF SERVICES (42 Pages)

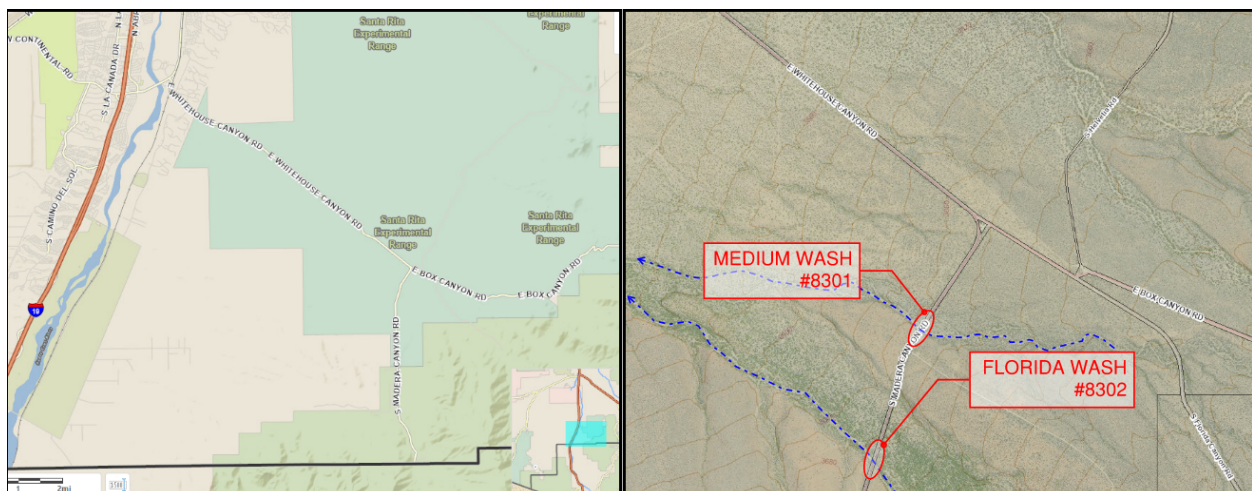
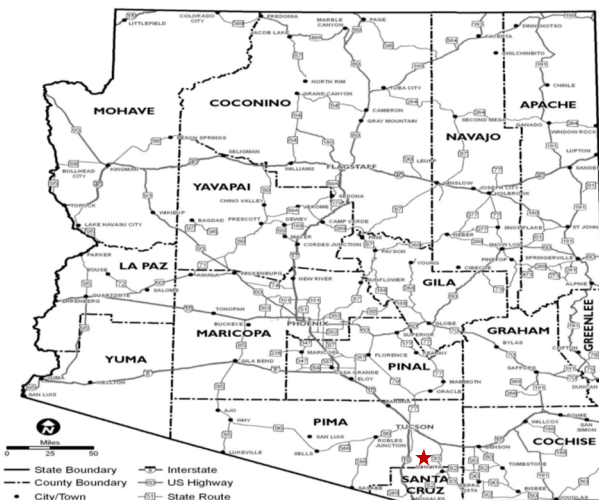
SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB) FEDERAL ID PPM-0(274) D ADOT TRACS NO. T0541 01D/03D September 9, 2024

During the term of this Agreement, the engineering consultant (Consultant) shall perform professional services for Pima County (County) in connection with Madera Canyon, Medium Wash Bridge (CTR.4MADMB) project. This scoping document shall be used to plan, conduct, and complete the Consultant's work on the project.

I. BACKGROUND

Pima County DOT has in its inventory a one-lane bridge located on Madera Canyon Road approximately 25 miles south of Tucson. The Madera Canyon Medium Wash Bridge is located within unincorporated Pima County, along Madera Canyon Road. The bridge is approximately 2,000 feet south of Whitehouse Canyon Road.



The one-lane structure at Medium Wash (#8301) was built in 1935 by the Civilian Conservation Corps and is considered functionally obsolete due to only providing one-way traffic operations. The most recent ADT

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)

on Madera Canyon Road (obtained from Streetlight due to data not being available from ADOT or PAG) is estimated to be approximately 740 VPD which creates a potential safety issue for one-way traffic operations at the bridge.

The overall condition of the structure is rated as “Poor” and is at (or beyond) the end of its lifecycle at 89 years old. The structure was determined to be scour critical in 1997. The sufficiency rating is 27 for Medium Wash (Structure #8301). Medium Wash bridge has a maximum span of 27’ that was load rated at 39 tons in 2014. Pima County DOT has recommended that Medium Wash (Structure #8301) on Madera Canyon Road be replaced with a new bridge structure.

The proposed replacement structure would allow the roadway to be opened for two-way traffic at the bridge, thereby improving operations and safety. The potential risk of head-on or side-swipe type crashes will be reduced by the elimination of one-way traffic operations, with the proposed bridge replacement project. Additionally, the replacement structure would eliminate the scour critical ratings of the existing structure.

II. PROJECT DESCRIPTION

The scope of work for this effort includes the Consultant providing Engineering Design services according to the Pima County Roadway Design Manual and this Contract to provide supporting Construction Drawings and Specifications (where standards referenced in the Design Criteria are not applicable) for a new two-lane bridge on South Madera Canyon Road at the Medium Wash crossing.

Work shall occur simultaneously with the Florida Canyon Wash Bridge Replacement project. Both bridges have similar scopes and are in close proximity to each other. Because these projects have a direct relationship, especially when considering construction activities, both projects will be awarded to a single Consultant. Funding is specific to the individual structures, so the work will be defined and accounted for as two projects. Deliverables will be unique to each project to comply with the funding requirements.

III. DESIGN CRITERIA

The design of this project shall proceed in general conformance with the current edition of the Pima County Roadway Design Manual (RDM), AASHTO LRFD Bridge Design Specifications, 9th Edition, 2017, ADOT Bridge Design Guidelines (BDG), Pima County Regional Flood Control District Guidelines for Establishing Scour and Freeboard for Bridges in Pima County (August 2012), and other applicable design criteria as listed herein.

V. PROJECT SCHEDULE

The duration of the design work shall be 12 months. The Consultant is expected to deliver the submittals identified in the RDM incrementally through the design period in accordance with the schedule prepared at the inception of the project. The Consultant should be completed with the Project Assessment Report (PA) within 3 months following the Notice to Proceed. ADOT requires review of the Final PA, required Clearance Documents (Environmental, Right-of-Way, Utilities and Materials), and Construction Documents at 30%, 60%, 90%, and 100%. The 30% submittal will coincide with the Design Phase identified in the RDM. The 60%, 90% and 100% submittals will coincide with the PS&E Phase. RDM Table 3-1 Design Process Tasks and Submittals provides a checklist of key submittals required. The Consultant’s schedule shall specifically identify the submittals shown within the forementioned table and the ADOT submittals within this paragraph.

The duration of construction and post-design services is expected to be 24 months.

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)

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. Previous reviews/studies of this corridor were conducted too long ago and cannot be guaranteed to be accurate or complete. These documents may not represent existing conditions.

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
COT	City of Tucson
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

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)

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

TASK A – DESIGN SERVICES

General Requirements:

1. This is a Federally Funded Project, through the OSB Grant Program. Federal standards and process shall apply, including procedures required for ADOT and FHWA compliance.
2. County's environmentally sensitive roadway (ESR) design guidelines apply to this project.
3. Design plans shall be developed using PCDOT CAD drafting standards. Final plan submittals shall be in electronic and hardcopy format.
4. Survey file submittals (monumentation, horizontal and vertical control, right-of-way plans) shall be in AutoCAD 2023 format.
5. Unless specified within individual tasks, only electronic pdf copies of each final report will be submitted to the County.
6. Submittals will consist of an electronic pdf copy of the submittal. Hard copies will not be provided.
7. The duration of the design period shall be 12 months. Post-design services are noted as additional services. Post-design services will occur during the construction period, which is expected to have a 24-month duration.

TASK A.1 PROJECT MANAGEMENT AND QUALITY CONTROL

Task A.1.1. Project Management. Develop project design by coordinating design efforts. The anticipated management activities are as follows:

- a. Coordinate with stakeholders, including but not limited to, phone, electronically, paper, face-to-face, etc.
- b. Verify 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 including electronic, phone, paper, etc.
- e. Provide a monthly progress report submitted with the monthly invoice.

Deliverables:

- Project Team Contact List.
- Progress Reports attached to monthly invoices.
- Responses to review comments.

Task A.1.2. 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. Each major submittal shall include verification of the quality control completed on said submittal.

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)

Deliverables:

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

Task A.1.3. Meetings and Communication. Consultant will be responsible for coordinating meeting times, inviting meeting participants, creating an agenda, preparing graphics and handouts, facilitating meetings, and providing meeting summaries. The anticipated design team meetings and activities are as follows:

- a. Conduct monthly progress meetings with the project team.
- b. Conduct biweekly coordination calls between Pima County Project Manager and Consultant Project Manager.
- c. Conduct major review comment meetings to discuss review comments and responses with the County and the project team regarding the major submittals. These meetings will take the place of the monthly progress meetings when occurring within the same month.
- d. Conduct other meetings as needed or required (4 additional meetings assumed).

See labor hour summary for assumed meeting durations, number of meetings, attendance, whether minutes will be provided, and additional information.

Deliverables:

- Meeting agendas.
- Meeting summaries as required.

Task A.1.4. Coordinate Between Participating Agencies. Not Used (Pima County will take the lead in coordinating with agencies unless noted otherwise in other scope tasks)

Task A.1.5. Schedule. Provide an initial schedule within 15 days of Notice to Proceed. Provide an updated schedule at each monthly progress meeting.

Deliverables:

- Initial Schedule
- Monthly schedule updates.
- Responses to review comments.

Task A.1.6. Base Cost Estimate Consultant to develop a Base Cost Estimate that identifies the major components of project scope and their cost, and describes scope and cost assumptions within 45 days of notice to proceed. The Base Estimate will be founded on initial assumptions of the preferred bridge structure type (which will be confirmed later as part of the Project Assessment Report, Task A.13), and approximate length of roadway reconstruction, and will consider items such as construction schedule, and limits of disturbance. Consultant will update the cost estimate by reviewing, updating and documenting assumptions and costs for each item, and include contingency information during major plan submittals and as identified in the RDM. The cost to update the cost estimate for each submittal beyond the Project Assessment Report is included in Task A.16.

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)

Deliverables:

- Base Estimate - Incorporate contingency information into the estimate and identifying assumptions.

TASK A.2 NOT USED

TASK A.3 PUBLIC PARTICIPATION

Task A.3.1. Public Participation Plan. No work required by the Consultant. (County will be the primary contact for community inquiries and concerns. County will organize and lead all public participation activities. Additional services may be requested through Task B.2 Other Services.)

Task A.3.2. Community Advisory Committee (CAC) Meetings. Not required.

Task A.3.3. Public Meetings. Not required.

Deliverables:

- None required.

TASK A.4 PUBLIC ART

This project does not have a public art requirement.

TASK A.5 UTILITY COORDINATION

Task A.5.1. 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 and County will establish a Utility Relocation Date whereby utilities will be required to clear the project of utility impacts identified in Task A.5.2 Design Coordination, Utility Impact Identification. 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 utilities present in the corridor. Prior to the completion of Task A.7.8 Existing Conditions Surveys, the Consultant will request each utility to mark its facilities, providing the approximate horizontal position on the ground surface, being accurate to within six inches, 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. Consultant shall draft onto an Existing Utilities Mapping Package (40 scale) the certified horizontal survey data surveyed by Consultant 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. 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 A.5.2. 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 and Final Design Phase Plans will be provided to utilities for their review and comments.

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Task A.5.3. 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. The Consultant will update utilities as to the status of utility impacts by the Utility Relocation Date. The Consultant will compile a List of Utility Impacts and Approved Mitigation Measures.

It is expected that work will overlap with buried telephone lines on the east side of Madera Canyon Road. This telephone line is likely contained in the conduit attached to the existing bridge structures, where it crosses the wash. This line will need to be relocated prior to construction.

Task A.5.4. Quality Control Review. The Consultant will provide quality control reviews of the deliverables listed below.

Deliverables:

- Utility Relocation Date
- Plans for distribution to utilities as part of the Initial and Final Design Phase submittals
- Letters of Acceptance
- Meeting minutes prepared, distributed to project team, and revised as needed.
- Design plans showing updated mapping of utility information, including potholing information, delivered with the Initial PS&E set.
- List of utility impacts and mitigation measures.
- Responses to review comments.

TASK A.6 ENVIRONMENTAL SCREENING – NOT REQUIRED

Because the project has federal funding, ADOT will be assisting the County with the preparation of the appropriate National Environmental Policy Act (NEPA) environmental clearance, which is anticipated to be a CE. As part of Task A.14, HDR will provide technical reports in support of a CE, to be prepared by ADOT. Because the project will document environmental impacts through environmental screening documents and technical reports (in Task A.14), an Environmental Assessment and Mitigation Report (EAMR) will not be required by Pima County. See Task A.14 for specific tasks HDR will provide regarding environmental clearances.

TASK A.7 SURVEY AND MAPPING

Task A.7.1. Initial Planning and Reconnaissance. The Consultant will not conduct a formal coordination meeting with County Surveyor prior to the start of survey efforts. The Consultant has provided the County the survey report from the County's previous Madera Canyon bridge projects at Medium Wash, project no. 4MCAMW, and Florida Canyon Wash, project number 4MCAFW, initially submitted to the County in August of 2000. This previous report and survey and mapping data shall be the basis of this project's survey control and project design.

Task A.7.2. Horizontal Control. The Consultant will utilize the Geodetic Control Survey established from the previous two bridge projects 4MCAMW and 4MCAFW. The control shall be based on NAD 83 (HARN 1992) and NAVD 88 datums by using PCDOT provided National Geodetic Survey, Forest Service, and PC/COT approved GIS control points. ALTA Survey, LLC will perform verification Global Positioning System (GPS) surveys on the control points.

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Task A.7.3. Vertical Control Traverse. The Consultant will utilize the construction benchmarks established on the previous two bridge projects 4MCAMW and 4MCAFW. ALTA Survey, LLC will perform verification GPS surveys on the previously established construction benchmarks.

Task A.7.4. Results of Survey Drawing. The Consultant will utilize the previous two bridge projects 4MCAMW and 4MCAFW Record of Survey and Right-of-Way Plans as this project's Results of Survey. No additional Results of Survey Drawing will be prepared or submitted.

Task A.7.5. Survey Report. The Consultant will utilize the survey report provided on the previous two bridge projects 4MCAMW and 4MCAFW. No additional survey report will be prepared or submitted.

Task A.7.6. Aerial Mapping. The Consultant will utilize the aerial mapping and imagery provided on the previous two bridge projects 4MCAMW and 4MCAFW. The Consultant will incorporate the current aerial imagery available from Pima County aerial pictometry to supplement the outdated aerial imagery. No additional aerial flights will be conducted, and no additional aerial mapping will be provided.

Task A.7.7. Utility Surveys. The Consultant will utilize the utility survey data located on the previous two bridge projects 4MCAMW and 4MCAFW. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities markings will be by the Consultant under the utility task for this project. ALTA Survey, LLC will perform verification surveys on previously located surface utilities and will locate more recent visible utilities and irrigation lines. They will also locate underground utilities as identified and marked by others for the length of the project. The Consultant will incorporate surveyed locations into the CAD reference files. ALTA Survey, LLC will determine the overhead wire elevations at the crossing locations of the temporary detour roads. Potholing needed for utility locating is considered additional services and is not included in this scope of work.

Task A.7.8. Culture Surveys. The Consultant will utilize the culture survey data located on the previous two bridge projects 4MCAMW and 4MCAFW. ALTA Survey, LLC will locate fences, traffic signs, culvert inverts, wash bottom, drainage features and flows, and match-in locations along the project length. ALTA Survey, LLC will also perform spot supplemental mapping surveys to locate terrain features at locations along the anticipated detour not covered by the previous mapping data. The Consultant will incorporate surveyed information into the CAD reference files and digital terrain model. The work includes the Consultant converting field results into AutoCAD 2023 or newer version format.

Task A.7.9. Right-of-way of Surveys. The Consultant will utilize the record of survey and the right-of-way surveys performed on the previous two bridge projects 4MCAMW and 4MCAFW. ALTA Survey, LLC will perform verification surveys to search for controlling survey monuments including right-of-way centerline monuments, controlling right-of-way corners and existing occupation, to confirm the existing right-of-way lines and centerline. The controlling right-of-way monumentation along the original 66-foot right-of-way will not be established and no additional right-of-way survey documentation will be provided.

Task A.7.10. Roadway Design Manual Survey Efforts. The Consultant will complete other survey-related tasks as generally identified and provided within the Design Manual. This work includes and is limited to providing orthophotos overlayed on the acquisition legal description exhibits and plan sheets.

Task A.7.11 Legal Descriptions & Reference Maps. The Consultant will prepare and seal two Arizona State Land Department (ASLD) temporary construction easement legal descriptions and maps: One is located at the gap between the original 66-foot right-of-way and that acquired on the previous bridge project and another one for this project's detour. Legal description reference maps will be 8.5"x11". The Consultant will prepare the preliminary legal description to start early ASLD coordination. The Consultant will update with ASLD and County comments. The Consultant will finalize and provide sealed copies for County acquisition purposes.

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Task A.7.12. Quality Control Review. The Consultant will provide quality control reviews of the preliminary legal description and exhibit deliverables listed below.

Task A.7.13 Boring Locations. ALTA Survey, LLC will stake anticipated boring hole locations as provided by geotechnical investigation and provide existing ground elevations at the final boring locations.

Deliverables:

- Digital black & white files (uncolored digital photo) to the County in .tif format and digital ASCII point files in comma delimited format by the Consultant
- Color Pima County aerial pictometry files in .jpeg format by the Consultant
- Field survey information by ALTA Survey, LLC.
- Preliminary legal descriptions and sketches for two temporary construction easements by the Consultant.
- Final sealed legal descriptions and sketches for two temporary construction easements by the Consultant.
- Responses to review comments.

TASK A.8 DRAINAGE

Task A.8.1. Drainage Design Criteria Review Meeting. The Consultant will conduct a drainage design criterion review meeting with PCDOT and PCRFC D to develop drainage design criteria, including but not limited to design storm, peak discharge applicable to this project location, allowable flow depth over the roadway, and allowable surcharge on adjacent properties.

Task A.8.2. Review Existing Plans and Reports. The Consultant will review available plans and reports for existing improvements and identify drainage features and flows.

Task A.8.3. Drainage Maps and Exhibits. The Consultant will prepare existing and proposed conditions drainage maps showing floodplain limits for 10-year and 100-year peak discharges covering the Proposed Conditions modeling extents. 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 PCRFC D 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 A.8.4. Drainage Reports. The Consultant will prepare a report in the phases described in Section 3.11 of the Design Manual as modified below. The work includes preparing and processing the four (4) submittals described below:

Initial Design Phase Submittal. The Consultant will prepare the Initial Design Phase Submittal per Section 3.11 of the Design Manual. A full hydraulic analysis, including evaluation of overtopping of roadway and upstream and downstream impacts, will be included. The Consultant will identify potential Clean Water Act 404 permitting, and right-of-way acquisition needs for cross-drainage.

Final Design Phase Submittal. The Consultant will prepare the Final Design Phase Submittal per Section 3.11 of the Design Manual.

Final PS&E Phase Submittal. The Consultant will prepare the Final PS&E Phase Submittal for the project in response to County's Final Design Phase Submittal comments as well as revisions to the final project design per Section 3.11 of the Design Manual.

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Task A.8.5. Quality Control Review. The Consultant will provide quality control reviews of the drainage report for each submittal.

Deliverables:

- Existing and Proposed Conditions Model Reviews for Hydrology, Hydraulics, Scour and Scour Mitigation.
- Initial Design Phase Drainage Report.
- Final Design Phase Drainage Report.
- Final PS&E Phase Drainage Report.
- Responses to review comments.

TASK A.9 GEOTECHNICAL

Task A.9.1. 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 geotechnical effort will correspond to 100% of the final design effort and will include investigations to develop concepts and final designs. Consultant will obtain the concurrence of the County for the locations of borings prior to commencing the field work.

The CONSULTANT will serve as the overall lead for geotechnical design services for the project. The CONSULTANT will be supported by a subconsultant, Terracon Consultants, Inc. (Terracon), who will perform field investigation and laboratory testing.

Geotechnical Task deliverables are listed below in the Deliverables section of this scope of work.

The major geotechnical work tasks are described in the below sections.

Task 9.1.1 Review of Existing Data. The CONSULTANT will acquire and review available, existing data regarding the geologic and geotechnical site conditions, including previous geotechnical reports for the project corridor, published geologic maps and reports from NRCS, AZGS and USGS, and depth to groundwater data from ADWR. The CONSULTANT will utilize this information to supplement new geotechnical data and will incorporate the existing data into the geotechnical investigation and analysis.

Task 9.1.2 Exploration & Access Plan Preparation and Site Visit. Terracon will perform a site visit to evaluate the prospective boring locations, site and access logistics and constraints, drilling equipment needs, access permit needs, traffic control requirements, and other logistics of the field investigation which require consideration in planning. Terracon will prepare a Draft Exploration and Access Plan which will depict the proposed boring locations and depths, proposed access routes and areas of access development (if needed), and estimated areas of ground surface disturbance, and will submit the draft plan to the CONSULTANT's Environmental Team. Terracon will revise the Draft Plan in response to review comments from the Environmental Team and will prepare and submit a Final Exploration and Access Plan to the Environmental Team.

Task 9.1.3 Environmental/Access Permits & Clearances and Coordination. The Final Exploration and Access Plan prepared by Terracon will be utilized by the CONSULTANT's Environmental Team to obtain permits for geotechnical field work, including (as needed) an access permit, environmental clearance, cultural resource clearance and other permits for work in the project corridor. It is anticipated that further information regarding the geotechnical field work will need to be developed to respond to review comments and questions from the permitting agencies; an allowance for this coordination is included in this SOW.

Terracon will apply for a Right-of-Way (ROW) Permit from Pima County for work in the ROW along Madera Canyon Road.

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Terracon's subcontracted, licensed drilling firm will file Well Permit/Notice of Intent forms with ADWR if groundwater is encountered in any of the borings.

Task 9.1.4 Field Subsurface Investigation & Laboratory Testing. Subsurface geotechnical investigation (drilling and sampling) and laboratory soils testing will be performed by Terracon in accordance with an investigation and testing plan provided to Terracon by the CONSULTANT. The field investigation includes borings for bridge foundations, bridge abutments, roadway approaches to the bridge and for pavement design. The field investigation is detailed in Table 1. The borings are anticipated to be advanced using rotary-percussion down-hole hammer methods.

It is assumed that the investigations for both Florida Canyon Wash Bridge and Medium Wash Bridge will be conducted during the same mobilization.

Construction of access roads to boring locations within the Medium Wash may be required. The need for access roads will be confirmed during a pre-proposal site visit by Terracon.

Terracon will coordinate location marking and clearance for underground utilities through Arizona 811 as required and will field-check the marked utilities relative to the field-staked boring locations prior to beginning drilling. Terracon will estimate the coordinates (latitude-longitude) and ground surface elevation for the proposed boring locations using available site surface features and a hand-held GPS unit and will stake the borings. The as-drilled borings will be marked by Terracon, and the CONSULTANT's Survey crew will collect the location data after the subsurface investigation is complete.

Terracon will monitor the drilling and sampling of the borings and will log the borings in general accordance with the Unified Soil Classification System and ASTM D2488. Representative bulk sampling of drill cuttings, and standard penetration testing and sampling and/or open-end drive (modified California ring-lined sampler) will be performed at the ground surface and at depths of 2.5 feet, 5 feet, 7.5 feet, 10 feet, 12.5 feet and 15 feet, thence at depth intervals of 5 feet, throughout the full depth of investigation of each boring.

If groundwater is not encountered in a boring, the completed boring will be backfilled with drill cuttings and tamping the upper five feet of the backfill in each boring. For borings located within existing paved areas, the borings will be backfilled and patched according to Pima County requirements.

If groundwater is encountered in a boring, the depth to groundwater will be recorded at the time of first encounter while drilling, at the full depth of investigation of the boring, and then after the drill stem is withdrawn if the boring remains open. If practicable, the depth to groundwater also will be re-measured after a recovery period of 24 hours.

Borings which encounter groundwater will be abandoned in accordance with the requirements of the ADWR Well Abandonment Handbook, latest edition.

Table 1 – Proposed Field Investigation

Project Element/Boring Location	Number of Borings	Boring Depth (feet each)	Remarks
Medium Wash Bridge foundations	2	90	One boring at each abutment.
Madera Canyon Road Medium Wash Bridge approaches	4	5	Two borings for each bridge approach with approximately 400 foot spacing.

The CONSULTANT will provide coordination and oversight of the field and laboratory work by Terracon. The CONSULTANT will assign laboratory soils tests based on the field boring logs and actual samples recovered by Terracon.

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Laboratory testing of soil samples obtained from the subsurface investigation will be performed by Terracon. Testing assignments will be coordinated and agreed upon by both Terracon and the CONSULTANT and will include the estimated number of tests presented in Table 2:

Table 2 – Proposed Laboratory Testing Program

Test	ASTM or ARIZ Test Method	Estimated Number of Tests
Grain Size Analysis	C136	18
Atterberg Limits	D4318	18
Moisture Content	D2216	18
Density of Undisturbed Ring Sample	D2937	7
Moisture-Density Relationship (Standard Proctor)	D698	4
Direct Shear (saturated or remolded)	D3080	5
Resistance R-Value	D2844	1
pH and Resistivity	ARIZ 236e	4
One-Dimensional Swell or Collapse (no time rate curves)	D2435	2
Total Soluble Sulfates Content	ARIZ 733b	4
Total Soluble Chlorides Content	ARIZ 736b	4

Task 9.1.5 Geotechnical Foundation Design, Recommendations & Geotechnical Foundation Report.

The CONSULTANT will perform engineering analyses and prepare and submit draft and final versions of the Geotechnical Foundation Report, which combines the investigation results and analysis for both the Medium Wash Bridge and the Florida Canyon Wash Bridge and includes the following information:

- Project description and general site conditions.
- Summary of existing data.
- Summary of geologic conditions along the alignment and geologic descriptions of available exposures.
- Geotechnical Data Report (prepared by Terracon) which combines both Medium Wash Bridge and Florida Canyon Wash bridge and includes the following:
 - Description of drilling equipment and procedures used in the subsurface investigation, and photographs of the site conditions and field investigation activity.
 - Site plan of boring locations.
 - Logs of the borings with subsurface soil descriptions, sampling intervals, and groundwater levels, if encountered.
 - Results of laboratory soils tests, summary table(s) of lab test results and test data sheets.
- Description and graphical presentation of the subsurface geotechnical profile.
- Bridge site seismic design parameters developed in accordance with the procedure outlined in the AASHTO LRFD Bridge Design Specifications and determined using the USGS AASHTO 2009 Web Service Documentation online web tool.
- General description of foundation conditions and discussion of suitability of drilled shafts and spread footings and drilled shafts for bridge support.
- Foundation recommendations, including drilled shaft factored axial resistance and estimated settlement charts, and design parameters for laterally-loaded shaft analysis.
- Geotechnical design parameters for use in design of abutment bank protection and scour evaluation if needed.
- Recommendations for Madera Canyon Road design, including roadway subgrade preparation, fill embankments and slopes, drainage structures and other project elements.
- Construction considerations for drilled shaft foundations, fill embankments and slopes, and drainage structures.

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- Special construction treatment(s) recommended for expansive, compressible or hydro-collapsible soils, existing man-made fill or other moisture-sensitive materials that may be present.
- Earthwork factors for site soils and potential for re-use of on-site soils as bedding and backfill.
- Guide specifications for site grading, and recommended fill materials quality, placement and compaction.
- Assessment of corrosive properties of site(s) soils considering results of soil pH, electrical resistivity, and total soluble sulfates and chlorides tests.

As noted above, a final version of the Geotechnical Data Report prepared by Terracon will be appended to and referenced in the Geotechnical Foundation Report.

Logs of the Terracon bridge borings will be provided in a format suitable for presentation in the foundation data sheets for inclusion in the bridge plans.

Review comments on the draft Geotechnical Foundation Report will be responded to and resolved, and the final report prepared and submitted.

Task A.9.2. Quality Control Review. Quality assurance reviews of the geotechnical deliverables will be completed by a CONSULTANT's Senior Geotechnical Engineer not directly involved with the project.

Deliverables:

- Geotechnical Foundation Report (for Medium Wash and Florida Canyon Wash Bridges).
- Geotechnical Data Report (for Medium Wash and Florida Canyon Wash Bridges) by Terracon.
- Responses to review comments.

TASK A.10 PAVEMENT DESIGN

Task A.10.1. Pavement Design Report. Solis Engineering, acting as a Subconsultant to HDR, will perform pavement design following the current ADOT 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;

ESAL calculations will be developed by the Consultant to assist with pavement design and will be based on the counts and classifications collected as part of Task A.12.

Task A.10.2. Quality Control Review. The Consultant will provide a quality control review on the Pavement Design Report.

Deliverables:

- Pavement Design Report.
- Responses to review comments.

TASK A.11 BRIDGE STRUCTURE SELECTION STUDY/REPORT – NOT REQUIRED

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Task A.11.1. Bridge Selection Report. A stand-alone Bridge Structure Selection Report in accordance with the RDM Section 3.14 and ADOT Bridge Design Guidelines will not be required for this project. As part of the Project Assessment Report (Task A.13), the Consultant will evaluate bridge types that would be feasible at this crossing. A summary of the bridge structure type evaluation will be included in the Project Assessment Report. See Task A.13 for additional information.

Deliverables:

- None

TASK A.12 TRAFFIC ENGINEERING

This section is not used.

TASK A.13 PROJECT ASSESSMENT REPORT (PA)

Task A.13.1. Project Assessment Report. The Consultant will prepare a Project Assessment Report (PA) in accordance with the requirements of ADOT and the Pima County RDM. Anticipated sections of the PA include introduction, background data, project scope, project development considerations, other requirements, estimated costs, service involvement sheet, and project location map. Preliminary (~15%) plans of the project will be included in an appendix.

Task A.13.2. Bridge Type Selection. As part of the PA, the Consultant will prepare an abbreviated and simplified bridge type selection analysis. Two alternatives will be evaluated that will have slightly longer bridge lengths than the existing bridges. The alternatives will include a multi-span cast-in-place superbox and a single-span precast concrete girder bridge. A steel superstructure alternative will not be provided but will be discussed qualitatively. Two plan sheets will be provided for the selected bridge alternative. Figures or photos of similar structures will be included within the report for the two non-selected alternatives to illustrate the studied alternatives. It is anticipated that similar structure types will be used at both the Medium Wash and Florida Canyon Wash crossings to gain efficiencies in design and construction. Key elements affecting the structure type selection will be the required waterway opening, minimizing superstructure depth in order to minimize approach roadway reconstruction, available geotechnical information, simplicity of design, and simplicity and speed of construction. A cost estimate will be provided for the preferred bridge alternative only.

Task A.13.3. Cost Estimate. The Consultant will update the base cost estimate developed as part of Task A.1.6 with quantity take-off calculations based on approximate quantities of major cost items. Right-of-way and/or TCE costs will be provided by PCDOT.

Task A.13.4. Quality Control Review of PA. The Consultant will provide a quality control review of the Project Assessment.

Deliverables:

- Draft and Final PA
- Cost estimates and quantity take-off calculations.
- Responses to review comments.
- The Draft PA shall be submitted within 3 months from the NTP.

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TASK A.14 ENVIRONMENTAL CLEARANCE TECHNICAL REPORTS

Task A.14.1. ADOT Categorical Exclusion (CE). Because the project has federal funding, ADOT will be assisting the County with the preparation of the appropriate National Environmental Policy Act (NEPA) environmental clearance, which is anticipated to be a CE. HDR will provide technical reports in support of a CE, to be prepared by ADOT. A separate geotechnical clearance is anticipated to be needed. Hours included for this task are for coordination and assistance associated with drafting the CE and geotechnical environmental clearance.

Task A.14.2. Cultural Resources Inventory and Report. Because previous cultural resource inventory of the project area took place more than 10 years ago, the project will require a cultural resources inventory of the project's full Area of Potential Effects (APE) to comply with Arizona State Museum (ASM) guidance. The APE includes the project footprint, as well as temporary construction easements, staging areas, and laydown area. Because the project has a federal nexus, the project is a federal undertaking requiring compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800. ADOT will be the lead federal agency and will be responsible for regulatory compliance. The County and ADOT will review cultural compliance documents.

Prior to conducting fieldwork, the cultural resources consultant shall verify that required permits are obtained, and required notifications are made. ADOT will define the APE for the undertaking. The consultant shall conduct a cultural resources inventory of the entire surface of the APE. Cultural resources identified in the APE shall be documented in a report, which will include recommendations regarding the eligibility of each resource for listing in the National Register of Historic places (NRHP). Fieldwork, recording, and reporting shall be conducted subject to provisions of the consultant's permits and shall meet current ADOT, ASM, and Arizona State Historic Preservation standards. An evaluation of the effects of the undertaking on each NRHP-eligible or unevaluated cultural resource shall be made. Excluding the bridge, which has previously been determined not eligible for NRHP inclusion, in-use historic resources shall be documented on Arizona Historic Property Inventory Forms (HPIFs). For the purposes of this scope, we assume that no new ASM sites will be identified requiring documentation and no more than one HPIF will have to be prepared.

When the inventory and report are complete, the consultant shall provide the following directly to the Pima County Cultural Resources and Heritage Preservation Division: a PDF of the final report; associated shape files including APE, inventory area, sites and other resources, previous surveys, previously recorded resources; PDFs of accessible reports resulting from the records search for the inventory; any resulting site forms or HPIFs developed during the project.

Finally, the consultant will prepare letters for Section 106 consultation regarding: (1) initial/definition of APE, (2) geotechnical activities to be performed prior to bridge replacement; and (3) adequacy of the cultural resources technical report and recommendations contained therein.

Task A.14.3. Biological Evaluation/Wildlife Habitat. The Consultant will prepare a Biological Evaluation (BE). SWCA, acting as a SUBCONSULTANT to HDR, shall conduct a Pima pineapple cactus (PPC) survey. If, during the PPC survey, it is determined that there is suitable habitat for cactus ferruginous pygmy owls and/or yellow-billed cuckoos, a separate species survey would be completed. The BE will include an analysis of up to four species: PPC, jaguar, Western yellow-billed cuckoo, and cactus ferruginous pygmy owl. We assume that informal consultation with the USFWS will only be needed; no formal consultation will be needed. The Consultant shall provide the Draft BE for County's review and comments, and then to ADOT for their review. The Final BE shall be forwarded to County for their records and will be utilized to complete the CE. The species lists will be reviewed and BE updated as required prior to submission for construction authorization to ADOT.

A separate Biological Evaluation Short Form (BESF) would be prepared for geotechnical clearance. No additional surveys or site visits would be needed.

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Task- A.14.4. Vegetation Sampling/Measurement. Task A.14.3 will be conducted by the Wheat Design Group, acting as a SUBCONSULTANT to HDR. 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. The Consultant will develop a technical report detailing the methodology and outcome of said investigation, along with the appropriate mitigation requirements. If more than one-third acre of regulated riparian habitat will be disturbed, the CONSULTANT will consult with the PCRFCDD to determine if a Riparian Habitat Mitigation Plan (RHMP) or an in-lieu fee option for mitigating disturbance shall be selected. If the RHMP option is selected, the CONSULTANT will prepare the RHMP to be submitted to the County for review and approval, but this is not included in this scope of work and will require a contract modification. If the in-lieu fee option is selected, the CONSULTANT will obtain PCRFCDD's in-lieu fee calculation to be reviewed and accepted by the Project Manager.

Task A.14.5. Approved Jurisdictional Determination. The Consultant will prepare an Approved Jurisdictional Determination (AJD) Report and identify Section 404 Permit requirements. Because Medium Wash is an ephemeral drainage, it is anticipated that it will be determined non-jurisdictional and not require Clean Water Act Section 404 permitting, therefore Section 404 permitting is not included in this task. The report and documents will be developed to meet U.S. Army Corps of Engineers (Corps) standards, County requirements and other agencies with jurisdiction. The County would be responsible for submitting the AJD to the Corps and any coordination needed.

Task A.14.6. Hazardous Materials Survey. Task A.14.6 will be conducted by K2 Site Assessments (K2), acting as a SUBCONSULTANT to HDR. K2 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. The PISA shall comply with ASTM E-1528-21 (Standard Practice for Limited Environmental Due Diligence). This will include:

- a. Conduct Site Reconnaissance (Section 9 of Standard)
- b. Regulatory Database Review (Section 10.1 of Standard)
- c. Historical Source Review (Section 10.2 of Standard)

Additionally, lead and asbestos analysis and letter reports would be prepared, which will assess the Medium Wash bridge structure, concrete culvert south of Medium Wash, and roadway striping.

The PISA and lead and asbestos letters would be utilized for geotechnical clearance, as well as overall environmental clearance. PISA will be updated prior to submission of final construction documents to the County.

Task A.14.7. Air Quality. The Consultant will review potential effects on air quality. It is anticipated that there will be no substantial impacts to air quality with this project and therefore a quantitative air quality analysis will not be required; a qualitative summary will be provided for inclusion in the CE.

Task A.14.8. Noise Analysis. The Consultant will review potential effects to noise within the project limits. Because the capacity of the roadway will not be increased, i.e., it will remain as a two-lane roadway with the replacement of the single-lane bridges with two-lane bridges, it is anticipated that there will be no substantial impacts to noise within the project limits. There also appears to be no sensitive receptors within the project area. Therefore, a noise analysis in accordance with PCDOT Procedure 03-5, dated April 8, 2008, and further discussed in Chapter 4 of the RDM for an ESR will not be provided as part of this scope of work and no separate deliverable will be needed. A qualitative summary will be provided for inclusion in the CE.

Task A.14.9. Visual Resources. The Consultant will review potential effects to visual resources. It is anticipated that there will be no substantial impacts to visual resources with this project and therefore a visual resources analysis will not be required, and no separate deliverable will be needed. A qualitative summary will be provided for inclusion in the CE.

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Task A.14.10. Agency and Public Scoping. The Consultant will prepare public and agency scoping letters to provide to adjacent landowners and stakeholders describing the scope of work and project limits. It is anticipated that no more than 15 scoping letters would be needed. Letters would be transmitted electronically and via U.S. Mail. Draft scoping letters would be provided to the County and ADOT for review prior to preparing the final letters.

Task A.14.11. Quality Control Review of Reports. The Consultant will provide a quality control review of the Environmental Assessment and Mitigation Report.

Deliverables:

- Draft and Final Cultural Resources Inventory and Report
- Draft and Final Biological Evaluation.
- Draft and Final Biological Evaluation Short Form for geotechnical clearance
- Draft and Final Approved Jurisdictional Determination Report.
- Native Plant Inventory Plans and Mitigation Charts
- Landscape Mitigation Plans and Details
- Riparian Mitigation Exhibit
- Draft and Final Preliminary Initial Site Assessment for hazardous materials.
- Lead and asbestos findings letters
- Draft and Final Agency and Public Scoping Letters
- Technical reports will be submitted to Pima County for their submittal to ADOT for ADOT's review and issuance of a CE.
- Responses to review comments.

TASK A.15 RIGHT-OF-WAY ACQUISITION SUPPORT

Task A.15.1. Existing Right-of-Way and Easements. The Consultant will incorporate the CAD line work and right-of-way information established on the previous two bridge projects 4MCAMW and 4MCAFW. The County will furnish title reports required for this project for Pima County Assessor's parcel number 30445011B owned by the State of Arizona and located within sections 13 and 14 in Township 19 South, Range 14 East, Gila and Salt River Meridian, Arizona. The Consultant will review title reports and other recorded information to update current right-of-way and easements into the CAD files. This work includes the Consultant converting the right-of-way CAD file into AutoCAD 2023 or newer version format.

Task A.15.2. Right-of-Way Plans. Right-of-way plans are not anticipated on this project. Therefore, the work to prepare and submit them are not included in this scope of work.

Task A.15.3. Right-of-Entry. County will obtain the Rights-of-Entry needed to access the ASLD parcel provided in Task A.15.1.

Task A.15.4 State Land Coordination. Consultant will assist the County with record research and coordination with the ASLD. Consultant will provide exhibits for the purposes of coordinating design efforts with the State Land Department showing the proposed grading and drainage improvements including channels, culverts, land ownership, easements, right-of-way, utilities, and detour locations. The exhibit shall be updated as required throughout the design phase to promote timely decisions and to help expedite overall right-of-way processes with ASLD.

Task A.15.5. Quality Control Review of Right-of-Way Documents. Right-of-way plans are not anticipated on this project. Therefore, the work to perform a quality control review is limited to the ASLD exhibit included in this scope of work.

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Deliverables:

- Temporary construction easement parcel list by Consultant.
- Existing right-of-way and easements CAD.
- ASLD acquisition exhibit.

TASK A.16 PREPARATION OF CONSTRUCTION DOCUMENTS

The package of construction documents includes final construction plans, specifications, bid schedule, and a cost estimate in Pima County's bid sheet format. The construction documents need to be clear and unambiguous about the work to be done, the standards to be met, elements of work, method of measurement, and basis of payment. The construction documents shall reflect current Pima County design practices and standards except as previously agreed upon with Pima County. The documents shall also reflect special recommendations or requirements stated in the applicable planning documents. The 100% Final PS&E deliverable shall be usable for federal approval, pricing, and construction. The construction cost estimate will be developed according to the Chapter 3 Appendix 3-J of the RDM. The special provisions will be developed according to Chapter 3 Appendix 3-U of the RDM. Pima County will provide current versions of their stored special provisions to the Consultant for inclusion into the project special provisions.

It is assumed for this scope of work that the bridges will be replaced in a single construction phase while traffic is diverted onto a slow-speed two-way unpaved detour following an existing graded trail with an at-grade crossing of the washes. The detour will be constructed prior to removing the existing bridges and will remain in place until the new bridge construction is complete and the road is open to traffic. It is anticipated that a low-flow corrugated metal pipe crossing will be constructed to allow low flows to pass under the detour at the wash crossings. The detour will be designed by Solis Engineering, acting as a subconsultant to HDR. It is anticipated that the new bridges will be constructed higher than the existing bridges necessitating the approach roadway to be reconstructed to match into the new bridges. HDR and Pima County are aware that the geometry of the existing roadway has substandard features including vertical and horizontal curves and all of the geometric deficiencies in the existing road will not be corrected with the construction of this project. The project is considered a spot improvement with the main purpose to replace the structurally deficient and narrow bridges with bridges that meet current AASHTO standards and minimize impacts to the existing roadway. The Consultant will endeavor to remedy the non-standard geometry issues in the existing road that exist within the length of reconstruction without extending the length of reconstruction actually necessary for bridge construction.

It is also assumed for developing the level of effort for the bridge design task that the structure type selected will either be a single-span precast I-girder bridge or a cast-in-place superbox. It is also assumed that the bridge type selected for the Medium Wash Bridge will be the same structure type as the Florida Canyon Wash bridge in order to gain efficiency with design and the sharing of similar details within the separate plan sets. If different structure types are selected for each crossing, then additional work may be required which may necessitate a contract modification.

Task A.16.1. Initial Design Phase Plans. The Consultant will prepare initial typical sections, bridge, roadway plan and profiles, detour plans, quantities, and costs. These plans will be included as an appendix to the Final Project Assessment Report. The Project Assessment Plans will be at 1"=40' and will address horizontal and vertical alignment, as well as conceptual cross drainage culverts. Roadway grading design, utilities, and earthwork calculations will be advanced to expedite the other discipline design for future submittal, and for ASLD and utility coordination. The Consultant will establish initial Inroads templates, earthwork modeling, and project cost estimate for the Initial Design Phase. This will correspond to ADOT's 30% review.

Task A.16.2. Final Design Phase Plans. The Consultant will develop Final Design Plans, quantities, and costs according to the checklist found in Chapter 3 Appendix 3-Q of the RDM. The Consultant will define in detail the roadway and cross drainage geometry consistent with Task A.16.1. The Consultant and

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subconsultants will include detailed cross drainage, right-of-way, major and minor structures, bridge approaches, guard rail requirements, including striping plans, detour plans, borrow grading limits, landscape / revegetation plans, potential utility conflicts, and cross sections. Other than bridge wingwalls, it is anticipated that retaining walls will not be required for this project and are not included in this scope of work. The Consultant will continue Inroads templates, earthwork modeling, and project cost estimate for the Final Design Phase. This will correspond with ADOT's 60% review.

Task A.16.3. Initial PS&E. The Consultant will incorporate comments from Task A.16.2. The Consultant and subconsultants will develop Initial PS&E Plans, detour plans, quantities, costs, and special provisions for the project according to the checklist found in Chapter 3 Appendix 3-R of the RDM. This task will finalize drainage plans, bridge bank protection, borrow grading details, guardrail calculations, landscape plans, detour plans, and updating project cost estimate for the Initial PS&E. This task will also finalize identifying utility and irrigation conflicts. Storm drain plans, water modification plans, staking plans, noise wall plans, and retaining wall plans are not required for this project and are not included in this scope. This will correspond with ADOT's 90% review.

Task A.16.4. Final PS&E. The Consultant will incorporate comments from Task A.16.3. The Consultant will develop Final PS&E Plans, quantities, costs, and special provisions according to the checklist found in Chapter 3 Appendix 3-S of the RDM. This will correspond with ADOT's 100% review. Construction Sequencing with traffic control plan sheets, lighting plans, and traffic signal plans are not anticipated for this project and are not included in this scope of work. An unsealed check set of the plans, special provisions, cost estimate, and bid schedule will be submitted for the County's review. Upon acceptance by the County, final construction documents will be submitted including sealed construction plans, sealed special provisions, along with a final cost estimate and bid schedule.

Task A.16.5. Quality Control Review of Plans. The Consultant will provide a quality control review of the Initial Design Phase Plans, Final Design Phase Plans, Initial PS&E, and Final PS&E construction plans.

Deliverables:

- 30% Initial Design Plans per the Design Manual Checklist, including cost estimate and quantity takeoff calculations.
- 60% Final Design Plans per the Design Manual Checklist, including cost estimate and quantity takeoff calculations.
- 90% Initial PS&E Plans per the Design Manual Checklist, including cost estimate and quantity take-off calculations.
- 100% Final PS&E Plans per the Design Manual Checklist, including cost estimates, special provisions, and quantity take-off calculations. (Includes check set followed by sealed construction documents).
- Erosion Control Plans & Details
- SWPPP Manual and supporting documents and data for NOI
- Anticipated plan sheets to be submitted at each submittal phase are included after the Task A labor hour spreadsheets.
- Responses to review comments.

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TASK B – ADDITIONAL SERVICES

Task B is as-needed services for which the cost and fee shall be determined at the time work is defined. No work shall commence under Task B without prior written authorization from the County.

TASK B.1 ADDITIONAL UTILITY INVESTIGATION

Additional utility investigation is not anticipated to be required and is therefore not included in this scope of work.

TASK B.2 ADDITIONAL STATE LAND COORDINATION

Task B.2.1 State Land Coordination. It is not anticipated that additional state land coordination other than what is already included in Task A.15.4 will be required. Therefore, no additional state land coordination is included in this scope of work.

TASK B.3 ADDITIONAL BIOLOGICAL SURVEYS

Task B.3.1 Additional Biological Surveys. This task will be performed by SWCA acting as a Subconsultant to HDR. If the results of the environmental studies indicate that suitable, yellow-billed cuckoo habitat (appropriate vegetation community) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the yellow-billed cuckoo according to the current approved protocol. Similarly, if the results of the environmental studies indicate that suitable habitat (appropriate vegetation community with plants that support nest cavities) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the cactus ferruginous pygmy-owl according to the current approved protocol. See SWCA Scope for additional information.

TASK B.4 OTHER SERVICES

Task B.4.1 Other Services. No other services are anticipated and therefore no other services have been included in this scope of work.

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TASK C – POST DESIGN SERVICES

Task C is as-needed services for which the cost and fee shall be determined at the time work is defined. No work shall commence under Task C without prior written authorization from the County.

TASK C.1 PRE-BID SERVICES

Task C.1.1 Pre-Bid Services. PCDOT will coordinate all Pre-Bid Services and will act as the principal initial contact for pre-bid questions. However, the following additional efforts may be required by the Consultant.

- Attending pre-bid meetings
- Assisting in the preparation of amendments
- Addressing questions on the plans and specifications

TASK C.2 CONSTRUCTION SERVICES

Task C.2.1. Construction Services. PCDOT will coordinate all Construction Services and will act as the principal initial contact for construction questions. However, the following additional efforts may be required by the Consultant.

- Attending the pre-construction meeting and partnering meetings if any
- Attending weekly construction meetings at the project site
- Making site observations of the work under construction
- Evaluating and/or recommending changes in the construction documents
- Providing design details and revised drawings as needed to support construction
- Reviewing shop drawings, erection procedure plans, form work details, and proposals for substitutions or "approved alternates"
- Evaluating value engineering proposals
- Preparing the "as-built" documents

TASK C.3 POST CONSTRUCTION SERVICES

Task C.3.1 Post Construction Electronic As-Builts. The Consultant will provide the County drafting services to incorporate the Contractors redlined record documents in to an electronic as-built in accordance with the requirements of PCDOT Network Management Systems Division.

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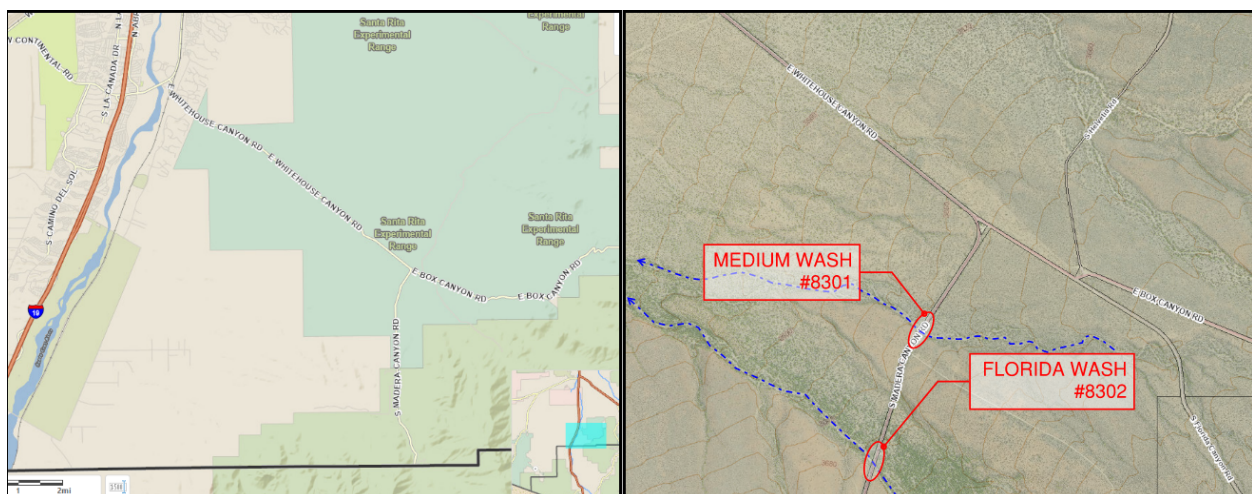
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SCOPE OF DESIGN WORK FOR THE MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL) FEDERAL ID PPM-0(273) D ADOT TRACS NO. T0540 01D/03D September 9, 2024

During the term of this Agreement, the engineering consultant (Consultant) shall perform professional services for Pima County (County) in connection with Madera Canyon, Florida Canyon Wash Bridge (CTR.4MADFL) project. This scoping document shall be used to plan, conduct, and complete the Consultant's work on the project.

I. BACKGROUND

Pima County DOT has in its inventory a one-lane bridge located on Madera Canyon Road approximately 25 miles south of Tucson. The Madera Canyon Florida Canyon Wash Bridge is located within unincorporated Pima County, along Madera Canyon Road. The bridge is approximately 4,000 feet south of Whitehouse Canyon Road.



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The one-lane structure at Florida Canyon Wash (#8302) was built in 1935 by the Civilian Conservation Corps and is considered functionally obsolete due to only providing one-way traffic operations. The most recent ADT on Madera Canyon Road (obtained from Streetlight due to data not being available from ADOT or PAG) is estimated to be approximately 740 VPD which creates a potential safety issue for one-way traffic operations at the bridge.

The overall condition of the structure is rated as “Poor” and is at (or beyond) the end of its lifecycle at 89 years old. The structure was determined to be scour critical in 1997. The sufficiency rating is 33 for Florida Canyon Wash (Structure #8302). Florida Canyon Wash bridge has a maximum span of 24' and did not require a load posting according to the load rating done in 2014. Pima County DOT has recommended that Florida Canyon Wash (Structure #8302) on Madera Canyon Road be replaced with a new bridge structure.

The proposed replacement structure would allow the roadway to be opened for two-way traffic at the bridge, thereby improving operations and safety. The potential risk of head-on or side-swipe type crashes will be reduced by the elimination of one-way traffic operations, with the proposed bridge replacement project. Additionally, the replacement structure would eliminate the scour critical ratings of the existing structure.

II. PROJECT DESCRIPTION

The scope of work for this effort includes the Consultant providing Engineering Design services according to the Pima County Roadway Design Manual and this Contract to provide supporting Construction Drawings and Specifications (where standards referenced in the Design Criteria are not applicable) for a new two-lane bridge on South Madera Canyon Road at the Florida Canyon Wash crossing.

Work shall occur simultaneously with the Medium Wash Bridge Replacement project. Both bridges have similar scopes and are in close proximity to each other. Because these projects have a direct relationship, especially when considering construction activities, both projects will be awarded to a single Consultant. Funding is specific to the individual structures, so the work will be defined and accounted for as two projects. Deliverables will be unique to each project to comply with the funding requirements.

III. DESIGN CRITERIA

The design of this project shall proceed in general conformance with the current edition of the Pima County Roadway Design Manual (RDM), AASHTO LRFD Bridge Design Specifications, 9th Edition, 2017, ADOT Bridge Design Guidelines (BDG), Pima County Regional Flood Control District Guidelines for Establishing Scour and Freeboard for Bridges in Pima County (August 2012), and other applicable design criteria as listed herein.

V. PROJECT SCHEDULE

The duration of the design work shall be 12 months. The Consultant is expected to deliver the submittals identified in the RDM incrementally through the design period in accordance with the schedule prepared at the inception of the project. The Consultant should be completed with the Project Assessment Report (PA) within 3 months following the Notice to Proceed. ADOT requires review of the Final PA, required Clearance Documents (Environmental, Right-of-Way, Utilities and Materials), and Construction Documents at 30%, 60%, 90%, and 100%. The 30% submittal will coincide with the Design Phase identified in the RDM. The 60%, 90% and 100% submittals will coincide with the PS&E Phase. RDM Table 3-1 Design Process Tasks and Submittals provides a checklist of key submittals required. The Consultant's schedule shall specifically identify the submittals shown within the forementioned table and the ADOT submittals within this paragraph.

The duration of construction and post-design services is expected to be 24 months.

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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. Previous reviews/studies of this corridor were conducted too long ago and cannot be guaranteed to be accurate or complete. These documents may not represent existing conditions.

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
COT	City of Tucson
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

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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

TASK A – DESIGN SERVICES

General Requirements:

1. This is a Federally Funded Project, through the OSB Grant Program. Federal standards and process shall apply, including procedures required for ADOT and FHWA compliance.
2. County's environmentally sensitive roadway (ESR) design guidelines apply to this project.
3. Design plans shall be developed using PCDOT CAD drafting standards. Final plan submittals shall be in electronic and hardcopy format.
4. Survey file submittals (monumentation, horizontal and vertical control, right-of-way plans) shall be in AutoCAD 2023 format.
5. Unless specified within individual tasks, only electronic pdf copies of each final report will be submitted to the County.
6. Submittals will consist of an electronic pdf copy of the submittal. Hard copies will not be provided.
7. The duration of the design period shall be 12 months. Post-design services are noted as additional services. Post-design services will occur during the construction period, which is expected to have a 24-month duration.

TASK A.1 PROJECT MANAGEMENT AND QUALITY CONTROL

Task A.1.1. Project Management. Develop project design by coordinating design efforts. The anticipated management activities are as follows:

- a. Coordinate with stakeholders, including but not limited to, phone, electronically, paper, face-to-face, etc.
- b. Verify 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 including electronic, phone, paper, etc.
- e. Provide a monthly progress report submitted with the monthly invoice.

Deliverables:

- Project Team Contact List.
- Progress Reports attached to monthly invoices.
- Responses to review comments.

Task A.1.2. 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. Each major submittal shall include verification of the quality control completed on said submittal.

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Deliverables:

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

Task A.1.3. Meetings and Communication. Consultant will be responsible for coordinating meeting times, inviting meeting participants, creating an agenda, preparing graphics and handouts, facilitating meetings, and providing meeting summaries. The anticipated design team meetings and activities are as follows:

- a. Conduct monthly progress meetings with the project team.
- b. Conduct biweekly coordination calls between Pima County Project Manager and Consultant Project Manager.
- c. Conduct major review comment meetings to discuss review comments and responses with the County and the project team regarding the major submittals. These meetings will take the place of the monthly progress meetings when occurring within the same month.
- d. Conduct other meetings as needed or required (4 additional meetings assumed).
- e. See labor hour summary for assumed meeting durations, number of meetings, attendance, whether minutes will be provided, and additional information.

Deliverables:

- Meeting agendas.
- Meeting summaries as required.

Task A.1.4. Coordinate Between Participating Agencies. Not Used (Pima County will take the lead in coordinating with agencies unless noted otherwise in other scope tasks)

Task A.1.5. Schedule. Provide an initial schedule within 15 days of Notice to Proceed. Provide an updated schedule with at each monthly progress meeting.

Deliverables:

- Initial Schedule
- Monthly schedule updates.
- Responses to review comments.

Task A.1.6. Base Cost Estimate. Consultant to develop a Base Cost Estimate that identifies the major components of project scope and their cost, and describes scope and cost assumptions within 45 days of notice to proceed. The Base Estimate will be founded on initial assumptions of the preferred bridge structure type (which will be confirmed later as part of the Project Assessment Report. Task A.13), and approximate length of roadway reconstruction, and will consider items such as construction schedule, and limits of disturbance. Consultant will update the cost estimate by reviewing, updating and documenting assumptions and costs for each item, and include contingency information during major plan submittals and as identified in the RDM. The cost to update the cost estimate for each submittal beyond the Project Assessment Report is included in Task A.16.

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Deliverables:

- Base Estimate - Incorporate contingency information into the estimate and identifying assumptions..

TASK A.2 NOT USED

TASK A.3 PUBLIC PARTICIPATION

Task A.3.1. Public Participation Plan. No work required by the Consultant. (County will be the primary contact for community inquiries and concerns. County will organize and lead all public participation activities. Additional services may be requested through Task B.2 Other Services.)

Task A.3.2. Community Advisory Committee (CAC) Meetings. Not required.

Task A.3.3. Public Meetings. Not required.

Deliverables:

- None required.

TASK A.4 PUBLIC ART

This project does not have a public art requirement.

TASK A.5 UTILITY COORDINATION

Task A.5.1. 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 and County will establish a Utility Relocation Date whereby utilities will be required to clear the project of utility impacts identified in Task A.5.2 Design Coordination, Utility Impact Identification. 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 utilities present in the corridor. Prior to the completion of Task A.7.8 Existing Conditions Surveys, the Consultant will request each utility to mark its facilities, providing the approximate horizontal position on the ground surface, being accurate to within six inches, 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. Consultant shall draft onto an Existing Utilities Mapping Package (40 scale) the certified horizontal survey data surveyed by Consultant 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. 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 A.5.2. 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

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immediately of any utility unable to meet the Utility Relocation Date. Initial and Final Design Phase Plans will be provided to all utilities for their review and comments.

Task A.5.3. 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. The Consultant will update utilities as to the status of all utility impacts by the Utility Relocation Date. The Consultant will compile a List of Utility Impacts and Approved Mitigation Measures.

It is expected that work will overlap with buried telephone lines on the east side of Madera Canyon Road. This telephone line is likely contained in the conduit attached to the existing bridge structures, where it crosses the wash. This line will need to be relocated prior to construction.

Task A.5.4. Quality Control Review. The Consultant will provide quality control reviews of the deliverables listed below.

Deliverables:

- Utility Relocation Date
- Plans for distribution to utilities as part of the Initial and Final Design Phase submittals
- Letters of Acceptance
- Meeting minutes prepared, distributed to project team, and revised as needed.
- Design plans showing updated mapping of utility information, including potholing information, delivered with the Initial PS&E set.
- List of utility impacts and mitigation measures.
- Responses to review comments.

TASK A.6 ENVIRONMENTAL IMPACT SCREENING—NOT REQUIRED

Because the project has federal funding, ADOT will be assisting the County with the preparation of the appropriate National Environmental Policy Act (NEPA) environmental clearance, which is anticipated to be a CE. As part of Task A.14, HDR will provide technical reports in support of a CE, to be prepared by ADOT. Because the project will document environmental impacts through environmental screening documents and technical reports (in Task A.14), an Environmental Assessment and Mitigation Report (EAMR) will not be required by Pima County. See Task A.14 for specific tasks HDR will provide regarding environmental clearances.

TASK A.7 SURVEY AND MAPPING

Task A.7.1. Initial Planning and Reconnaissance. The Consultant will not conduct a formal coordination meeting with County Surveyor prior to the start of survey efforts. The Consultant has provided the County the survey report from the County's previous Madera Canyon bridge projects at Medium Wash, project no. 4MCAMW, and Florida Canyon Wash, project number 4MCAFW, initially submitted to the County in August of 2000. This previous report and survey and mapping data shall be the basis of this project's survey control and project design.

Task A.7.2. Horizontal Control. The Consultant will utilize the Geodetic Control Survey established from the previous two bridge projects 4MCAMW and 4MCAFW. The control shall be based on NAD 83 (HARN 1992) and NAVD 88 datums by using PCDOT provided National Geodetic Survey, Forest Service, and PC/COT approved GIS control points. ALTA Survey, LLC will perform verification Global Positioning System (GPS) surveys on the control points.

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Task A.7.3. Vertical Control Traverse. The Consultant will utilize the construction benchmarks established on the previous two bridge projects 4MCAMW and 4MCAFW. ALTA Survey, LLC will perform verification GPS surveys on the previously established construction benchmarks.

Task A.7.4. Results of Survey Drawing. The Consultant will utilize the previous two bridge projects 4MCAMW and 4MCAFW Record of Survey and Right-of-Way Plans as this project's Results of Survey. No additional Results of Survey Drawing will be prepared or submitted.

Task A.7.5. Survey Report. The Consultant will utilize the survey report provided on the previous two bridge projects 4MCAMW and 4MCAFW. No additional survey report will be prepared or submitted.

Task A.7.6. Aerial Mapping. The Consultant will utilize the aerial mapping and imagery provided on the previous two bridge projects 4MCAMW and 4MCAFW. The Consultant will incorporate the current aerial imagery available from Pima County aerial pictometry to supplement the outdated aerial imagery. No additional aerial flights will be conducted, and no additional aerial mapping will be provided.

Task A.7.7. Utility Surveys. The Consultant will utilize the utility survey data located on the previous two bridge projects 4MCAMW and 4MCAFW. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities markings will be by the Consultant under the utility task for this project. ALTA Survey, LLC will perform verification surveys on previously located surface utilities and will locate more recent visible utilities and also locate underground utilities as identified and marked by others for the length of the project. The Consultant will incorporate surveyed locations into the CAD reference files. ALTA Survey, LLC will determine the overhead wire elevations at the crossing locations of the temporary detour roads. Potholing needed for utility locating is considered additional services and is not included in this scope of work.

Task A.7.8. Culture Surveys. The Consultant will utilize the culture survey data located on the previous two bridge projects 4MCAMW and 4MCAFW. ALTA Survey, LLC will locate fences, traffic signs, culvert inverts, wash bottom, drainage features and flows, and match-in locations along the project length. ALTA Survey, LLC will also perform spot supplemental mapping surveys to locate terrain features at locations along the anticipated detour not covered by the previous mapping data. The Consultant will incorporate surveyed information into the CAD reference files and digital terrain model. The work will also include the Consultant converting field results into AutoCAD 2023 or newer version format.

Task A.7.9. Right-of-way of Surveys. The Consultant will utilize the record of survey and the right-of-way surveys performed on the previous two bridge projects 4MCAMW and 4MCAFW. ALTA Survey, LLC will perform verification surveys to search for controlling survey monuments including right-of-way centerline monuments, controlling right-of-way corners and existing occupation, to confirm the existing right-of-way lines and centerline. The controlling right-of-way monumentation along the original 66-foot right-of-way will not be established and no additional right-of-way survey documentation will be provided.

Task A.7.10. Roadway Design Manual Survey Efforts. The Consultant will complete other survey-related tasks as generally identified and provided within the Design Manual. This work will include providing orthophotos overlaid on the acquisition legal description exhibits and plan sheets.

Task A.7.11 Legal Descriptions & Reference Maps. The Consultant will prepare and seal two Arizona State Land Department (ASLD) temporary construction easement legal descriptions and maps: One is located at the gap between the original 66-foot right-of-way and that acquired on the previous bridge project and another one for this project's detour. Legal description reference maps will be 8.5"x11". The Consultant will prepare the preliminary legal description to start early ASLD coordination. The Consultant will update with ASLD and County comments. The Consultant will finalize and provide sealed copies for County acquisition purposes.

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Task A.7.12. Quality Control Review. The Consultant will provide quality control reviews of the preliminary legal descriptions and exhibit deliverables listed below.

Task A.7.13 Boring Locations. ALTA Survey, LLC will stake anticipated boring hole locations as provided by geotechnical investigation and provide existing ground elevations at the final boring locations.

Deliverables:

- Digital black & white files (uncolored digital photo) to the County in .tif format and digital ASCII point files in comma delimited format by the Consultant
- Color Pima County aerial pictometry files in .jpeg format by the Consultant
- Field survey information by ALTA Survey, LLC.
- Preliminary legal descriptions and sketches for two temporary construction easements by the Consultant.
- Final sealed legal descriptions and sketches two temporary construction easements by the Consultant.
- Responses to review comments.

TASK A.8 DRAINAGE

Task A.8.1. Drainage Design Criteria Review Meeting. The Consultant will conduct a drainage design criterion review meeting with PCDOT and PCRFCFCD to develop drainage design criteria, including but not limited to design storm, peak discharge applicable to this project location, allowable flow depth over the roadway, and allowable surcharge on adjacent properties.

Task A.8.2. Review Existing Plans and Reports. The Consultant will review available plans and reports for existing improvements and identify drainage features and flows.

Task A.8.3. Drainage Maps and Exhibits. The Consultant will prepare existing and proposed conditions drainage maps showing floodplain limits for 10-year and 100-year peak discharges covering the Proposed Conditions modeling extents. 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 A.8.4. Drainage Reports. The Consultant will prepare a report in the phases described in Section 3.11 of the Design Manual as modified below. The work includes preparing and processing the four (4) submittals described below:

Initial Design Phase Submittal. The Consultant will prepare the Initial Design Phase Submittal per Section 3.11 of the Design Manual. A full hydraulic analysis, including evaluation of overtopping of roadway and upstream and downstream impacts, will be included. The Consultant will identify potential Clean Water Act 404 permitting, and right-of-way acquisition needs for cross-drainage.

Final Design Phase Submittal. The Consultant will prepare the Final Design Phase Submittal per Section 3.11 of the Design Manual.

Final PS&E Phase Submittal. The Consultant will prepare the Final PS&E Phase Submittal for the project in response to County's Final Design Phase Submittal comments as well as revisions to the final project design per Section 3.11 of the Design Manual.

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Task A.8.5. Quality Control Review. The Consultant will provide quality control reviews of the drainage report for each submittal.

Deliverables:

- Existing and Proposed Conditions Model Reviews for Hydrology, Hydraulics, Scour and Scour Mitigation.
- Initial Design Phase Drainage Report.
- Final Design Phase Drainage Report.
- Final PS&E Phase Drainage Report.
- Responses to review comments.

TASK A.9 GEOTECHNICAL

Task A.9.1. 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 geotechnical effort will correspond to 100% of the final design effort and will include investigations to develop concepts and final designs. Consultant will obtain the concurrence of the County for the locations of borings prior to commencing the field work.

The CONSULTANT will serve as the overall lead for geotechnical design services for the project. The CONSULTANT will be supported by a subconsultant, Terracon Consultants, Inc. (Terracon), who will perform field investigation and laboratory testing.

Geotechnical Task deliverables are listed below in the Deliverables section of this scope of work.

The major geotechnical work tasks are described in the below sections.

Task 9.1.1 Review of Existing Data. The CONSULTANT will acquire and review available, existing data regarding the geologic and geotechnical site conditions, including previous geotechnical reports for the project corridor, published geologic maps and reports from NRCS, AZGS and USGS, and depth to groundwater data from ADWR. The CONSULTANT will utilize this information to supplement new geotechnical data and will incorporate the existing data into the geotechnical investigation and analysis.

Task 9.1.2 Exploration & Access Plan Preparation and Site Visit. Terracon will perform a site visit to evaluate the prospective boring locations, site and access logistics and constraints, drilling equipment needs, access permit needs, traffic control requirements, and other logistics of the field investigation which require consideration in planning. Terracon will prepare a Draft Exploration and Access Plan which will depict the proposed boring locations and depths, proposed access routes and areas of access development (if needed), and estimated areas of ground surface disturbance, and will submit the draft plan to the CONSULTANT's Environmental Team. Terracon will revise the Draft Plan in response to review comments from the Environmental Team and will prepare and submit a Final Exploration and Access Plan to the Environmental Team.

Task 9.1.3 Environmental/Access Permits & Clearances and Coordination. The Final Exploration and Access Plan prepared by Terracon will be utilized by the CONSULTANT's Environmental Team to obtain permits for geotechnical field work, including (as needed) an access permit, environmental clearance, cultural resource clearance and other permits for work in the project corridor. It is anticipated that further information regarding the geotechnical field work will need to be developed to respond to review comments and questions from the permitting agencies; an allowance for this coordination is included in this SOW.

Terracon will apply for a Right-of-Way (ROW) Permit from Pima County for work in the ROW along Madera Canyon Road.

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Terracon's subcontracted, licensed drilling firm will file Well Permit/Notice of Intent forms with ADWR if groundwater is encountered in any of the borings.

Task 9.1.4 Field Subsurface Investigation & Laboratory Testing. Subsurface geotechnical investigation (drilling and sampling) and laboratory soils testing will be performed by Terracon in accordance with an investigation and testing plan provided to Terracon by the CONSULTANT. The field investigation includes borings for bridge foundations, bridge abutments, roadway approaches to the bridge and for pavement design. The field investigation is detailed in Table 1. The borings are anticipated to be advanced using rotary-percussion down-hole hammer methods.

It is assumed that the investigations for both Florida Canyon Wash Bridge and Medium Wash Bridge will be conducted during the same mobilization.

Construction of access roads to boring locations within the Florida Canyon Wash may be required. The need for access roads will be confirmed during a pre-proposal site visit by Terracon.

Terracon will coordinate location marking and clearance for underground utilities through Arizona 811 as required and will field-check the marked utilities relative to the field-staked boring locations prior to beginning drilling. Terracon will estimate the coordinates (latitude-longitude) and ground surface elevation for the proposed boring locations using available site surface features and a hand-held GPS unit and will stake the borings. The as-drilled borings will be marked by Terracon, and the CONSULTANT's Survey crew will collect the location data after the subsurface investigation is complete.

Terracon will monitor the drilling and sampling of the borings and will log the borings in general accordance with the Unified Soil Classification System and ASTM D2488. Representative bulk sampling of drill cuttings, and standard penetration testing and sampling and/or open-end drive (modified California ring-lined sampler) will be performed at the ground surface and at depths of 2.5 feet, 5 feet, 7.5 feet, 10 feet, 12.5 feet and 15 feet, thence at depth intervals of 5 feet, throughout the full depth of investigation of each boring.

If groundwater is not encountered in a boring, the completed boring will be backfilled with drill cuttings and tamping the upper five feet of the backfill in each boring. For borings located within existing paved areas, the borings will be backfilled and patched according to Pima County requirements.

If groundwater is encountered in a boring, the depth to groundwater will be recorded at the time of first encounter while drilling, at the full depth of investigation of the boring, and then after the drill stem is withdrawn if the boring remains open. If practicable, the depth to groundwater also will be re-measured after a recovery period of 24 hours.

Borings which encounter groundwater will be abandoned in accordance with the requirements of the ADWR Well Abandonment Handbook, latest edition.

Table 1 – Proposed Field Investigation

Project Element/Boring Location	Number of Borings	Boring Depth (feet each)	Remarks
Florida Canyon Wash Bridge foundations	4	90	One boring at each abutment.
Madera Canyon Road Florida Canyon Wash Bridge approaches	4	5	Two borings for each bridge approach with approximately 400 foot spacing.

The CONSULTANT will provide coordination and oversight of the field and laboratory work by Terracon. The CONSULTANT will assign laboratory soils tests based on the field boring logs and actual samples recovered by Terracon.

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Laboratory testing of soil samples obtained from the subsurface investigation will be performed by Terracon. Testing assignments will be coordinated and agreed upon by both Terracon and the CONSULTANT and will include the estimated number of tests presented in Table 2:

Table 2 – Proposed Laboratory Testing Program

Test	ASTM or ARIZ Test Method	Estimated Number of Tests
Grain Size Analysis	C136	18
Atterberg Limits	D4318	18
Moisture Content	D2216	18
Density of Undisturbed Ring Sample	D2937	7
Moisture-Density Relationship (Standard Proctor)	D698	4
Direct Shear (saturated or remolded)	D3080	5
Resistance R-Value	D2844	1
pH and Resistivity	ARIZ 236e	4
One-Dimensional Swell or Collapse (no time rate curves)	D2435	2
Total Soluble Sulfates Content	ARIZ 733b	4
Total Soluble Chlorides Content	ARIZ 736b	4

Task 9.1.5 Geotechnical Foundation Design, Recommendations & Geotechnical Foundation Report.

The CONSULTANT will perform engineering analyses and prepare and submit draft and final versions of the Geotechnical Foundation Report, which combines the investigation results and analysis for both the Medium Wash Bridge and the Florida Canyon Wash Bridge and includes the following information:

- Project description and general site conditions.
- Summary of existing data.
- Summary of geologic conditions along the alignment and geologic descriptions of available exposures.
- Geotechnical Data Report (prepared by Terracon) which combines both Medium Wash Bridge and Florida Canyon Wash bridge and includes the following:
 - Description of drilling equipment and procedures used in the subsurface investigation, and photographs of the site conditions and field investigation activity.
 - Site plan of boring locations.
 - Logs of the borings with subsurface soil descriptions, sampling intervals, and groundwater levels, if encountered.
 - Results of laboratory soils tests, summary table(s) of lab test results and test data sheets.
- Description and graphical presentation of the subsurface geotechnical profile.
- Bridge site seismic design parameters developed in accordance with the procedure outlined in the AASHTO LRFD Bridge Design Specifications and determined using the USGS AASHTO 2009 Web Service Documentation online web tool.
- General description of foundation conditions and discussion of suitability of drilled shafts and spread footings and drilled shafts for bridge support.
- Foundation recommendations, including drilled shaft factored axial resistance and estimated settlement charts, and design parameters for laterally-loaded shaft analysis.
- Geotechnical design parameters for use in design of abutment bank protection and scour evaluation if needed.
- Recommendations for Madera Canyon Road design, including roadway subgrade preparation, fill embankments and slopes, drainage structures and other project elements.
- Construction considerations for drilled shaft foundations, fill embankments and slopes, and drainage structures.

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- Special construction treatment(s) recommended for expansive, compressible or hydro-collapsible soils, existing man-made fill or other moisture-sensitive materials that may be present.
- Earthwork factors for site soils and potential for re-use of on-site soils as bedding and backfill.
- Guide specifications for site grading, and recommended fill materials quality, placement and compaction.
- Assessment of corrosive properties of site(s) soils considering results of soil pH, electrical resistivity, and total soluble sulfates and chlorides tests.

As noted above, a final version of the Geotechnical Data Report prepared by Terracon will be appended to and referenced in the Geotechnical Foundation Report.

Logs of the Terracon bridge borings will be provided in a format suitable for presentation in the foundation data sheets for inclusion in the bridge plans.

Review comments on the draft Geotechnical Foundation Report will be responded to and resolved, and the final report prepared and submitted.

Task A.9.2. Quality Control Review. Quality assurance reviews of the geotechnical deliverables will be completed by a CONSULTANT's Senior Geotechnical Engineer not directly involved with the project.
Deliverables:

- Geotechnical Foundation Report (for Medium Wash and Florida Canyon Wash Bridges).
- Geotechnical Data Report (for Medium Wash and Florida Canyon Wash Bridges) by Terracon.
- Responses to review comments.

TASK A.10 PAVEMENT DESIGN

Task A.10.1. Pavement Design Report. Solis Engineering, acting as a Subconsultant to HDR, will perform pavement design following the current ADOT 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;

ESAL calculations will be developed by the Consultant to assist with pavement design and will be based on the counts and classifications collected as part of Task A.12.

Task A.10.2. Quality Control Review. The Consultant will provide a quality control review on the Pavement Design Report.

Deliverables:

- Pavement Design Report.
- Responses to review comments.

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TASK A.11 BRIDGE STRUCTURE SELECTION STUDY/REPORT-NOT REQUIRED

Task A.11.1. Bridge Selection Report. A stand-alone Bridge Structure Selection Report in accordance with the RDM Section 3.14 and ADOT Bridge Design Guidelines will not be required for this project. As part of the Project Assessment Report (Task A.13), the Consultant will evaluate bridge types that would be feasible at this crossing. A summary of the bridge structure type evaluation will be included in the Project Assessment Report. See Task A.13 for additional information.

Deliverables:

- None

TASK A.12 TRAFFIC ENGINEERING

This section is not used.

TASK A.13 PROJECT ASSESSMENT REPORT (PA)

Task A.13.1. Project Assessment Report. The Consultant will prepare a Project Assessment Report (PA) in accordance with the requirements of ADOT and the Pima County RDM. Anticipated sections of the PA include introduction, background data, project scope, project development considerations, other requirements, estimated costs, service involvement sheet, and project location map. Preliminary (~15%) plans of the project will be included in an appendix.

Task A.13.2. Bridge Type Selection. As part of the PA, The Consultant will prepare an abbreviated and simplified bridge type selection analysis. Two alternatives will be evaluated that will have slightly longer bridge lengths than the existing bridges. The alternatives will include a multi-span cast-in-place superbox and a single-span precast concrete girder/bridge. A steel superstructure alternative will not be provided but will be discussed qualitatively. Two plan sheets will be provided for the selected bridge alternative. Figures or photos of similar structures will be included within the report for the two non-selected alternatives to illustrate the studied alternatives. It is anticipated that similar structure types will be used at both the Medium Wash and Florida Canyon Wash crossings to gain efficiencies in design and construction. Key elements affecting the structure type selection will be the required waterway opening, minimizing superstructure depth in order to minimize approach roadway reconstruction, available geotechnical information, simplicity of design, and simplicity and speed of construction. A cost estimate will be provided for the preferred bridge alternative only.

Task A.13.3. Cost Estimate. The Consultant will update the base cost estimate developed as part of Task A.1.6 with quantity take-off calculations based on approximate quantities of major cost items. Right-of-way and/or TCE costs will be provided by PCDOT.

Task A.13.6.4 Quality Control Review of PA. The Consultant will provide a quality control review of the Project Assessment.

Deliverables:

- Draft and Final PA
- Cost estimates and quantity take-off calculations.
- Responses to review comments.
- The Draft PA shall be submitted within 3 months from the NTP.

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TASK A.14 ENVIRONMENTAL CLEARANCE TECHNICAL REPORTS

Task A.14.1. ADOT Categorical Exclusion (CE). Because the project has federal funding, ADOT will be assisting the County with the preparation of the appropriate National Environmental Policy Act (NEPA) environmental clearance, which is anticipated to be a CE. HDR will provide technical reports in support of a CE, to be prepared by ADOT. A separate geotechnical clearance is anticipated to be needed. Hours included for this task are for coordination and assistance associated with drafting the CE and geotechnical environmental clearance.

Task A.14.2. Cultural Resources Inventory and Report. Because previous cultural resource inventory of the project area took place more than 10 years ago, the project will require a cultural resources inventory of the project's full Area of Potential Effects (APE) to comply with Arizona State Museum (ASM) guidance. The APE includes the project footprint, as well as temporary construction easements, staging areas, and laydown area. Because the project has a federal nexus, the project is a federal undertaking requiring compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800. ADOT will be the lead federal agency and will be responsible for regulatory compliance. The County and ADOT will review cultural compliance documents.

Prior to conducting fieldwork, the cultural resources consultant shall verify that required permits are obtained, and required notifications are made. ADOT will define the APE for the undertaking. The consultant shall conduct a cultural resources inventory of the entire surface of the APE. Cultural resources identified in the APE shall be documented in a report, which will include recommendations regarding the eligibility of each resource for listing in the National Register of Historic places (NRHP). Fieldwork, recording, and reporting shall be conducted subject to provisions of the consultant's permits and shall meet current ADOT, ASM, and Arizona State Historic Preservation standards. An evaluation of the effects of the undertaking on each NRHP-eligible or unevaluated cultural resource shall be made. Excluding the bridge, which has previously been determined not eligible for NRHP inclusion, in-use historic resources shall be documented on Arizona Historic Property Inventory Forms (HPIFs). For the purposes of this scope, we assume that no new ASM sites will be identified requiring documentation and no more than one HPIF will have to be prepared.

When the inventory and report are complete, the consultant shall provide the following directly to the Pima County Cultural Resources and Heritage Preservation Division: a PDF of the final report; associated shape files including APE, inventory area, sites and other resources, previous surveys, previously recorded resources; PDFs of accessible reports resulting from the records search for the inventory; resulting site forms or HPIFs developed during the project.

Finally, the consultant will prepare letters for Section 106 consultation regarding: (1) initial/definition of APE, (2) geotechnical activities to be performed prior to bridge replacement; and (3) adequacy of the cultural resources technical report and recommendations contained therein.

Task A.14.3. Biological Evaluation/Wildlife Habitat. The Consultant will prepare a Biological Evaluation (BE). SWCA, acting as a SUBCONSULTANT to HDR, shall conduct a Pima pineapple cactus (PPC) survey. If, during the PPC survey, it is determined that there is suitable habitat for cactus ferruginous pygmy owls and/or yellow-billed cuckoos, a separate species survey would be completed. The BE will include an analysis of up to four species: Pima pineapple cactus, jaguar, Western yellow-billed cuckoo, and cactus ferruginous pygmy owl. The BE will also include analysis of project impacts to Western-yellow billed cuckoo critical habitat, which follows the Florida Canyon Wash. Based on the marginal habitat for yellow-billed cuckoo in the project area, we assume that informal consultation with the USFWS will only be needed; no formal consultation will be needed. The Consultant shall provide the Draft BE for County's review and comments, and then to ADOT for their review. The Final BE shall be forwarded to County for their records and will be utilized to complete the CE. The species lists will be reviewed and BE updated as required prior to submission for construction authorization to ADOT.

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A separate Biological Evaluation Short Form (BESF) would be prepared for geotechnical clearance. No additional survey or site visit would be needed.

Task A.14.4. Vegetation Sampling/Measurement. Task A.14.3 will be conducted by the Wheat Design Group, acting as a SUBCONSULTANT to HDR. After wash disturbances are identified, the SUBCONSULTANT will conduct an inventory of vegetation and protected plant species using methods described in Chapter 4 of the RDM for an ESR. The Subconsultant will develop a technical report detailing the methodology and outcome of said investigation, along with the appropriate mitigation requirements. If more than one-third acre of regulated riparian habitat will be disturbed, the SUBCONSULTANT will consult with the PCRFCFCD to determine if a Riparian Habitat Mitigation Plan (RHMP) or an in-lieu fee option for mitigating disturbance shall be selected. If the RHMP option is selected, the SUBCONSULTANT will prepare the RHMP to be submitted to the County for review and approval, but this is not included in this scope of work and will require a contract modification. If the in-lieu fee option is selected, the SUBCONSULTANT will obtain PCRFCFCD's in-lieu fee calculation to be reviewed and accepted by the Project Manager.

Task A.14.5. Approved Jurisdictional Determination. The Consultant will prepare an Approved Jurisdictional Delineation (AJD) Report and identify Section 404 Permit requirements. Because Florida Canyon Wash is an ephemeral drainage, it is anticipated that it will be determined non-jurisdictional and not require Clean Water Act Section 404 permitting, therefore Section 404 permitting is not included in this task. The report and documents will be developed to meet U.S. Army Corps of Engineers (Corps) standards, County requirements and other agencies with jurisdiction. The County would be responsible for submitting the AJD to the Corps and any coordination needed.

Task A.14.6. Hazardous Materials Survey. Task A.14.6 will be conducted by K2 Site Assessments (K2), acting as a SUBCONSULTANT to HDR. K2 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. The PISA shall comply with ASTM E-1528-21 (Standard Practice for Limited Environmental Due Diligence). This will include:

- a. Conduct Site Reconnaissance (Section 9 of Standard)
- b. Regulatory Database Review (Section 10.1 of Standard)
- c. Historical Source Review (Section 10.2 of Standard)

Additionally, lead and asbestos analysis and letter reports would be prepared, which will assess the Florida Canyon bridge structure and roadway striping.

The PISA and lead and asbestos letters would be utilized for geotechnical clearance, as well as overall environmental clearance. PISA will be updated prior to submission of final construction documents to the County.

Task A.14.7. Air Quality. The Consultant will review potential effects on air quality. It is anticipated that there will be no substantial impacts to air quality with this project and therefore an air quality analysis will not be required, and no separate deliverable will be needed.

Task A.14.8. Noise Analysis. The Consultant will review potential effects to noise within the project limits. Because the capacity of the roadway will not be increased, i.e., it will remain as a two-lane roadway with the replacement of the single-lane bridges with two-lane bridges, it is anticipated that there will be no substantial impacts to noise within the project limits. There also appears to be no sensitive receptors within the project area. Therefore, a noise analysis in accordance with PCDOT Procedure 03-5, dated April 8, 2008, and further discussed in Chapter 4 of the RDM for an ESR will not be provided as part of this scope of work and no separate deliverable will be needed. A qualitative summary will be provided for inclusion in the CE.

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Task A.14.9. Visual Resources. The Consultant will review potential effects to visual resources. It is anticipated that there will be no substantial impacts to visual resources with this project and therefore a visual resources analysis will not be required, and no separate deliverable will be needed. A qualitative summary will be provided for inclusion in the CE.

Task A.14.10. Agency and Public Scoping. The Consultant will prepare public and agency scoping letters to provide to adjacent landowners and stakeholders describing the scope of work and project limits. It is anticipated that no more than 15 scoping letters would be needed. Letters would be transmitted electronically and via U.S. Mail. Draft scoping letters would be provided to the County and ADOT for review prior to preparing the final letters.

Task A.14.11. Quality Control Review of Reports. The Consultant will provide a quality control review of the Environmental Assessment and Mitigation Report.

Deliverables:

- Draft and Final Cultural Resources Inventory and Report (included in Task A.6.3)
- Draft and Final Biological Evaluation.
- Draft and Final Biological Evaluation Short Form for geotechnical clearance
- Draft and Final Approved Jurisdictional Determination Report.
- Native Plant Inventory Plans and Mitigation Charts
- Landscape Mitigation Plans and Details
- Riparian Mitigation Exhibit
- Draft and Final Preliminary Initial Site Assessment for hazardous materials.
- Lead and asbestos findings letters
- Draft and Final Agency and Public Scoping Letters
- Technical reports will be submitted to Pima County for their submittal to ADOT for ADOT's review and issuance of a CE.
- Responses to review comments.

TASK A.15 RIGHT-OF-WAY ACQUISITION SUPPORT

Task A.15.1. Existing Right-of-Way and Easements. The Consultant will incorporate the CAD line work and right-of-way information established on the previous two bridge projects 4MCAMW and 4MCAFW. The County will furnish title reports required for this project for Pima County Assessor's parcel number 30445011B owned by the State of Arizona and located within sections 13 and 14 in Township 19 South, Range 14 East, Gila and Salt River Meridian, Arizona. ALTA Survey, LLC will review title reports and other recorded information to update current right-of-way and easements. ALTA Survey, LLC will perform research, calculations, and additional survey needed to supplement the existing property and right-of-way lines to be affected by this project and integrate into the CADD files.

Task A.15.3. Right-of-Way Plans. Right-of-way plans are not anticipated on this project. Therefore, the work to prepare and submit them are not included in this scope of work.

Task A.15.4. Right-of-Entry. County will obtain the Rights-of-Entry needed to access the ASLD parcel provided in Task A.15.1.

Task A.15.5 State Land Coordination. Consultant will assist the County with record research and coordination with the ASLD. Consultant will provide exhibits for the purposes of coordinating design efforts with the State Land Department showing the proposed grading and drainage improvements including channels, culverts, land ownership, easements, right-of-way, utilities, and detour locations. The exhibit shall be updated as required throughout the design phase to promote timely decisions and to help expedite overall right-of-way processes with ASLD.

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL)

Task A.15.6. Quality Control Review of Right-of-Way Documents. Right-of-way plans are not anticipated on this project. Therefore, the work to perform a quality control review is limited to the ASLD exhibit included in this scope of work.

Deliverables:

- Temporary Construction Easement parcel list by Consultant.
- Existing right-of-way and easements CAD file.
- ASLD acquisition exhibit.

TASK A.16 PREPARATION OF CONSTRUCTION DOCUMENTS

The package of construction documents includes final construction plans, specifications, bid schedule, and a cost estimate in Pima County's bid sheet format. The construction documents need to be clear and unambiguous about the work to be done, the standards to be met, elements of work, method of measurement, and basis of payment. The construction documents shall reflect current Pima County design practices and standards except as previously agreed upon with Pima County. The documents shall also reflect special recommendations or requirements stated in the applicable planning documents. The 100% Final PS&E deliverable shall be usable for federal approval, pricing, and construction. The construction cost estimate will be developed according to the Chapter 3 Appendix 3-J of the RDM. The special provisions will be developed according to Chapter 3 Appendix 3-U of the RDM. Pima County will provide current versions of their stored special provisions to the Consultant for inclusion into the project special provisions.

It is assumed for this scope of work that the bridges will be replaced in a single construction phase while traffic is diverted onto a slow-speed two-way unpaved detour following an existing graded trail with an at-grade crossing of the washes. The detour will be constructed prior to removing the existing bridges and will remain in place until the new bridge construction is complete and the road is open to traffic. It is anticipated that a low-flow corrugated metal pipe crossing will be constructed to allow low flows to pass under the detour at the wash crossings. The detour will be designed by Solis Engineering, acting as a subconsultant to HDR. It is anticipated that the new bridges will be constructed higher than the existing bridges necessitating the approach roadway to be reconstructed to match into the new bridges. HDR and Pima County are aware that the geometry of the existing roadway has substandard features including vertical and horizontal curves and all of the geometric deficiencies in the existing road will not be corrected with the construction of this project. The project is considered a spot improvement with the main purpose to replace the structurally deficient and narrow bridges with bridges that meet current AASHTO standards and minimize impacts to the existing roadway. The Consultant will endeavor to remedy the non-standard geometry issues in the existing road that exist within the length of reconstruction without extending the length of reconstruction actually necessary for bridge construction.

It is also assumed for developing the level of effort for the bridge design task that the structure type selected will either be a single-span precast I-girder bridge or a cast-in-place superbox. It is also assumed that the bridge type selected for the Medium Wash Bridge will be the same structure type as the Florida Canyon Wash bridge in order to gain efficiency with design and the sharing of similar details within the separate plan sets. If different structure types are selected for each crossing, then additional work may be required which may necessitate a contract modification.

Task A.16.1. Initial Design Phase Plans. The Consultant will prepare initial typical sections, bridge, roadway plan and profiles, detour plans, quantities, and costs. These plans will be included as an appendix to the Final Project Assessment Report. The Project Assessment Plans will be at 1"=40' and will address horizontal and vertical alignment, as well as conceptual cross drainage culverts. Roadway grading design, utilities, and earthwork calculations will be advanced to expedite the other discipline design for future submittal, and for ASLD and utility coordination. The Consultant will establish initial Inroads templates, earthwork modeling, and project cost estimate for the Initial Design Phase. This will correspond to ADOT's 30% review.

SCOPE OF DESIGN WORK FOR THE MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL)

Task A.16.2. Final Design Phase Plans. The Consultant will develop Final Design Plans, quantities, and costs according to the checklist found in Chapter 3 Appendix 3-Q of the RDM. The Consultant will define in detail the roadway geometry consistent with Task A.16.1. The Consultant and subconsultants will include right-of-way, major and minor structures, bridge approaches, guard rail requirements, including striping plans, detour plans, borrow grading limits, landscape / revegetation plans, potential utility conflicts, and cross sections. Other than bridge wingwalls, it is anticipated that retaining walls and cross drainage will not be required for this project and are not included in this scope of work. The Consultant will continue Inroads templates, earthwork modeling, and project cost estimate for the Final Design Phase. This will correspond with ADOT's 60% review.

Task A.16.3. Initial PS&E. The Consultant will incorporate comments from Task A.16.2. The Consultant and subconsultants will develop Initial PS&E Plans, detour plans, quantities, costs, and special provisions for the project according to the checklist found in Chapter 3 Appendix 3-R of the RDM. This task will finalize bridge bank protection, borrow grading details, guardrail calculations, landscape plans, detour plans, and updating project cost estimate for the Initial PS&E. This task will also finalize identifying utility and irrigation conflicts. Storm drain plans, cross drainage details, water modification plans, staking plans, noise wall plans, and retaining wall plans are not required for this project and are not included in this scope. This will correspond with ADOT's 90% review.

Task A.16.4. Final PS&E. The Consultant will incorporate comments from Task A.16.3. The Consultant will develop Final PS&E Plans, quantities, costs, and special provisions according to the checklist found in Chapter 3 Appendix 3-S of the RDM. This will correspond with ADOT's 100% review. Construction Sequencing with traffic control plan sheets, lighting plans, and traffic signal plans are not anticipated for this project and are not included in this scope of work. An unsealed check set of the plans, special provisions, cost estimate, and bid schedule will be submitted for the County's review. Upon acceptance by the County, final construction documents will be submitted including sealed construction plans, sealed special provisions, along with a final cost estimate and bid schedule.

Task A.16.5. Quality Control Review of Plans. The Consultant will provide a quality control review of the Initial Design Phase Plans, Final Design Phase Plans, Initial PS&E, and Final PS&E construction plans.

Deliverables:

- 30% Initial Design Plans per the Design Manual Checklist, including cost estimate and quantity takeoff calculations.
- 60% Final Design Plans per the Design Manual Checklist, including cost estimate and quantity takeoff calculations.
- 90% Initial PS&E Plans per the Design Manual Checklist, including cost estimate and quantity take-off calculations.
- 100% Final PS&E Plans per the Design Manual Checklist, including cost estimates, special provisions, and quantity take-off calculations. (Includes check set followed by sealed construction documents).
- Erosion Control Plans & Details
- SWPPP Manual and supporting documents and data for NOI
- Anticipated plan sheets to be submitted at each submittal phase are included after the Task A labor hour spreadsheets.
- Responses to review comments.

**SCOPE OF DESIGN WORK FOR THE
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL)**

TASK B – ADDITIONAL SERVICES

Task B is as-needed services for which the cost and fee shall be determined at the time work is defined. No work shall commence under Task B without prior written authorization from the County.

TASK B.1 ADDITIONAL UTILITY INVESTIGATION

Additional utility investigation is not anticipated to be required and is therefore not included in this scope of work.

TASK B.2 ADDITIONAL STATE LAND COORDINATION

Task B.2.1 State Land Coordination. It is not anticipated that additional state land coordination other than what is already included in Task A.15.4 will be required. Therefore, no additional state land coordination is included in this scope of work.

TASK B.3 ADDITIONAL BIOLOGICAL SURVEYS

Task B.3.1 Additional Biological Surveys. This task will be performed by SWCA acting as a Subconsultant to HDR. If the results of the environmental studies indicate that suitable, yellow-billed cuckoo habitat (appropriate vegetation community) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the yellow-billed cuckoo according to the current approved protocol. Similarly, if the results of the environmental studies indicate that suitable habitat (appropriate vegetation community with plants that support nest cavities) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the cactus ferruginous pygmy-owl according to the current approved protocol. See SWCA Scope for additional information.

TASK B.4 OTHER SERVICES

Task B.4.1 Other Services No other services are anticipated and therefore no other services have been included in this scope of work.

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**SCOPE OF DESIGN WORK FOR THE
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL)**

TASK C – POST DESIGN SERVICES

Task C is as-needed services for which the cost and fee shall be determined at the time work is defined. No work shall commence under Task C without prior written authorization from the County.

TASK C.1 PRE-BID SERVICES

Task C.1.1 Pre-Bid Services. PCDOT will coordinate all Pre-Bid Services and will act as the principal initial contact for pre-bid questions. However, the following additional efforts may be required by the Consultant.

- Attending pre-bid meetings
- Assisting in the preparation of amendments
- Addressing questions on the plans and specifications

TASK C.2 CONSTRUCTION SERVICES

Task C.2.1. Construction Services. PCDOT will coordinate all Construction Services and will act as the principal initial contact for construction questions. However, the following additional efforts may be required by the Consultant.

- Attending the pre-construction meeting and partnering meetings if any
- Attending weekly construction meetings at the project site
- Making site observations of the work under construction
- Evaluating and/or recommending changes in the construction documents
- Providing design details and revised drawings as needed to support construction
- Reviewing shop drawings, erection procedure plans, form work details, and proposals for substitutions or "approved alternates"
- Evaluating value engineering proposals
- Preparing the "as-built" documents

TASK C.3 POST CONSTRUCTION SERVICES

Task C.3.1 Post Construction Electronic As-Builts. The Consultant will provide the County drafting services to incorporate the Contractors redlined record documents in to an electronic as-built in accordance with the requirements of PCDOT Network Management Systems Division.

END OF EXHIBIT "A" - SCOPE OF SERVICES

EXHIBIT “B” - COMPENSATION SCHEDULE (129 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)

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 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 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

- b. 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
- c. Car Rental/Lease/Corporate Vehicles
 - Included in firm's audited multiplier or as other direct cost
- d. 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
- e. IT/ Phone/Internal Delivery Charges/Normal Postage/ Miscellaneous/Other Administrative Charges
 - Include in firm's audited multiplier
- f. Relocation, second domicile or subsistence expenses
 - Negotiable on a case by case basis
- g. Reproduction Costs
 - Bill as other direct costs if not in audited multiplier
- h. All other direct costs will be detailed in the contract billing

5. 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
- k. Contributions Lobbying Costs Fines & Penalties Alcohol
- l. Entertainment, Gifts, Amusement
- m. Contingencies
- n. Bad Debt Expense

- o. Profit Distribution
- p. Public Relations and Related Advertising
- q. Accelerated Depreciation Losses on Other Contracts Organization/Reorganization
- r. Patents
- s. Goodwill
- t. Labor Relations
- u. Labor Expenses Caused by Negligence or Mistakes
- v. Personal Use of Company Assets (Vehicles, e.g.)
- w. Related Party Expenses that Exceed the Costs of Ownership
- x. Unreasonably High Executive Compensation
- y. Unreasonably High Indirect Labor
- z. Unreasonably High Rent
- aa. Bonus not related to employee performance

F. INVOICING

CONSULTANT will submit invoices monthly to the Project Manager with appropriate supporting data and documentation and in a format as prescribed by the Project Manager. 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.

Repeated violation of the requirement to submit timely PR in accordance with the terms of this Contract shall result in sanctions including and up to liquidated damages, Contract termination and removal of the offending party or disqualification of the offending Consultant or Subconsultant from participation in future COUNTY projects. COUNTY shall not be obligated to pay invoices that are submitted more than 60 calendar days after the end of the State fiscal year in which costs were incurred.

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

**DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D**

COMPENSATION SCHEDULE

Direct Labor, Overhead, FCCM, & Fee (HDR)	Totals
TASK A - DESIGN SERVICES (HDR)	\$ 328,317.90
Task A Direct Expenses:	\$ 348.38
Task A Net Fee @10% of DL +OH:	\$ 32,774.29
TOTAL TASK A - DESIGN SERVICES (HDR):	\$ 361,440.58
TASK B - ADDITIONAL SERVICES (HDR)	\$ -
Task B Direct Expenses:	\$ -
Task B Net Fee @10% of DL +OH:	\$ -
TOTAL TASK B - ADDITIONAL SERVICES (HDR):	\$ -
TASK C - POST DESIGN SERVICES (HDR)	\$ 105,204.74
Task C Direct Expenses:	\$ 2,000.00
Task C Net Fee @10% of DL +OH:	\$ 10,502.05
TOTAL TASK C - POST DESIGN SERVICES (HDR):	\$ 117,706.79

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

	COST	
Alta Survey, LLC - Field Survey & ROW	\$ 15,693.82	Task A
K2 Site Assessments (DBE) - Hazardous Materials	\$ 8,053.07	Task A
SWCA Environmental Consultants - Biological Resource Surveys	\$ 2,917.79	Task A
SWCA Environmental Consultants - Biological Resource Surveys	\$ 4,544.04	Task B
Solis Engineering Co., LLC (DBE) - Signing, Striping, Pvmnt Dgn, Detour Dgn	\$ 49,564.30	Task A
Terracon Consultants, Inc. - Geotechnical	\$ 52,346.11	Task A
Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	\$ 26,806.00	Task A
Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	\$ 4,146.00	Task C
Total Outside Services and Consultants	\$ 164,071.13	

TOTAL TASK A - DESIGN SERVICES

TOTAL TASK A - DESIGN SERVICES (HDR):	\$ 361,440.58
TOTAL TASK A - OUTSIDE SERVICES AND CONSULTANTS:	\$ 155,381.09
TOTAL TASK A - DESIGN SERVICES (HDR & SUBCONSULTANTS):	\$ 516,821.67

TOTAL TASK B - ADDITIONAL SERVICES

TOTAL TASK B - ADDITIONAL SERVICES (HDR):	\$ -
TOTAL TASK B - OUTSIDE SERVICES AND CONSULTANTS:	\$ 4,544.04
TOTAL TASK B - ADDITIONAL SERVICES (HDR & SUBCONSULTANTS):	\$ 4,544.04

TOTAL TASK C - POST DESIGN SERVICES

TOTAL TASK C - POST DESIGN SERVICES (HDR):	\$ 117,706.79
TOTAL TASK C - OUTSIDE SERVICES AND CONSULTANTS:	\$ 4,146.00
TOTAL TASK C - POST DESIGN SERVICES (HDR & SUBCONSULTANTS):	\$ 121,852.79

TOTAL TASK A - DESIGN SERVICES (HDR & SUBCONSULTANTS):	\$ 516,821.67
TOTAL TASK A & B - DESIGN & ADDITIONAL SERVICES (HDR & SUBCONSULTANTS):	\$ 521,365.71
TOTAL TASK A, B & C - DESIGN & ADDITIONAL SERVICES & POST DESIGN (HDR & SUBCONSULTANTS):	\$ 643,218.50

HDR Engineering, Inc.
HDR Project Number: TBD
September 9, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D

COST PROPOSAL
FOR
TASK A - DESIGN SERVICES (TASKS A.1 THROUGH A.16)

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Project Principal	2 \$	122.06 \$	244.12
Project Manager	141 \$	93.67 \$	13,207.47
Senior A/E	204 \$	103.39 \$	21,091.56
A/E	311 \$	71.89 \$	22,357.79
Junior A/E	339 \$	49.58 \$	16,807.62
Designer	409 \$	39.41 \$	16,118.69
CADD Technician	358 \$	56.20 \$	20,119.60
Senior Environmental Planner	32 \$	94.09 \$	3,010.88
Senior Biologist	136 \$	47.57 \$	6,469.52
Senior Archaeologist	18 \$	57.10 \$	1,027.80
Archaeologist	23 \$	36.14 \$	831.22
Technical Editor	43 \$	49.44 \$	2,125.92
GIS Analyst	17 \$	57.90 \$	984.30
GIS Technician	20 \$	38.99 \$	779.80
Administrative Support III	18 \$	58.65 \$	1,055.70
Administrative Support II	15 \$	41.91 \$	628.65
Administrative Support I	6 \$	33.51 \$	201.06
Sub-Total (Direct Labor)	2092	\$	127,061.70

OVERHEAD & FCCM:

Overhead Rate 157.94%	Overhead Cost	\$	200,681.25
	Sub-Total (DL+OH)	\$	327,742.95
FCCM 0.4525%	FCCM Cost	\$	574.95

Sub-Total (DL+OH+FCCM) \$328,317.90

PROFIT:

Profit Rate (Net Fee) 10.00%	Profit (on DL+OH)	\$	32,774.29
	Subtotal:	\$	361,092.20

ESTIMATED DIRECT EXPENSES:

Reproductions, Printing, & Misc.	\$	348.38
Sub-Total Estimated Direct Expenses	\$	348.38

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

	COST
Alta Survey, LLC - Field Survey & ROW	\$ 15,693.82
K2 Site Assessments (DBE) - Hazardous Materials	\$ 8,053.07
SWCA Environmental Consultants - Biological Resource Surveys	\$ 2,917.79
Solis Engineering Co., LLC (DBE) - Signing, Striping, Pvmnt Dgn, Detour Dgn	\$ 49,564.30
Terracon Consultants, Inc. - Geotechnical	\$ 52,346.11
Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	\$ 26,806.00
Sub-Total Outside Services and Consultants	\$ 155,381.09

Total Estimated Cost For Task A (Cost Plus Fixed Fee) \$516,821.67

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract between HDR Engineering and Pima County.

Reproduction & Plotting

	Number	Unit	Unit Cost	Cost
Task A.7 Survey and Mapping				
8 1/2" x 11" prints B&W	50	each	\$ 0.045	\$ 2.25
8 1/2" x 11" prints color		each	\$ 0.135	\$ -
11" x17" prints B&W	20	each	\$ 0.076	\$ 1.52
				\$ 3.77
Task A.13 Project Assessment Report				
8 1/2" x 11" prints B&W	50	each	\$ 0.045	\$ 2.25
8 1/2" x 11" prints color	10	each	\$ 0.135	\$ 1.35
11" x17" prints B&W	10	each	\$ 0.076	\$ 0.76
				\$ 4.36
Task A.14 Environmental and Supporting Technical Documentation				
8 1/2" x 11" prints B&W	1,100	each	\$ 0.045	\$ 49.50
8 1/2" x 11" prints color	100	each	\$ 0.400	\$ 40.00
Mailing - Agency Scoping	15	each	\$ 0.550	\$ 8.25
				\$ 97.75
Task A.16 Preparation of Construction Documents				
Roll Plots (Color Bond) (2'x8')(12 total)	192	SF	\$ 0.900	\$ 172.80
8 1/2" x 11" prints B&W	100	each	\$ 0.045	\$ 4.50
8 1/2" x 11" prints color	-	each	\$ 0.135	\$ -
11" x17" prints B&W	200	each	\$ 0.076	\$ 15.20
				\$ 192.50
Miscellaneous printing				\$ 50.00
Total Reproduction & Plotting				\$ 348.38

Total Direct Expenses: \$ 348.38

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

SUBCONSULTANT COSTS																												
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
September 9, 2024																												
TASKS																												
TASK A.1 PROJECT MANAGEMENT AND QUALITY CONTROL																												
A.1.1 Project Management (Project setup, Project Guide, ProjectWise, etc.)	1	12	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	25	\$ 5,065.28		\$ 5,065.28					\$ 2,127.72	\$ 2,378.00	\$ 9,571.00
A.1.1a-1.1d Coordination with stakeholders, Ensure communication, generate & update project contact list, keep correspondence & files updated, coordinate with subconsultants (PM 1.0 hr/week for 12 mo design duration, Sr. Biologist 1.0 hr/mo for 12 months, 1 hr/mo for Admin for 12 mo design duration)	1	26	0	0	0	0	0	0	6	0	0	0	0	0	2	6	0	41	\$ 9,127.10		\$ 9,127.10							\$ 9,127.10
A.1.1e Provide monthly progress reports with invoices (2.0 hr/mo for PM, 2.0 hr/mo for Acct for 12 mo design duration)	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	24	\$ 5,194.47		\$ 5,194.47							\$ 5,194.47
A.1.2 Quality Control Plan	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	\$ 770.60		\$ 770.60							\$ 770.60
A.1.3a Meetings and Communication - Monthly mtgs with project team (Assumes 1 hr mtgs, 1 hr prep and 1 hr minute review for PM, 0.5 hr prep by Sr. Bio, 1 hr attendance by a rep. of Drainage (Sr. A/E), Rdwy (A/E), Bridge (Jr. A/E), + 1 hr attendance + 1 hr minutes by Designer for 12 months, Admin to attend as needed ~ 4 times) (Review comments meetings will take the place of monthly meetings when they occur in the same month.)	0	18	6	6	6	12	0	0	9	0	0	0	0	0	0	0	2	59	\$ 11,376.81		\$ 11,376.81					\$ 3,049.67		\$ 14,426.48
A.1.3b Conduct bi-weekly coordination calls between Pima County PM and HDR PM (Assumes 2 calls/mo @ 0.5 hrs/call, no minutes)	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	\$ 1,597.18		\$ 1,597.18							\$ 1,597.18
A.1.3d Conduct other meetings as needed or required. (Assumes two additional 2.0 hr meetings required for PM and one other discipline lead) (No Minutes)	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	\$ 941.00		\$ 941.00							\$ 941.00
A.1.3f Conduct two site visits (Assumes site visit attended by HDR's PM, AE, and Jr. A/E @ 4 hrs Each, No minutes or report)	0	4	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	12	\$ 2,951.56		\$ 2,951.56							\$ 2,951.56
A.1.5 Schedule (12 hrs to develop, 2.0 hr to update for 3 updates (~every submittal) for PM, 4 hrs total for Env Planner to provide input & updates)	0	9	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	11	\$ 2,930.56		\$ 2,930.56							\$ 2,930.56
A.1.6 Base Cost Estimate (Estimate rdwy reconstruction length, bridge type, develop rough quantities & prepare cost estimate within 45 days of NTP. (16 hrs for Designer to develop rough quantities, 16 hrs for Jr. A/E to create estimate and initial unit costs, 8 hrs for Sr. A/E & 8 hrs for PM to evaluate and research current pricing) (Hours for updating base estimate during design is included in Task A.16)	0	4	4	0	8	8	0	0	0	0	0	0	0	0	0	0	0	24	\$ 4,263.25		\$ 4,263.25					\$ 2,581.81		\$ 6,845.06
Subtotal Task A.1	2	95	10	12	14	20	0	6	15	0	0	0	0	0	18	12	6	210	\$ 44,217.83	\$ -	\$ 44,217.83	\$ -	\$ -	\$ -	\$ 7,759.20	\$ -	\$ 2,378.00	\$ 54,355.03
TASK A.5 UTILITY COORDINATION																												
A.5.1 Data Gathering, Utility Designation, Letter of Acceptance					5	4												9	\$ 1,152.49		\$ 1,152.49							\$ 1,152.49
A.5.2 Design Coordination, Utility Impact Identification					5	4												9	\$ 1,152.49		\$ 1,152.49							\$ 1,152.49
A.5.3 Utility Impact Mitigation					5	2												7	\$ 928.49		\$ 928.49							\$ 928.49
A.5.4 Quality Control Review			2															2	\$ 587.64		\$ 587.64							\$ 587.64
Subtotal Task A.5	0	0	2	0	15	10	0	0	0	0	0	0	0	0	0	0	0	27	\$ 3,821.11	\$ -	\$ 3,821.11	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,821.11

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

SUBCONSULTANT COSTS																													
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task	
September 9, 2024																													
TASK A.7 SURVEY AND MAPPING																													
A.7.1 Initial Planning and Reconnaissance																		0	\$ -	\$ 3.77	\$ 3.77							\$ 3.77	
A.7.2 Horizontal Control																		0	\$ -		\$ -	\$ 2,289.72						\$ 2,289.72	
A.7.3 Vertical Control Traverse																		0	\$ -		\$ -	\$ 1,617.74						\$ 1,617.74	
A.7.4 Results of Survey Drawing																		0	\$ -		\$ -							\$ -	
A.7.5 Survey Report																		0	\$ -		\$ -							\$ -	
A.7.6 Aerial Mapping																		0	\$ -		\$ -							\$ -	
A.7.7 Utility Surveys		1	0	2	5	0	2											10	\$ 1,698.72		\$ 1,698.72	\$ 3,619.24						\$ 5,317.96	
A.7.8 Cultural Surveys		0	0	2	0	2	4											8	\$ 1,271.45		\$ 1,271.45	\$ 4,246.60						\$ 5,518.05	
A.7.9 Right-of-Way Surveys		0	0	0	0	0	0											0	\$ -		\$ -	\$ 2,314.02						\$ 2,314.02	
A.7.10 Roadway Design Manual Survey Efforts		0	0	1	0	1	0											2	\$ 316.30		\$ 316.30							\$ 316.30	
A.7.11 Legal Descriptions & Reference Maps		1	0	5	0	5	12											23	\$ 3,764.25		\$ 3,764.25							\$ 3,764.25	
A.7.12 Quality Control Review		1	2	0	0	0	0									1		4	\$ 972.94		\$ 972.94							\$ 972.94	
A.7.12 Stake boring locations and provide ground elevations		0	0	0	2	0	0											2	\$ 281.80		\$ 281.80	\$ 1,606.50						\$ 1,888.30	
Subtotal Task A.7	0	3	2	10	7	8	18	0	0	0	0	0	0	0	0	1	0	49	\$ 8,305.46	\$ 3.77	\$ 8,309.23	\$ 15,693.82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24,003.05
TASK A.8 DRAINAGE																													
A.8.1 Drainage Design Criteria Review Meeting (Attended by PM, Sr. AE & A/E)		2	2	3	0													7	\$ 1,732.94		\$ 1,732.94							\$ 1,732.94	
A.8.2 Review Existing Plans and Reports		0	2	0	5													7	\$ 1,292.14		\$ 1,292.14							\$ 1,292.14	
A.8.3 Drainage Maps and Exhibits		0	3	14	19								5					41	\$ 7,241.50		\$ 7,241.50							\$ 7,241.50	
A.8.4 Scour Computations		0	3	8	14													25	\$ 4,488.47		\$ 4,488.47							\$ 4,488.47	
A.8.5 Drainage Reports		0	3	12	20													35	\$ 6,151.07		\$ 6,151.07							\$ 6,151.07	
A.8.6 Quality Control Reviews		0	3	0	0													3	\$ 881.46		\$ 881.46							\$ 881.46	
Subtotal Task A.8	0	2	16	37	58	0	0	0	0	0	0	0	5	0	0	0	0	118	\$ 21,787.58	\$ -	\$ 21,787.58	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21,787.58	
TASK A.9 GEOTECHNICAL																													
A.9.1 Review of Existing Data			0	5	0	0	0											5	\$ 1,021.51		\$ 1,021.51	\$ -	\$ -	\$ -	\$ -	\$ 433.54	\$ -	\$ 1,455.05	
A.9.1 Exploration & Access Plan Preparation and Site Visit			1	6	0	0	2											9	\$ 1,839.06		\$ 1,839.06	\$ -	\$ -	\$ -	\$ -	\$ 1,823.51	\$ -	\$ 3,662.57	
A.9.1 Environmental/Access Permits & Clearances and Coordination			1	5	0	0	0											6	\$ 1,315.33		\$ 1,315.33	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,315.33	
A.9.1 Field Subsurface Investigation & Laboratory Testing			0	5	0	0	0											5	\$ 1,021.51		\$ 1,021.51	\$ -	\$ -	\$ -	\$ -	\$ 50,089.06	\$ -	\$ 51,110.57	
A.9.1 Geotechnical Foundation Design, Recommendations & Geotechnical Foundation Report			4	52	0	0	5											61	\$ 12,597.53		\$ 12,597.53	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,597.53	
A.9.2 Quality Control Review			4	3	0	0	0											7	\$ 1,788.19		\$ 1,788.19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,788.19	
Subtotal Task A.9	0	0	10	76	0	0	7	0	0	0	0	0	0	0	0	0	0	93	\$ 19,583.12	\$ -	\$ 19,583.12	\$ -	\$ -	\$ -	\$ -	\$ 52,346.11	\$ -	\$ 71,929.23	
TASK A.10 PAVEMENT DESIGN																													
A.10.1 Pavement Design Report per the ADOT Pavement Design Manual including ESAL Calculations (By Solis)																		0	\$ -		\$ -				\$ 1,894.79			\$ 1,894.79	
A.10.2 Quality Control Review of Pavement Design Report			2															2	\$ 587.64		\$ 587.64				\$ 945.86			\$ 1,533.50	
Subtotal Task A.10	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	\$ 587.64	\$ -	\$ 587.64	\$ -	\$ -	\$ -	\$ 2,840.65	\$ -	\$ -	\$ 3,428.29	

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

SUBCONSULTANT COSTS																												
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
September 9, 2024																												
TASK A.13 PROJECT ASSESSMENT (PA)																												
A.13.1 Project Assessment Report (Draft & Final)		4	9	26	0	0	25	0	5	0	0	25						94	\$ 17,202.32	\$ 4.36	\$ 17,206.68						\$ 1,236.00	\$ 18,442.68
A.13.2 Bridge Type Selection (Abbreviated and simplified evaluation of Precast Bridge, CIP Slab Bridge, and CIP Superbox (Includes two plan sheets for selected alternative only)		3	9	0	25	12	20	0	0	0	0	0						69	\$ 11,503.70		\$ 11,503.70							\$ 11,503.70
A.13.3 Cost Estimate		3	3	0	17	27	0	0	0	0	0	0						50	\$ 7,099.29		\$ 7,099.29							\$ 7,099.29
A.13.4 Quality Control Review of PA		0	9	0	0	0	0	0	0	0	0	0						9	\$ 2,644.38		\$ 2,644.38							\$ 2,644.38
Subtotal Task A.13	0	10	30	26	42	39	45	0	5	0	0	25	0	0	0	0	0	222	\$ 38,449.69	\$ 4.36	\$ 38,454.05	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,236.00	\$ 39,690.05
TASK A.14 ENVIRONMENTAL CLEARANCE MEMORANDUM																												
A.14.1 ADOT Categorical Exclusion (CE): Internal and external coordination with County and ADOT		0	2	1	0	0	0	0	12	3	0	0	0	0				18	\$ 2,901.00	\$ 97.75	\$ 2,998.75							\$ 2,998.75
A.14.2 Cultural Resources Inventory and Report		2	0	0	0	0	0	0	0	12	23	4	0	0				41	\$ 5,403.86		\$ 5,403.86							\$ 5,403.86
A.14.3 Biological Evaluation/Wildlife Habitat		2	0	0	0	0	0	2	44	0	0	3	6	11				68	\$ 9,643.04	\$ -	\$ 9,643.04			\$ 2,917.79				\$ 12,560.83
A.14.4 Vegetation Sampling/Measurement (Wheat Design Group)		0	0	0	0	0	0	0	0	0	0	0	0	0				0	\$ -		\$ -					\$ 5,130.00	\$ 5,130.00	
A.14.5 Approved Jurisdictional Delineation		1	0	0	0	0	0	5	44	0	0	3	6	9				68	\$ 9,957.41		\$ 9,957.41							\$ 9,957.41
A.14.6 Hazardous Materials Survey (K2 Site Assessments)		2	0	0	0	0	0	0	0	0	0	0	0	0				2	\$ 532.39		\$ 532.39		\$ 8,053.07					\$ 8,585.46
A.14.7 Air Quality-Qualitative only (summarize for inclusion in the CE)		1	0	0	0	0	0	0	3	0	0	0	0	0				4	\$ 671.76		\$ 671.76							\$ 671.76
A.14.8 Noise Analysis--Qualitative only (summarize for inclusion in the CE)		1	0	0	0	0	0	0	3	0	0	0	0	0				4	\$ 671.76		\$ 671.76							\$ 671.76
A.14.9 Visual Resources --Qualitative only (summarize for inclusion in the CE)		1	0	0	0	0	0	0	5	0	0	0	0	0				6	\$ 942.14		\$ 942.14							\$ 942.14
A.14.10 Agency and Public Scoping		2	0	0	0	0	0	0	5	0	0	8	0	0				15	\$ 2,332.35		\$ 2,332.35							\$ 2,332.35
A.14.11 Quality Control Review of Reports		2	0	0	0	0	0	19	0	3	0	0	0	0				24	\$ 6,099.64		\$ 6,099.64							\$ 6,099.64
Subtotal Task A.14	0	14	2	1	0	0	0	26	116	18	23	18	12	20	0	0	0	250	\$ 39,155.36	\$ 97.75	\$ 39,253.11	\$ -	\$ 8,053.07	\$ 2,917.79	\$ -	\$ -	\$ 5,130.00	\$ 55,353.97
TASK A.15 RIGHT-OF-WAY ACQUISITION SUPPORT																												
A.15.1 Existing Right-of-Way and Easements				5	0	0	8											13	\$ 2,299.21		\$ 2,299.21							\$ 2,299.21
A.15.2 Right-of-Way Plans - Not Needed				0	0	0	0											0	\$ -		\$ -							\$ -
A.15.3 Right-of-Entry (Provided by County)				1	0	0	0											1	\$ 204.30		\$ 204.30							\$ 204.30
A.15.4 State Land Acquisition Support (Coordination by Pima County)		2	0	6	0	3	4											15	\$ 2,733.05		\$ 2,733.05							\$ 2,733.05
A.15.5 Quality Control Review of TCE Documents			2	2	0	0	0									2		6	\$ 1,234.45		\$ 1,234.45							\$ 1,234.45
Subtotal Task A.15	0	2	2	14	0	3	12	0	0	0	0	0	0	0	0	2	0	35	\$ 6,471.01	\$ -	\$ 6,471.01	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,471.01

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

SUBCONSULTANT COSTS																												
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
September 9, 2024																												
TASK A.16 PREPARATION OF CONSTRUCTION DOCUMENTS																												
A.16.1 Initial Design Phase Plans - Roadway			2	21	37	34	32											126	\$ 19,010.00	\$ 28.14	\$ 19,038.14							\$ 19,038.14
A.16.1 Initial Design Phase Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0											0	\$ -	\$ -	\$ -				\$ 10,664.56			\$ 10,664.56
A.16.1 Initial Design Phase Plans - Bridge (Bridge Plan Preparation this phase includes Gen. Note sheet & bridge removal sheet. Plan, Elev. & Typ. Section included in PA Task A.13.2)			2	3	5	10	8											28	\$ 4,302.73	\$ 6.25	\$ 4,308.98							\$ 4,308.98
A.16.2 Final Design Phase Plans - Roadway & Drainage			13	21	28	52	43											157	\$ 24,746.73	\$ 35.06	\$ 24,781.79							\$ 24,781.79
A.16.2 Final Design Phase Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0											0	\$ -	\$ -	\$ -				\$ 5,242.11			\$ 5,242.11
A.16.2 Final Design Phase Plans - Bridge			7	14	28	49	42											140	\$ 21,057.99	\$ 31.26	\$ 21,089.25							\$ 21,089.25
A.16.2 Final Design Phase Plans - Landscape Plans (See Wheat Design Scope & Fee)			0	0	0	0	0											0	\$ -	\$ -	\$ -					\$ 484.89	\$ 484.89	
A.16.3 Initial PS&E Plans - Roadway & Drainage			12	12	18	23	21											86	\$ 14,443.58	\$ 19.20	\$ 14,462.78							\$ 14,462.78
A.16.3 Initial PS&E Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0											0	\$ -	\$ -	\$ -				\$ 10,239.44			\$ 10,239.44
A.16.3 Initial PS&E Plans - Bridge			14	28	56	98	84											280	\$ 42,115.98	\$ 62.52	\$ 42,178.51							\$ 42,178.51
A.16.3 Initial PS&E Plans - Erosion Control, Native Plant, & Landscape (See Wheat Design Scope & Fee)			0	0	0	0	0											0	\$ -	\$ -	\$ -					\$ 6,545.96	\$ 6,545.96	
A.16.3 Initial PS&E - Draft Special Provisions		5	13	9	0	6	0											33	\$ 7,661.36	\$ 7.37	\$ 7,668.72							\$ 7,668.72
A.16.4 Final PS&E - Roadway & Drainage			3	6	9	12	12											42	\$ 6,635.90	\$ 9.38	\$ 6,645.28							\$ 6,645.28
A.16.4 Final PS&E Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0											0	\$ -	\$ -	\$ -				\$ 8,503.03			\$ 8,503.03
A.16.4 Final PS&E - Bridge			5	12	22	39	34											112	\$ 16,818.67	\$ 25.01	\$ 16,843.68							\$ 16,843.68
A.16.4 Final PS&E - Erosion Control, Native Plant, & Landscape (See Wheat Design Scope & Fee)			0	0	0	0	0											0	\$ -	\$ -	\$ -					\$ 11,031.15	\$ 11,031.15	
A.16.4 Final PS&E - Special Provisions		5	13	9	0	6	0											33	\$ 7,661.36	\$ 7.37	\$ 7,668.72							\$ 7,668.72
A.16.5 Quality Control Review of Plans & Specs		5	44	0	0	0	0											49	\$ 14,259.09	\$ 10.94	\$ 14,270.03				\$ 4,315.31			\$ 18,585.34
Subtotal Task A.16	0	15	128	135	203	329	276	0	0	0	0	0	0	0	0	0	0	1086	\$ 178,713.38	\$ 242.50	\$ 178,955.88	\$ -	\$ -	\$ -	\$ 38,964.45	\$ -	\$ 18,062.00	\$ 235,982.33
TOTAL TASKS A.1 THROUGH A.16	2	141	204	311	339	409	358	32	136	18	23	43	17	20	18	15	6	2092	\$ 361,092.20	\$ 348.38	\$ 361,440.58	\$ 15,693.82	\$ 8,053.07	\$ 2,917.79	\$ 49,564.30	\$ 52,346.11	\$ 26,806.00	\$ 516,821.67

MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
SHEET LIST
ROADWAY, DRAINAGE, PAVEMENT MARKING, SIGNING & DETOUR

	From	To	No
Cover Sheet	1	1	1
General Notes	2	2	1
Typical Sections	3	3	1
New Barrier Summary	4	4	1
New Culvert Summary	5	5	1
Geometric Layout Sheet	6	6	1
Roadway Plan & Profile	7	8	2
Detour Plan & Profile (By Solis)	9	11	3
Culvert Plan & Profile	12	14	3
Borrow Grading Detail and Sections	15	16	2
Bank Protection at Bridge	17	19	3
Erosion Control Plans (By Wheat Design)	20	29	10
Pavement Marking and Signing (By Solis)	30	34	5
Bridge Plans (See Bridge List for Hours)	35	56	22
Native Plant Preservation Plans (By Wheat Design)	57	63	7
Landscape Mitigation Plans & Dtls (By Wheat Design)	64	70	7
			70
Cross Sections	1	5	5
			75

SHEET COUNT BY SUBMITTAL

	PA Plans (15%)	Initial Design Phase Plans (30%)	Final Design Phase Plans (50%)	Initial PS&E (90%)	Final PS&E (100%)
Cover Sheet	1	1	1	1	1
General Notes	1	1	1	1	1
Typical Sections	1	1	1	1	1
New Barrier Summary	--	--	1	1	1
New Culvert Summary	--	--	1	1	1
Geometric Layout Sheet	--	--	1	1	1
Roadway Plan & Profile	2	2	2	2	2
Detour Plan & Profile (By Solis)		3	3	3	3
Culvert Plan & Profile	--	--	3	3	3
Borrow Grading Detail and Sections	--	--	2	2	2
Bank Protection at Bridge	--	--	1	3	3
Erosion Control Plans (By Wheat Design)	--	--	--	10	10
Pavement Marking and Signing (By Solis)		4	4	5	5
Bridge Plans (See Bridge List for Hours)	4	4	20	22	22
Native Plant Preservation Plans (By Wheat Design)	--	--	--	7	7
Landscape Mitigation Plans & Dtls (By Wheat Design)	--	--	--	7	7
	--	--	--	--	--
Cross Sections	--	--	5	5	5
Plan Sheets:	9	16	46	75	75

MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
BRIDGE SHEET LIST
Single-Span AASHTO I-Girder or UBT
Girder Bridge Sheet List

Bridge Length (feet):	105 ft					5%	10%	20%	35%	30%	
	From	To	No	Hrs/Sht		Senior A/E	A/E	Junior A/E	Designer	CADD Tech	
Bridge Plan & Elevation	32	32	1	42		2	4	8	15	13	42
Typical Section, Quantities & Profile Grade	33	33	1	34		2	3	7	12	10	34
General Notes	34	34	1	34		2	3	7	12	10	34
Bridge Removal Plan & Constr. Phasing	35	35	1	34		2	3	7	12	10	34
Foundation Plan	36	36	1	50		3	5	10	18	15	50
Foundation Details	37	37	1	50		3	5	10	18	15	50
Abutment 1 Plan & Elevation	38	38	1	42		2	4	8	15	13	42
Abutment 2 Plan & Elevation	39	39	1	42		2	4	8	15	13	42
Abutment Details - 1	40	40	1	42		2	4	8	15	13	42
Abutment Details - 2	41	41	1	42		2	4	8	15	13	42
Girder Details - 1	42	42	1	42		2	4	8	15	13	42
Girder Details - 2	43	43	1	42		2	4	8	15	13	42
Deck Plan	44	44	1	34		2	3	7	12	10	34
Deck Section & Details	45	45	1	42		2	4	8	15	13	42
Abutment Diaphragm & Details	46	46	1	34		2	3	7	12	10	34
Miscellaneous Details	47	47	1	34		2	3	7	12	10	34
Miscellaneous Details	48	48	1	34		2	3	7	12	10	34
Camber & Screed Details	49	49	1	42		2	4	8	15	13	42
Boring Location Plan & Notes	50	50	1	7		0	1	1	2	2	7
Foundation Data Explanations	51	51	1	2		0	0	0	1	1	2
Foundation Data B-1	52	52	1	2		0	0	0	1	1	2
Foundation Data B-2	53	53	1	2		0	0	0	1	1	2
			22	729		36	73	146	255	219	729

MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
BRIDGE SHEET COUNT BY SUBMITTAL

	PA Plans (15%)	Initial Design Phase Plans (30%)	Final Design Phase Plans (50%)	Initial PS&E (90%)	Final PS&E (100%)
Bridge Plan & Elevation	1	1	1	1	1
Typical Section, Quantities & Profile Grade	1	1	1	1	1
General Notes	1	1	1	1	1
Bridge Removal Plan & Constr. Phasing	1	1	1	1	1
Foundation Plan	--	--	1	1	1
Foundation Details	--	--	1	1	1
Abutment 1 Plan & Elevation	--	--	1	1	1
Abutment 2 Plan & Elevation	--	--	1	1	1
Abutment Details - 1	--	--	1	1	1
Abutment Details - 2	--	--	1	1	1
Girder Details - 1	--	--	1	1	1
Girder Details - 2	--	--	1	1	1
Deck Plan	--	--	1	1	1
Deck Section & Details	--	--	1	1	1
Abutment Diaphragm & Details	--	--	1	1	1
Miscellaneous Details	--	--	1	1	1
Miscellaneous Details	--	--	1	1	1
Camber & Screed Details	--	--	1	1	1
Boring Location Plan & Notes	--	--	1	1	1
Foundation Data Explanations	--	--	1	1	1
Foundation Data B-1	--	--	--	1	1
Foundation Data B-2	--	--	--	1	1
Plan Sheets:	4	4	20	22	22

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D

COST PROPOSAL
FOR
TASK B - ADDITIONAL SERVICES (TASKS B.1 THROUGH B.4)

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Project Principal	0 \$	122.06 \$	-
Project Manager	0 \$	93.67 \$	-
Senior A/E	0 \$	103.39 \$	-
A/E	0 \$	71.89 \$	-
Junior A/E	0 \$	49.58 \$	-
Designer	0 \$	39.41 \$	-
CADD Technician	0 \$	56.20 \$	-
Senior Environmental Planner	0 \$	94.09 \$	-
Senior Biologist	0 \$	47.57 \$	-
Senior Archaeologist	0 \$	57.10 \$	-
Archaeologist	0 \$	36.14 \$	-
Technical Editor	0 \$	49.44 \$	-
GIS Analyst	0 \$	57.90 \$	-
GIS Technician	0 \$	38.99 \$	-
Administrative Support III	0 \$	58.65 \$	-
Administrative Support II	0 \$	41.91 \$	-
Administrative Support I	0 \$	33.51 \$	-
Sub-Total (Direct Labor)	0	\$	-

OVERHEAD & FCCM:

Overhead Rate 157.94%	Overhead Cost	\$	-
	Sub-Total (DL+OH)	\$	-
FCCM 0.4525%	FCCM Cost	\$	-
	Sub-Total (DL+OH+FCCM)		\$0.00
PROFIT:			
Profit Rate 10.00%	Profit (on DL+OH)	\$	-
	Subtotal:		\$0.00

ESTIMATED DIRECT EXPENSES:

None	Sub-Total Estimated Direct Expenses	\$	-
------	--	-----------	----------

Total Estimated Cost For Task B (Cost Plus Fixed Fee) **\$0.00**
(Estimated cost to be re-evaluated at time services are requested)

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

	COST
SWCA Environmental Consultants - Biological Resource Surveys	\$ 4,544.04
Sub-Total Outside Services and Consultants	\$ 4,544.04
	\$4,544.04

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract between HDR Engineering and Pima County.

ESTIMATED LABOR HOURS: TASK B - ADDITIONAL SERVICES
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

																								SUBCONSULTANT COSTS				
September 9, 2024	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
TASKS																												
TASK B.1 ADDITIONAL UTILITY INVESTIGATION																												
B.1.1 Utility Coordination and Survey (Coordination with Subcontractor) - NOT REQUIRED																		0	\$ -	\$ -	\$ -							\$ -
Subtotal Task B.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TASK B.2 STATE LAND COORDINATION																												
B.2.1a State Land Coordination & Research (by Pima County) - NOT REQUIRED																		0	\$ -		\$ -							\$ -
B.2.1.b Prepare exhibit of project design features - NOT REQUIRED																		0	\$ -		\$ -							\$ -
B.2.1.c State Land legal description & Exhibit - NOT REQUIRED																		0	\$ -		\$ -							\$ -
Subtotal Task B.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TASK B.3 ADDITIONAL BIOLOGICAL SURVEYS																												
B.3.1 Cactus Ferruginous Pygmy Owl (CFPO) Surveys (See SWCA Proposal)																		0	\$ -		\$ -			\$ 1,885.97				\$ 1,885.97
B.3.2 Yellow Billed Cuckoo (YBCU) Surveys (See SWCA Proposal)																		0	\$ -		\$ -			\$ 2,658.07				\$ 2,658.07
Subtotal Task B.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,544.04	\$ -	\$ -	\$ -	\$ 4,544.04
TASK B.4 OTHER SERVICES																												
B.4.1 Other Services (allowance) - NOT REQUIRED																		0	\$ -		\$ -							\$ -
Subtotal Task B.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL TASKS B.1 THROUGH B.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,544.04	\$ -	\$ -	\$ -	\$ 4,544.04

HDR Engineering, Inc.
HDR Project Number: TBD
September 9, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D

COST PROPOSAL
FOR
TASK C - CONSTRUCTION SERVICES (TASKS C.1 THROUGH C.3)

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Project Manager	217	\$ 93.67	\$ 20,326.39
Senior A/E	64	\$ 103.39	\$ 6,616.96
A/E	36	\$ 71.89	\$ 2,588.04
Designer	158	\$ 39.41	\$ 6,226.78
CADD Technician	56	\$ 56.20	\$ 3,147.20
Administrative Support III	24	\$ 58.65	\$ 1,407.60
Administrative Support I	12	\$ 33.51	\$ 402.12
Sub-Total (Direct Labor)	567	\$	40,715.09

OVERHEAD & FCCM:

Overhead Rate 157.94%	Overhead Cost	\$	64,305.41
	Sub-Total (DL+OH)	\$	105,020.50
FCCM 0.4525%	FCCM Cost	\$	184.24
	Sub-Total (DL+OH+FCCM)		\$105,204.74
Profit Rate 10.00%	Profit (on DL+OH)	\$	10,502.05
	Subtotal:		\$115,706.79

ESTIMATED DIRECT EXPENSES:

Drone flights during construction (Assume \$500 per flight & 4 flights)
(Cost and drone vendor to be confirmed and approved by Pima
County at the time of construction)

	\$	2,000.00
Sub-Total Estimated Direct Expenses	\$	2,000.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping

	COST
\$	4,146.00
\$	4,146.00

Total Estimated Cost For Task C (Cost Plus Fixed Fee) **\$ 121,852.79**

(Estimated cost to be re-evaluated at time services are requested)

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract between HDR Engineering and Pima County.

ESTIMATED LABOR HOURS: TASK C - POST DESIGN SERVICES
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

SUBCONSULTANT COSTS																													
September 9, 2024	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	AeroTech Mapping	CMG Drainage	K2 Site Assess.	Newton Envir. Consulting	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
TASKS																													
TASK C.1 PRE-BID SERVICES																													
C.1.1 Project Management during construction (2 hr/mo for PM & Admin III, 1 hr/mo for Admin I)		24													24		12	60	\$ 11,531.72		\$ 11,531.72								\$ 11,531.72
C.1.1a Attend pre-bid meeting (1 meetings @ 3 hours/meeting including prep)		3																3	\$ 798.59		\$ 798.59								\$ 798.59
C.1.1b Assist in the preparation of amendments (2 @ 4 hrs each for PM, Designer & CADD		8				8	8											24	\$ 4,303.27		\$ 4,303.27								\$ 4,303.27
C.1.1c Address questions on the plans and specifications		4		16		16												36	\$ 6,125.58		\$ 6,125.58								\$ 6,125.58
C.1.1d Bid Evaluations		4	8															12	\$ 3,415.35		\$ 3,415.35								\$ 3,415.35
Subtotal Task C.1	0	43	8	16	0	24	8	0	0	0	0	0	0	0	24	0	12	135	\$ 26,174.51	\$ -	\$ 26,174.51	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,174.51
TASK C.2 CONSTRUCTION SERVICES																													
C.2.1.a Attend one pre-construction meeting and one partnering meeting (4 hrs for PM at Pre-Con Mtg, 6 hrs for PM & Designer at Partnering mtg.)		10				6												16	\$ 3,333.96		\$ 3,333.96								\$ 3,333.96
C.2.1.b Attend weekly construction meeting (1.5 hrs/meeting x 12 months x 4 weeks/month for PM)		72																72	\$ 19,166.22		\$ 19,166.22								\$ 19,166.22
C.2.1.c Conduct site observations of work under construction (conducted after every other weekly construction meetings, 24 observations @ 2 hours)		48																48	\$ 12,777.48		\$ 12,777.48								\$ 12,777.48
C.2.1.d Evaluate and/or recommend changes in the construction documents		8		8		8												24	\$ 4,659.98		\$ 4,659.98								\$ 4,659.98
C.2.1.e Provide design details and revised drawings as needed to support construction (8 total revisions @ 6 hrs each)		4		12		12	24											52	\$ 8,693.49		\$ 8,693.49								\$ 8,693.49
C.2.1.f Review of shop drawings, erection procedure plans, form work details, and proposals for substitutions or "approved alternates" (Assumes 16 submittals at 10 hrs each on average)		20	40			100												160	\$ 28,276.56		\$ 28,276.56							\$ 4,146.00	\$ 32,422.56
C.2.1.g Evaluate value engineering proposals (1 proposal review)		8	16															24	\$ 6,830.71		\$ 6,830.71								\$ 6,830.71
C.2.1.h Prepare the "As-Built" documents		2				4	12											18	\$ 2,896.94		\$ 2,896.94								\$ 2,896.94
C.2.1.i Drone flights during construction are assumed to cost approximately \$500 per flight but will need to be confirmed during construction. (Assume 4 flights @ \$500)																		0	\$ -	\$2,000	\$ 2,000.00								\$ 2,000.00
Subtotal Task C.2	0	172	56	20	0	130	36	0	0	0	0	0	0	0	0	0	0	414	\$ 86,635.33	\$ 2,000.00	\$ 88,635.33	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,146.00	\$ 92,781.34
TASK C.3 POST CONSTRUCTION SERVICES																													
C.3.1 Post Construction Electronic AS-Builts		2				4	12											18	\$ 2,896.94	\$ -	\$ 2,896.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,896.94
Subtotal Task C.3	0	2	0	0	0	4	12	0	0	0	0	0	0	0	0	0	0	18	\$ 2,896.94	\$ -	\$ 2,896.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,896.94
TOTAL TASKS C.1 THROUGH C.3	0	217	64	36	0	158	56	0	0	0	0	0	0	0	24	0	12	567	\$ 115,706.79	\$ 2,000.00	\$ 117,706.79	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,146.00	\$ 121,852.79

Cost Proposal

for

Alta Survey, LLC – Field Survey & Right-of-Way

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)

geotechnical

PROPOSAL for PROFESSIONAL SURVEYING SERVICES

survey

Proposal No.: 241122

environmental

Date: August 28, 2024

special
inspections

Client: HDR, Inc.
1 S Church Ave, #1400
Tucson, AZ 85701

material
testing

Project: **Madera Canyon
Pima County**

Attention: Larry Barela

Alta Survey, LLC dba Alta Arizona, appreciates the opportunity to provide you with this proposal to provide professional survey services for the Madera Canyon project. Alta will utilize previous survey control and right-of-way information performed by Johnson Brittain/HDR for the Florida Canyon Wash and Medium Wash bridges. The following survey services will be provided by Alta Arizona (hereinafter referred to as "Alta"):

Phoenix

**MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)
FEDERAL ID PPM-0(274) D
ADOT TRACS NO. T0541 01D/03D**

Tucson

Florence

Sierra Vista

TASK A.7 SURVEY AND MAPPING

Task A.7.1. Initial Planning and Reconnaissance. The Consultant will not conduct a formal coordination meeting with County Surveyor prior to the start of any survey efforts. The Consultant has provided the County the survey report from the County's previous Madera Canyon bridge projects at Medium Wash, project no. 4MCAMW, and Florida Canyon Wash, project number 4MCAFW, initially submitted to the County in August of 2000. This previous report and survey and mapping data shall be the basis of this project's survey control and project design.

Task A.7.2. Horizontal Control. The control shall be based on NAD 83 (HARN 1992) and NAVD 88 datums by using PCDOT provided National Geodetic Survey, Forest Service, and PC/COT approved GIS control points. ALTA Survey, LLC will perform verification Global Positioning System (GPS) surveys on the control points.

Task A.7.3. Vertical Control Traverse. ALTA Survey, LLC will perform verification GPS surveys on the previous construction benchmarks.

Task A.7.7. Utility Surveys. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities markings will be done by the Consultant under the utility task for this project. ALTA Survey, LLC will perform verification surveys on previously located surface utilities and will locate more recent visible utilities and also locate underground utilities as identified and marked by others for the length of the project. ALTA Survey, LLC will determine the overhead wire elevations at the crossing locations of the temporary detour roads. Any potholing needed for utility locating will be provided under Task B.1 Additional Utility Investigation.

Task A.7.8. Culture Surveys. ALTA Survey, LLC will locate fences, traffic signs, culvert inverts, wash bottom, drainage features and flows, and match-in locations along the project length. ALTA Survey, LLC will also perform spot supplemental mapping surveys to locate terrain features at locations along the anticipated detour not covered by the previous mapping data.

Task A.7.9. Right-of-way of Surveys. ALTA Survey, LLC will perform verification surveys to search for controlling survey monuments including right-of-way centerline monuments, controlling right-of-way corners and existing occupation, to confirm the existing right-of-way lines and centerline. The controlling right-of-way monumentation along the original 66-foot right-of-way will not be established and no additional right-of-way survey documentation will be provided.

Task A.7.13 Boring Locations. ALTA Survey, LLC will stake anticipated boring hole locations as provided by geotechnical investigation and provide existing ground elevations at the final boring locations.

Deliverables:

- Digital ASCII point files in comma delimited format.
- Field survey information

MEDIUM WASH BRIDGE FEE

\$15,693.82

**MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL)
FEDERAL ID PPM-0(273) D
ADOT TRACS NO. T0540 01D/03D**

TASK A.7 SURVEY AND MAPPING

Task A.7.2. Horizontal Control. The control shall be based on NAD 83 (HARN 1992) and NAVD 88 datums by using PCDOT provided National Geodetic Survey, Forest Service, and PC/COT approved GIS control points. ALTA Survey, LLC will perform verification Global Positioning System (GPS) surveys on the control points.

Task A.7.3. Vertical Control Traverse. ALTA Survey, LLC will perform verification GPS surveys on the previously construction benchmarks.

Task A.7.7. Utility Surveys. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities markings will be done by the Consultant under the utility task for this project. ALTA Survey, LLC will perform verification surveys on previously located surface utilities and will locate more recent visible utilities and also locate underground utilities as identified and marked by others for the length of the project. ALTA Survey, LLC will determine the overhead wire elevations at the crossing locations of the temporary detour roads. Any potholing needed for utility locating will be provided under Task B.1 Additional Utility Investigation.

Task A.7.8. Culture Surveys. ALTA Survey, LLC will locate fences, traffic signs, culvert inverts, wash bottom, drainage features and flows, and match-in locations along the project length. ALTA Survey, LLC will also perform spot supplemental mapping surveys to locate terrain features at locations along the anticipated detour not covered by the previous mapping data.

Task A.7.9. Right-of-way of Surveys. ALTA Survey, LLC will perform verification surveys to search for controlling survey monuments including right-of-way centerline monuments, controlling right-of-way corners and existing occupation, to confirm the existing right-of-way lines and centerline. The controlling right-of-way monumentation along the original 66-foot right-of-way will not be established and no additional right-of-way survey documentation will be provided.

Task A.7.13 Boring Locations. ALTA Survey, LLC will stake anticipated boring hole locations as provided by geotechnical investigation and provide existing ground elevations at the final boring locations.

Deliverables:

- Digital ASCII point files in comma delimited format.
- Field survey information.

FLORIDA CANYON WASH BRIDGE FEE

\$15,693.82

I hope that this proposal is responsive to your request in terms of services, fee and schedule. If you have any questions or concerns, please contact me at 520.398.6651 or at patricia.gajda@altarizona.com.

Best Regards,

Patricia Gajda, RLS
Survey Manager



PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D

COST PROPOSAL
FOR
TASK A.7 - SURVEY AND MAPPING

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Registered Land Surveyor	20	\$ 62.12	\$ 1,242.40
Survey Crew 2-Person	56	\$ 60.20	\$ 3,371.20
CAD Tech	20	\$ 35.10	\$ 702.00
Clerical/Admin	4	\$ 28.00	\$ 112.00
Sub-Total (Direct Labor)	100	\$	5,427.60

OVERHEAD & FCCM:

Overhead Rate 167.73%	Overhead Cost	\$	9,103.71
	Sub-Total (DL+OH)	\$	14,531.31
FCCM 0.0000%	FCCM Cost	\$	-

Sub-Total (DL+OH+FCCM) \$14,531.31

PROFIT:

Profit Rate (Net Fee) 8.00%	Profit (on DL+OH)	\$	1,162.51
	Subtotal:		\$15,693.82

ESTIMATED DIRECT EXPENSES:

None	\$	-
	\$	-
	\$	-
Sub-Total Estimated Direct Expenses	\$	-

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None	COST
	\$ -
Sub-Total Outside Services and Consultants	\$ -

Total Estimated Cost For Task A.7 (Cost Plus Fixed Fee) \$15,693.82

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

Project Number:

241122

Project Name:

MADERA CANYON, MEDIUM WASH BRIDGE

Project Manager:

Date:

8/28/2024

Task No.	Task Description	RLS \$ 179.62 /Hr Hrs. Amount	Survey Crew 3-Person /Hr Hrs. Amount	Survey Crew 2-Person \$ 174.07 /Hr Hrs. Amount	CAD Tech \$ 101.49 /Hr Hrs. Amount	Clerical/Admin \$ 80.96 /Hr Hrs. Amount	Alta Arizona Task Total
A.7.2.	Horizontal Control						
	GPS verification of existing control points	4 \$ 718.48		6 \$ 1,044.42	2 \$ 202.98	4 \$ 323.84	\$ 2,289.72
A.7.3.	Vertical Control Traverse						
	GPS verification of existing construction benchmarks	4 \$ 718.48		4 \$ 696.28	2 \$ 202.98		\$ 1,617.74
A.7.7	Utility Surveys						
	Verify previously located surface utilities/locate new utilities	2 \$ 359.24		8 \$ 1,392.56	4 \$ 405.96		\$ 2,157.76
	Locate overhead wire elevations	2 \$ 359.24		4 \$ 696.28	4 \$ 405.96		\$ 1,461.48
A.7.8.	Culture Surveys						
	Locate culture and perform spot supplemental surveys	2 \$ 359.24		20 \$ 3,481.40	4 \$ 405.96		\$ 4,246.60
A.7.9.	Right-of-way Surveys						
	Verification surveys to search for controlling and r/w centerline monuments	4 \$ 718.48		8 \$ 1,392.56	2 \$ 202.98		\$ 2,314.02
A.7.13.	Boring Locations						
	Stake boring locations and provide ground elevations	2 \$ 359.24		6 \$ 1,044.42	2 \$ 202.98		\$ 1,606.64
	Total Survey and Mapping	20 \$ 3,592.40		56 \$ 9,747.92	20 \$ 2,029.80	4 \$ 323.84	\$ 15,693.82

Cost Proposal

for

K2 Site Assessments (DBE) – Hazardous Materials

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)



Mr. Ted W. Buell P.E.
Structures Section Manager
HDR Engineering, Inc.
One South Church Ave., Ste 1400
Tucson, AZ 85701-1612

September 9, 2024

RE: REVISED Proposal for PISA, Lead, and Asbestos Assessment Services
Madera Canyon Road, Florida Canyon Wash Bridge Project AND Medium Wash
Bridge Project
Pima County Proj. # 4MADFL, Federal Proj. # PPM-0(273)D, ADOT Tracs # T054003D
Pima County Proj. # 4MADMB, Federal Proj. # PPM-0(274)D, ADOT Tracs # T05403D
Pima County, Arizona

Dear Mr. Buell:

Pursuant to our conversations, I am providing an estimate of hours to provide a Preliminary Initial Site Assessment (PISA) report, and lead/asbestos analysis and letter reports for the projects referenced above. The project involves replacement of two bridges on Madera Canyon Road, over Florida Canyon Wash and Medium Wash, plus a concrete culvert located between the existing bridges. The environmental clearance for the project requires the completion of a Preliminary Initial Site Assessment (PISA), conforming to ASTM E 1528-21 protocols. The bridge (and culvert) concrete and roadway striping will be assessed for lead and asbestos content, and that deliverable will be separate PISA reports for the Medium Wash Bridge plus a concrete culvert, and for the Florida Canyon Wash Bridge. Lead and asbestos report letters, will be completed for each bridge. K2 Site Assessments (K2SA) is familiar with the procedures and expectations of ADOT's Hazardous Waste staff, and Pima County requirements as well.

The PISA reports will include a PISA Information Form / Geotech Clearance Form as an attachment. Graphics (maps) for all deliverables will be provided by HDR. The asbestos and lead sampling effort will include paint on the bridge elements (if any) and the roadway striping, and asbestos assessment will include all paint samples collected, plus any separate elements of the bridge that may contain asbestos (expansion joints, railing pads, etc.) if present. We anticipate that the field reconnaissance for the PISA, and sampling effort for asbestos and lead, can be completed in two field days, weather permitting.

We propose to use Fiberquant Labs in Phoenix for asbestos analysis (polarized light microscopy [PLM] only), and for lead analysis (samples analyzed by EPA Test Method SW 846 6010B, with required digestion). Regulatory data to support the PISA will be obtained from EDR of Southport, CT. Cost sheets from each of these three vendors are attached.

The schedule for the project is dependent upon the date of Notice-to-Proceed, the limitations of an encroachment permit from Pima County (if required), and weather. We anticipate 1-2 weeks of preliminary efforts prior to mobilizing to the site, two days of field work, one week for receipt of laboratory results, and two weeks for analysis of results and preparation of reports. If those estimates hold, we anticipate delivery of reports at 5-6 weeks following NTP.

The anticipated level of effort for the project is 76 hours for scientist-level effort (18 for field, 12 for pre-and-post field research, 28 hours for PISA report preparation, 14 hours for lead and asbestos letter preparation, and 4 hours for administration/billing/project documentation). Fixed costs will include lodging, laboratory costs (for analysis for asbestos and lead content of samples), costs for the EDR database report, and miscellaneous field costs. A breakdown of costs is provided below:

Cost plus fixed fee (10%)

Total Direct Labor (DL):	Env. Planner/Scientist-Sr. \$70/hr	\$5,320.00
(76 hrs) = Overhead (OH):	(150%)(5,320) =	<u>\$7,980.00</u>
Total (DL+OH):		\$13,300.00
Profit (10%)	(10%)(13,300)	\$1,330.00
Direct Expenses		\$1,476.14*
Total Estimated Fee:		\$16,106.14 - (\$8,053.07 per project)

*Direct Expenses

-EDR cost \$170.00

-Lab costs – Fiberquant (lead) \$16.50 x 8 samples = \$132.00, Fiberquant (asbestos) \$16.50 x 40 samples = \$660.00, \$132.00 + 660.00 = \$792.00

-Mileage Prescott to 150 W. Congress St., Tucson - R/T 442 miles @ \$0.67 per mile = \$296.14

-Field consumables (sample bags, masks, gloves, <\$20>, 2 day per diem \$39.00 [By Pima County policy]), 1 night hotel \$120, = \$218.00

Payment is expected to be in accordance with the terms of the subconsultant agreement.

The required insurance certifications will be provided along with our response to HDR's subconsultant agreement. We maintain coverages in agreement with HDR's and the State of Arizona's requirements. Please reply to this proposal with an executed subconsultant agreement, so that my signature thereupon will constitute an executed contract.

Thanks for the opportunity, and I look forward to assisting the HDR team to a successful execution of this project for this important client.

All the best –



Kelly W. Kading CPG
Vice President
K2 Site Assessments

Cc: Jana Kading, President, K2 Site Assessments

Attachments: Backup rate sheets for Fiberquant Lab, and EDR. NOTE – dates for these cost sheets are 2018-2020, but all costs are the same currently.

ATTACHMENTS

Backup cost sheets from Fiberquant and EDR



EDR Fee Schedule

Prices effective January 2021

EDR Packages with Lightbox™ (see table on page 3)

Premium Package	\$ 520
Standard Package	\$ 350
Basic Package	\$ 250
NJ PA Package	\$ 800

Scope Specific Addendums (with Package)

NEPACheck Report	\$ 115
Industrial Addendum	\$ 115
Multi Tenant Retail Report (no cov/cov)	\$ 70 / \$ 150

a la Carte Resources

Radius Map w/ GeoCheck	\$ 170
Radius Map w/o GeoCheck	\$ 145
NEPACheck Report	\$ 155
Certified Sanborns (no cov/coverage)	\$ 65 / \$ 145
Certified Sanborns (ordered w/Radius Map)	\$ 15 / \$ 95
Additional Certified Sanborn Tiles	\$ 65
Aerial Photo Decade Package	\$155
Adjoining Sets of Aerial Photos	\$155
City Directory Search (no cov/coverage)	\$65 / \$115
CD Additional Address (Abstract only)	\$25
CD Additional Street (Image only)	\$45
Historical Topographic Maps	\$115
Adjoining Sets of Historical Topos	\$115
EDR Building Permit Report	\$70
Tax Parcel Map Report	\$25

Report Authoring & Project Management

PARCEL Phase I ESA	\$ 150
PARCEL PCA	\$ 150
PARCEL FastTrack	\$ 100
PARCEL Phase I Update	\$ 85
PARCEL ASTM Transaction Screen	\$ 50 - \$100
PARCEL FDIC Checklist	\$ 50
PARCEL Database Review	\$ 50

Land Title Reports

Chain of Title (one owner/deed)	\$ 360
COT Additional Owner/Deed	\$ 360
COT Search with Premium Pack	\$ 160
Env Lien & AUL Search Report (one parcel)	\$ 255
Additional Parcel	\$ 100



EDR Fee Schedule

Prices effective January 2021

Industrial Reports

AuditCheck Facility Report	\$ 275
AuditCheck Facility Corporate Report	\$ 425
AuditCheck Destination Report	\$ 525
AuditCheck Risk Sharing Report	\$ 525
Site Report	\$ 115
NJ McRaes Industrial Directory Report	\$ 205
Offsite Receptor Report	\$ 425

Rush Charges

Super Rush - Per Product (1-2 days)	\$ 150
Rush - Per Product (2-3 days)	\$ 75

*Please call for rush fees on Liens and Chains

Custom Services, Call For a Quote

Area Study
Corridor Study
GIS Format
Water Wells
Aerial Custom Research
City Directory Custom Research
Historical Topographic Maps Custom Research
Certified Sanborns Custom Research
EDR OnDemand

State-Specific Reports

NJ Preliminary Assessment Package	\$ 800
GeoCheck Well Report	\$ 250
TX Oil/Gas Report 1/4 Mile	\$ 105
TX Oil/Gas Report 1/2 Mile	\$ 155
TX Oil/Gas Report 1 Mile	\$ 300
TX Oil/Gas Report > 1 Mile	custom
TX Water Well Report 1/4 Mile	\$ 105
TX Water Well Report 1/2 Mile	\$ 155
TX Water Well Report 1 Mile	\$ 300
TX Water Well Report > 1 Mile	custom



EDR Fee Schedule

Prices effective January 2021

EDR Packages **Radius Map** **Basic** **Standard** **Premium**

DATA COLLECTION & ANALYSIS

Lightbox	X	X	X	X
Mobile App	X	X	X	X
VEC App	X	X	X	X

Reports & Data

Radius Map Report	X	X	X	X
Recovered Govt. Archives (Exclusive)	X	X	X	X
Single File for Historical Reports		X	X	X
Certified Sanborn Maps		X	X	X
Historical Aerials		X Select One	X	X
Historical City Directories			X	X
Historical Topos			X	X
Property Tax Map Report				X
Building Permit Report (PDF)				X
EDR Lien & AUL Report				X
Free Historical Report Reworks				X
1-3 Day TAT (except Lien Search)				X



Kelly Kading
K2 Site Assessments
Prescott, AZ

July 6th, 2023

Dear Ms. Kading,

Thank you for your email yesterday. As requested, I am providing a fee schedule for our analyses.

Microbial

Non-viable Spore traps (1-2 day turnaround)	\$27.50 ea.
Non-viable Spore traps (6- hour turnaround)	\$41.25 ea.
Non-viable bulk identification (1-2 day turnaround)	\$25.00 ea.
Non-viable bulk identification (4-hour turnaround)	\$37.50 ea.

Asbestos

PLM all layers (1-3 day turnaround)	\$16.50 ea.
PLM all layers (6-hour turnaround)	\$24.75 ea.
PLM built-up roofing (1-3 day turnaround)	\$70.00/hour
PLM built-up roofing (6-hour turnaround)	\$105.00/hour
TEM air cassettes (24-hour turnaround)	\$90.00 ea.
TEM air cassettes (6-hour turnaround)	\$135.00 ea.
PCM air cassettes (24-hour turnaround)	\$11.00 ea.
PCM air cassettes (4-hour turnaround)	\$15.50 ea.

Lead

FAA lead wipes, chips, soils and filters (1-3 day turnaround)	\$16.50 ea.
FAA lead wipes, chips, soils and filters (6-hour turnaround)	\$37.50 ea.

Please let me know if there is any further information (references, certificates of insurance, etc....) that I can provide.

Sincerely,

A handwritten signature in black ink that reads 'Michael Breu'. The signature is written in a cursive, flowing style.

Michael Breu
Technical Manager
Fiberquant Analytical Services

Cost Proposal

for

SWCA Environmental Consultants – Biological Resource Surveys

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)



ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.®

343 West Franklin Street
Tucson, Arizona 85701
Tel 520.325.9194 Fax 520.325.2033
www.swca.com

August 27, 2024

Maria M. Altemus, CEP-IT
HDR, Inc.
via email: Maria.Altemus@hdrinc.com

Re: Revised Scope and Cost to Provide Biological Resource Surveys and Desktop Reviews for the Madera Canyon, Florida Canyon Wash and Medium Wash Bridges Replacement Project (CTR.4MADFL), Pima County, Arizona

Dear Maria Altemus:

SWCA Environmental Consultants (SWCA) appreciates the opportunity to provide you with our revised scope of work and cost to complete biological resources services for the Madera Canyon Road bridges replacement project (**CTR.4MADFL**), Pima County, Arizona.

The cost to complete these services, as described in the attached scope of work, is a **not-to-exceed cost of \$14,923.66, including optional species-specific surveys, with the costs evenly split between the two projects.**

Thank you for providing us with the opportunity to work with you. Please contact me at (520) 325-9194 if you have any questions regarding this cost proposal.

Sincerely,

Russell Waldron
Senior Natural Resources Team Lead

SCOPE OF WORK

TASK 1. BIOLOGICAL EVALUATION SUPPORT

SWCA will prepare written species analyses for inclusion in the two Biological Evaluation reports to be prepared by HDR. The written analyses will address the following species listed under the Endangered Species Act (ESA): Pima pineapple cactus (*Coryphantha sheeri robustispina*), cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), jaguar (*Pantera onca*), and yellow-billed cuckoo (*Coccyzus americanus occidentalis*). The analyses will summarize the habitat requirements, historical and current known distribution, and potential for each species to be present in or near each of the two project areas.

To support the written analysis for the Pima pineapple cactus (PPC), SWCA will complete a protocol survey within the boundaries of disturbance for the two projects, according to the current approved protocol. SWCA will record the locations of any PPC, as well as the size and health of each individual, to support an assessment of appropriate avoidance or mitigation measures. Information gained during the site visit for the PPC survey will also be used to support the analysis for other ESA-listed species addressed in the written text.

DELIVERABLES:

Pima pineapple cactus survey results letter reports (Word/pdf)

Unformatted text for inclusion in HDR's BE documents (Word)

COST

Cost to complete Task 1 for Florida Canyon Wash bridge: \$2,917.79

Cost to complete Task 1 for Medium Wash bridge: \$2,917.79

TASK 2. CACTUS FERRUGINOUS PYGMY-OWL SURVEY (OPTIONAL TASK)

If the results of the site visit under Task 1 indicate that suitable habitat (appropriate vegetation community with plants that support nest cavities) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the cactus ferruginous pygmy-owl according to the most current approved protocol. The USFWS has indicated that an updated protocol may be released in the foreseeable future, and that in the interim, a previously approved protocol may be used. The current protocol recommends that surveys be conducted between January 1 and June 30. Three separate visits must be conducted, at least 15 days apart. Fall surveys between September 15 and October 31 may be conducted but are likely to provide poorer results, and negative results for fall surveys may not be considered evidence of absence. Two separate visits at least 15 days apart must be conducted in fall. If the surveys are determined to be warranted and if compatible with the project schedule, SWCA recommends completion of spring surveys to provide the most reliable results.

DELIVERABLES:

Cactus ferruginous pygmy-owl survey results letter reports (Word/pdf)

Updated analysis text for inclusion in HDR's BE documents, if needed based on survey results (Word)

COST

Cost to complete Task 2 for Florida Canyon Wash bridge: \$1,885.97

Cost to complete Task 2 for Medium Wash bridge: \$1,885.97

TASK ASSUMPTIONS:

Cost is based on a protocol that may be superseded. If an updated protocol approved by USFWS increases the level of effort, a change order would be required.

TASK 3. YELLOW-BILLED CUCKOO (OPTIONAL TASK)

If the results of the site visit under Task 1 indicate that suitable, yellow-billed cuckoo habitat (appropriate vegetation community) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the yellow-billed cuckoo according to the most current approved protocol. The current protocol recommends that one survey be conducted between June 15th and July 1st, two surveys between July 1st and July 31st and one survey between July 31st and August 15th. Because the survey windows have passed, surveys for this species would not be definitive for the absence of the species in the project area and would be considered non-protocol (exploratory) surveys. However, non-protocol surveys conducted in September 2024 along with a habitat assessment could inform the biological evaluation effects determination analysis and determine the need for protocol surveys in 2025, or seasonal restrictions on construction activities at one or both the bridge locations.

DELIVERABLES:

Yellow-billed cuckoo survey results letter reports (Word/pdf)

Updated analysis text for inclusion in HDR's BE documents, if needed based on survey results (Word)

COST

Cost to complete Task 3 for Florida Canyon Wash bridge: \$2,658.07

Cost to complete Task 3 for Medium Wash bridge: \$2,658.07

TASK ASSUMPTIONS:

Cost is based on current yellow-billed cuckoo protocol.

OVERALL ASSUMPTIONS

- The ability to conduct fieldwork will be unimpeded by weather, road construction, landowner restrictions, force majeure, or any other factor(s) outside SWCA's control. Access to project area lands will be arranged by a client representative. If for any reason SWCA personnel are not able to survey the project area as a result of access restrictions, additional costs could be incurred beyond the amount proposed herein.
- This scope and budget assume that both bridges assessments will be awarded together and will be surveyed at the same time. If only one bridge assessment is awarded or the assessments are staggered, then additional costs may be incurred and subject to a change order.
- Any task not expressly described herein is not included in the proposed cost.

SWCA
 SWCA Project Number: 89828
 August 27, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

**DESIGN ENGINEERING SERVICES FOR
 MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
 FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D**

&

**MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
 FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D**

**COST PROPOSAL
 FOR
 TASK 1 - BIOLOGICAL EVALUATION SUPPORT**

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours		Hourly Rate		Labor Cost
Project Manager (Specialist [SP] X)	3.0	\$	55.59	\$	166.77
Project Manager (Specialist [SP] IX)	2.0	\$	50.39	\$	100.78
Project Biologist (SP VII)	16.0	\$	39.49	\$	631.84
Project Biologist - Field Biologist (SP V)	10.0	\$	33.29	\$	332.90
Project Biologist - Field Biologist (SP IV)	10.0	\$	29.29	\$	292.90
GIS/CADD (SP IX)	4.0	\$	50.39	\$	201.56
GIS/CADD GIS/CADD (SP V)	1.0	\$	33.29	\$	33.29
Administration (SP VI)	2.5	\$	36.40	\$	91.00
Publications (SP VIII)	0.5	\$	44.39	\$	22.20
Publications (SP IX)	1.5	\$	50.39	\$	75.59
Sub-Total (Direct Labor)	50.5			\$	1,948.82

OVERHEAD & FCCM:

Overhead Rate 175.36%	Overhead Cost	\$	3,417.45
	Sub-Total (DL+OH)	\$	5,366.27
FCCM 0.0000%	FCCM Cost	\$	-

Sub-Total (DL+OH+FCCM) \$5,366.27

PROFIT:

Profit Rate (Net Fee) 8.00%	Profit (on DL+OH)	\$	429.30
	Subtotal:		\$5,795.57

ESTIMATED DIRECT EXPENSES:

Supplies (tablet + GPS)	\$	40.00
Hotel	\$	-
Per Diem	\$	-
Sub-Total Estimated Direct Expenses	\$	40.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None	COST	
	\$	-
Sub-Total Outside Services and Consultants	\$	-
Total Estimated Cost For Task 1 (Cost Plus Fixed Fee)		\$5,835.57
(Total Cost is split evenly between the two bridges)		
Task 1 cost for Medium Wash Bridge Replacement:	\$	2,917.79
Task 1 cost for Florida Canyon Wash Bridge Replacement:	\$	2,917.79

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

SWCA
SWCA Project Number: 89828
August 27, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

**DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D**

&

**MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D**

**COST PROPOSAL
FOR
TASK 2 - CFPO Surveys**

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours		Hourly Rate		Labor Cost
Project Manager (Specialist [SP] X)	3.0	\$	55.59	\$	166.77
Project Manager (Specialist [SP] IX)	0.0	\$	50.39	\$	-
Project Biologist (SP VII)	6.0	\$	39.49	\$	236.94
Project Biologist - Field Biologist (SP V)	18.0	\$	33.29	\$	599.22
Project Biologist - Field Biologist (SP IV)	0.0	\$	29.29	\$	-
GIS/CADD (SP IX)	1.0	\$	50.39	\$	50.39
GIS/CADD GIS/CADD (SP V)	1.0	\$	33.29	\$	33.29
Administration (SP VI)	2.5	\$	36.40	\$	91.00
Publications (SP VIII)	0.0	\$	44.39	\$	-
Publications (SP IX)	1.0	\$	50.39	\$	50.39
Sub-Total (Direct Labor)	32.5			\$	1,228.00

OVERHEAD & FCCM:

Overhead Rate 175.36%

Overhead Cost \$ 2,153.42

Sub-Total (DL+OH) \$ 3,381.42

FCCM 0.0000%

FCCM Cost \$ -

Sub-Total (DL+OH+FCCM) **\$3,381.42**

PROFIT:

Profit Rate (Net Fee) 8.00%

Profit (on DL+OH) **\$ 270.51**

Subtotal: **\$3,651.93**

ESTIMATED DIRECT EXPENSES:

Supplies (tablet + GPS)- 3 days @ \$40 per day	\$	120.00
Hotel	\$	-
Per Diem	\$	-
Sub-Total Estimated Direct Expenses	\$	120.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None

COST

\$ -

Sub-Total Outside Services and Consultants **\$ -**

Total Estimated Cost For Task 1 (Cost Plus Fixed Fee) **\$3,771.93**

(Total Cost is split evenly between the two bridges)

Task 1 cost for Medium Wash Bridge Replacement: **\$ 1,885.97**

Task 1 cost for Florida Canyon Wash Bridge Replacement: **\$ 1,885.97**

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

SWCA
SWCA Project Number: 89828
August 27, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D
&
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D

COST PROPOSAL
FOR
TASK 3 - YBCU SURVEYS

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours		Hourly Rate		Labor Cost
Project Manager (Specialist [SP] X)	1.0	\$	55.59	\$	55.59
Project Manager (Specialist [SP] IX)	2.0	\$	50.39	\$	100.78
Project Biologist (SP VII)	6.0	\$	39.49	\$	236.94
Project Biologist - Field Biologist (SP V)	0.0	\$	33.29	\$	-
Project Biologist - Field Biologist (SP IV)	30.0	\$	29.29	\$	878.70
GIS/CADD (SP IX)	1.0	\$	50.39	\$	50.39
GIS/CADD GIS/CADD (SP V)	1.0	\$	33.29	\$	33.29
Administration (SP VI)	2.5	\$	36.40	\$	91.00
Publications (SP VIII)	0.0	\$	44.39	\$	-
Publications (SP IX)	1.0	\$	50.39	\$	50.39
Sub-Total (Direct Labor)	44.5			\$	1,497.08

OVERHEAD & FCCM:

Overhead Rate 175.36%	Overhead Cost	\$	2,625.28
	Sub-Total (DL+OH)	\$	4,122.36
FCCM 0.0000%	FCCM Cost	\$	-
	Sub-Total (DL+OH+FCCM)		\$4,122.36

PROFIT:

Profit Rate (Net Fee) 8.00%	Profit (on DL+OH)	\$	329.79
	Subtotal:		\$4,452.15

ESTIMATED DIRECT EXPENSES:

Supplies (tablet + GPS)- 3 days at \$40 per day	\$	120.00
Hotel	\$	360.00
Per Diem	\$	384.00
Sub-Total Estimated Direct Expenses	\$	864.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None	COST	
	\$	-
Sub-Total Outside Services and Consultants	\$	-
Total Estimated Cost For Task 1 (Cost Plus Fixed Fee)		\$5,316.15
(Total Cost is split evenly between the two bridges)		
Task 1 cost for Medium Wash Bridge Replacement:	\$	2,658.07
Task 1 cost for Florida Canyon Wash Bridge Replacement:	\$	2,658.07

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

Table 1. Cost Estimate

Labor		Task 1. BE Support		Task 2. CFPO Surveys		Task 3. YBCU Surveys		Totals	
Project Role	Billing Rate	Hours	Charge	Hours	Charge	Hours	Charge	Hours	Charge
Project Manager (Specialist [SP] X)	\$ 165.32	3.0	\$ 495.96	3.0	\$ 495.96	1.0	\$ 165.32	7.0	\$ 1,157.24
Project Manager (Specialist [SP] IX)	\$ 149.85	2.0	\$ 299.70	0.0	\$ 0	2.0	\$ 299.70	4.0	\$ 599.40
Project Biologist (SP VII)	\$ 117.44	16.0	\$ 1,879.04	6.0	\$ 704.64	6.0	\$ 704.64	28.0	\$ 3,288.32
Project Biologist - Field Biologist (SP V)	\$ 99.00	10.0	\$ 990.00	18.0	\$ 1,782.00	0.0	\$ 0	28.0	\$ 2,772.00
Project Biologist - Field Biologist (SP IV)	\$ 87.11	10.0	\$ 871.10	0.0	\$ 0	30.0	\$ 2,613.30	40.0	\$ 3,484.40
GIS/CADD (SP IX)	\$149.85	4.0	\$ 599.40	1.0	\$ 149.85	1.0	\$ 149.85	6.0	\$ 899.10
GIS/CADD GIS/CADD (SP V)	\$ 99.00	1.0	\$ 99.00	1.0	\$ 99.00	1.0	\$ 99.00	3.0	\$ 297.00
Administration (SP VI)	\$108.25	2.5	\$ 270.63	2.5	\$ 270.63	2.5	\$ 270.63	7.5	\$ 811.89
Publications (SP VIII)	\$132.01	0.5	\$ 66.01	0.0	\$ 0	0.0	\$ 0	0.5	\$ 66.01
Publications (SP IX)	\$149.85	1.5	\$ 224.78	1.0	\$ 149.85	1.0	\$ 149.85	3.5	\$ 524.48
	Labor Totals	50.50	\$5,795.62	32.5	\$3,561.93	44.5	\$4,452.29	127.5	\$ 13,899.82
Expenses		Number/ Fee	Charge	Number/ Fee	Charge	Number/ Fee	Charge	Number/ Fee	Charge
Tablet		1 / \$40 per day	\$40	3 / \$40 per day	\$120	3 / \$40 per day	\$120	7 / \$280	\$280.00

Hotel (YBCU biologist)		0	0	0	0	3 / \$120 per night	\$360	3 / \$120 per night	\$360.00
Per diem (YBCU biologist)		0	0	0	0	6 / \$64 per day	\$384	6 / \$64 per day	\$384.00
Project Totals		50.5	\$5,835.58	32.5	\$3,771.94	44.5	\$5,316.14	127.5	\$14,923.66
Total for Madera Canyon Medium Wash Bridge (50% to each bridge):		25.25	\$2,917.79	16.25	\$1,885.97	22.25	\$2,658.07	63.75	\$7,461.83
Total for Madera Canyon Florida Canyon Wash Bridge (50% to each bridge):		25.25	\$2,917.79	16.25	\$1,885.97	22.25	\$2,658.07	63.75	\$7,461.83

Cost Proposal

for

**Solis Engineering Co., LLC (DBE) – Signing, Striping, Pavement
Design, Detour Design**

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)



July 29, 2024

Ted W. Buell, PE
Structures Section Manager
HDR
One South Church Ave., Suite 1400
Tucson, AZ 85701-1612
D 520.584.3632 M 520.906.1384
Ted.Buell@hdrinc.com

SOLIS ENGINEERING CO., LLC

239 N. CHURCH AVE.

TUCSON AZ, 85701

MAIL: 5325 S. CIVANO BLVD,
TUCSON AZ, 85747

WORK: (520) 207-0742

CELL: (520) 247-7691

RICK.SOLIS@SOLISENGCO.COM

**RE: ENGINEERING SUPPORT PROPOSAL FOR MADERA CANYON, 4MADMB - MEDIUM WASH BRIDGE REPLACEMENT /
FEDERAL ID PPM-0(274) D / ADOT TRACS NO. T0541 01D/03D**

Dear Mr. Buell,

Solis Engineering Co., LLC (CONSULTANT) is pleased to submit this proposal to HDR Engineering, Inc. (CLIENT) to provide Professional Engineering Design Services for the Madera Canyon, Medium Wash Bridge Replacement (4MADMB) project. This proposal consists of the following items:

- Basis of Scope of Work
- Fee Derivation - 4MADMB

CONSULTANT will complete and coordinate all tasks indicated in the Basis of Scope of Work on a Cost Plus Fixed Fee Basis, according to the fee schedule rates, not to exceed the Estimated Cost without Client and Pima County approval. Any services performed outside of the tasks outlined in the Basis of Scope of Work and the detailed Fee Derivation will be billed as an additional service according to the above referenced rates.

We appreciate the opportunity to provide these services to you. Please contact me if you have any questions.

Sincerely,

SOLIS ENGINEERING CO. LLC

A handwritten signature in black ink, appearing to read "Rick P. Solis", written over a horizontal line.

Rick P. Solis, PE, PTOE - Manager

MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)

BASIS OF SCOPE OF WORK & FEE DERIVATION

July 29, 2024

Solis Engineering Co. has prepared this basis of scope of work to document the assumptions used in the preparation of the fee derivation and respective labor hours.

Task A.1.1. Project Management Assumptions:

1. This task assumes one hour per month for invoice preparation and review.

Task A.1.3. Meetings and Communication.

2. This item assumes six, one-hour-duration monthly meetings, with no preparation of minutes.
3. This item assumes an additional four, half-hour-duration meetings for design coordination, totaling two hours.

Task A.1.6. Cost Estimating

4. Estimate and quantities for the Base cost estimate.

Task A.10.1. Pavement Design Report

5. A single combined pavement design report will be prepared to summarize pavement options and requirements for both the Medium Wash Bridge Replacement (4MADMB) and Florida Canyon Wash Bridge Replacement (4MADFL) projects.
6. The pavement design report will document a New Flexible Pavement Design per Chapter 2 of the ADOT Pavement Design Manual.
7. Consultant assumes that a 24-hour, classification tube count will be obtained for this project to verify pavement design requirements. The traffic data will be included in the appendix of the pavement design report.
8. No traffic memorandum will be prepared for this project.

Task A.10.2. Quality Control Review

9. QA review of the pavement design report will be performed and documented according to the Client's QC Plan.

Task A.16 Preparation of Construction Documents

Construction Detour:

10. The preferred approach of constructing both bridges in a single phase will be used.
11. The Client's recommended detour Option 1 (long detours) will be used.

Construction Plans:

12. Task A.16.1. Initial Design Phase Plans. Plans will be limited to seven plan sheets. Detour design and plans development will occur within this task.
13. Task A.16.2. Final Design Phase Plans. Plans will be limited to seven plan sheets. This task will only re-print the sheets to include any updated CADD base files from the prime Engineer. Sheet numbers will also be updated.
14. Task A.16.3. Initial PS&E. Plans will be limited to eight plan sheets.
15. Task A.16.4. Final PS&E. Plans will be limited to eight plan sheets.
16. Task A.16.5. Quality Control Review of Plans. A QA-QC review of the plans will be performed and documented according to the Client's QC Plan.

EXCLUSIONS:

- Any work or services not specifically outlined in this Basis of Scope of Work & Fee Derivation is not included in the Consultant's work tasks.

FEE SCHEDULE
4MADMB - Madera Canyon Bridges, Medium Wash
Engineering Support Services
Solis Engineering Co. (DBE / SBE)
July 29, 2024

Direct Labor

<u>Classification</u>	<u>Hours</u>	<u>Rate</u>	<u>Totals</u>
Principal	62	\$54.35	\$3,370
Senior A/E	52	\$62.50	\$3,250
Project Manager	74	\$55.29	\$4,091
A/E	10	\$50.48	\$505
Designer	88	\$45.19	\$3,977
CADD	0	\$33.65	\$0
Clerical / Admin	0	\$25.00	\$0

Direct Labor (DL)	286		<u>\$15,192.68</u>
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Estimated Direct Expenses

<u>Type</u>	<u>Amount</u>	<u>Unit Costs</u>	<u>Cost</u>
None	0	\$0.00	\$0

Total of Direct Expenses			<u>\$0.00</u>
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Estimated Outside Expenses

None	0	\$0.00	\$0
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Total of Outside Expenses			<u>\$0.00</u>
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Overhead (196.58%) (OH)			<u>\$29,865.77</u>
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Total Labor Cost (DL + OH)			<u>\$45,058.45</u>
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Fixed Fee (10% of Labor Cost)			<u>\$4,505.85</u>
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Total Estimated Costs			<u>\$49,564.30</u>
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4MADMB - Madera Canyon Bridges, Medium Wash
Solis Engineering Co. (DBE / SBE)
July 29, 2024
Man-hour Estimate

Task No.	Description	Total Labor Cost	10% Profit	Principal	Senior A/E	Project Manager	A/E	Designer	CADD	Clerical / Admin	Total
A.1	PROJECT MANAGEMENT AND QUALITY CONTROL										
A.1.1	Project Management (Assume 12 Months for Invoicing)	\$ 1,934.29	\$ 193.43	12	0	0	0	0	0	0	12
A.1.3	Meetings and Communication	\$ 2,772.43	\$ 277.24	8	8	0	0	0	0	0	16
A.1.6	Cost Estimating	\$ 2,347.10	\$ 234.71	2	2	6	0	5	0	0	15
A.10	PAVEMENT DESIGN										
A.10.1	Consultant to prepare a Pavement Design Report per the ADOT Pavement Design Manual.	\$ 1,722.54	\$ 172.25	1	4	5	0	0	0	0	10
A.10.2	Consultant to provide a quality control review of the Pavement Design Report.	\$ 859.87	\$ 85.99	1	2	2	0	0	0	0	5
A.12	TRAFFIC ENGINEERING										
A.12.1	Not in scope; Consultant to include traffic count in Pavement Design Report.	\$ -	\$ -	0	0	0	0	0	0	0	0
A.16	PREPARATION OF CONSTRUCTION DOCUMENTS										
A.16.1	Initial Design Phase Plans										
	(1) Signing & Marking Notes Sheet	\$ 1,052.41	\$ 105.24	2	0	2	0	3	0	0	7
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 2,612.37	\$ 261.24	3	2	5	0	7	0	0	17
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,772.48	\$ 177.25	2	3	3	0	3	0	0	11
	(3) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 4,257.79	\$ 425.78	3	3	9	0	13	0	0	28
A.16.2	Final Design Phase Plans										
	(1) Signing & Marking Notes Sheet	\$ 757.20	\$ 75.72	1	0	2	0	2	0	0	5
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 1,076.59	\$ 107.66	1	1	2	0	3	0	0	7
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,076.59	\$ 107.66	1	1	2	0	3	0	0	7
	(3) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 1,855.17	\$ 185.52	2	2	3	0	5	0	0	12
A.16.3	Initial PS&E Plans										
	(1) Signing & Marking Notes Sheet	\$ 593.22	\$ 59.32	1	0	1	0	2	0	0	4
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 1,693.98	\$ 169.40	1	2	3	0	5	0	0	11
	(1) Sign Summary Sheet (No Scale)	\$ 1,210.61	\$ 121.06	1	1	2	0	4	0	0	8
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,772.48	\$ 177.25	2	3	3	0	3	0	0	11
	(3) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 4,038.29	\$ 403.83	4	4	8	0	10	0	0	26
A.16.4	Final PS&E Plans										
	(1) Signing & Marking Notes Sheet	\$ 459.19	\$ 45.92	1	0	1	0	1	0	0	3
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 1,535.78	\$ 153.58	2	1	3	0	4	0	0	10
	(1) Sign Summary Sheet (No Scale)	\$ 1,076.59	\$ 107.66	1	1	2	0	3	0	0	7
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,127.92	\$ 112.79	1	2	2	0	2	0	0	7
	(3) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 3,530.55	\$ 353.05	2	3	8	0	10	0	0	23
A.16.5	Consultant to provide quality control review of prepared plans.	\$ 3,923.01	\$ 392.30	7	7	0	10	0	0	0	24
	Totals	\$ 45,058.45	\$ 4,505.85	62	52	74	10	88	0	0	286

Cost Proposal

for

Terracon Consultants, Inc. – Geotechnical Field Work and Data Report

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)



355 S. Euclid Ave, Ste. 107
Tucson, Arizona 85719
P (520) 770-1789
Terracon.com

August 26, 2024

HDR Engineering, Inc.
One South Church Ave., Suite 1400
Tucson, Arizona 85701

Attn: Mr. Ted Buell, P.E.
P: (520) 584-3632
E: Ted.Buell@hdrinc.com

**RE: Proposal for Geotechnical Engineering Services
Madera Canyon Bridge Project
South Madera Canyon Road
Sahuarita, Arizona
Terracon Proposal No. P63245064, Revision No. 3**

Dear Mr. Buell:

We appreciate the opportunity to submit this revised proposal to HDR Engineering, Inc. (HDR) to provide Geotechnical Engineering services for the above referenced project. We have organized our proposal as follows for ease of reference:

- | | |
|--------------------|---|
| ■ Exhibit A | Project Understanding |
| ■ Exhibit B | Scope of Services |
| ■ Exhibit C | Compensation and Project Schedule |
| ■ Exhibit D | Site Location |
| ■ Exhibit E | Anticipated Exploration Plan |
| ■ Exhibit F | Detailed Cost Estimate and Fee Estimate Summary |

Exhibit C includes details of our fees and consideration of scope of services as well as a general breakdown of our anticipated schedule.

We understand this work will be executed through a mutually acceptable agreement between HDR and Terracon. We appreciate the opportunity to provide this proposal and look forward to the opportunity of working with you.

Sincerely,
Terracon

Louis D. Braun, P.E.
Geotechnical Group Manager

Donald R. Clark, P.E.
Sr. Consultant/Sr. Principal

Exhibit A – Project Understanding

Our Scope of Services is based on our understanding of the project as described by HDR as described below. We have visited the project site to confirm site conditions and portion of the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request the design team verify all information prior to our initiation of field exploration activities.

Planned Construction

Item	Description
Information Provided	<ul style="list-style-type: none"> South Madera Canyon Road Bridges in Plan and Section view Madera Concept overlay Emails from Crandell Sterling, PE of HDR outlining requested scope, which includes providing a Geotechnical Data Report with boring and laboratory testing information. We understand HDR will perform the engineering analysis based on the reports developed by Terracon.
Project Description	<p>The proposed construction will include reconstructing portions of South Madera Canyon Road as well as adding to the roadway as it approaches Florida Canyon Wash and Medium Wash. The pavement will consist of an asphalt concrete section.</p> <p>The new bridges at Florida Canyon Wash and Medium Wash are proposed single-span precast girder bridges supported on drilled shaft foundations or multi-span superbox bridges supported on a continuous concrete base slab.</p>

Site Location and Anticipated Conditions

Item	Description
Parcel Information	<p>The project is located along South Madera Canyon Road in Sahuarita, Arizona.</p> <p>Latitude/Longitude (approximate): 31.78213, -110.88694.</p> <p>See Exhibits D and E (Site Location and Anticipated Exploration Plan) for additional site location information.</p>
Existing Improvements	<p>An existing one-lane, two span bridge crosses Florida Canyon Wash and an existing one-lane, three span bridge crosses Medium Wash. The roadway is developed with asphalt concrete.</p>



Item	Description
Site Access	Based upon our site visit, we expect the site, and all exploration locations, are accessible with our track-mounted drilling equipment and support vehicles. Due to the vegetation at the proposed bridges, access paths are planned to be lightly cleared with a backhoe prior to exploration.

Exhibit B - Scope of Services

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

Task 1 - Project Setup and Coordination

Terracon will setup the project, stake the boring locations, contact the Arizona 811 Center to locate public underground utilities, and coordinate the field exploration. Terracon will coordinate to obtain a right-of-way permit from Pima County for the test borings. We will also provide traffic control plans for review and approval by Pima County. We have assumed if any permits, right-of-entry authorizations, or clearances required for Terracon and Terracon's subcontractors to access the site and perform the field work will be provided by HDR and/or the Owner.

Private Utilities – Based on the information provided and a review of available aerial photographs, it appears the exploration locations are comprised primarily of undeveloped vacant land. Therefore, private utilities (that are excluded from the Arizona 811 public utility locating system) are not anticipated. However, for the case private utilities are present on the site, we request private utilities be marked by the owner/client and identified to Terracon prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us.

Task 2 - Field Exploration

Terracon will perform a geotechnical field exploration at the site to evaluate the subsurface conditions and obtain representative samples. Based on the requested boring locations and depths provided by HDR for the project as outlined in the following table and the planned exploration locations are shown on the attached Exploration Plan (Exhibit E).

Number of Borings	Planned Boring Depth (feet) ¹	Planned Location
2 (FB1 and FB2)	90	Proposed Florida Canyon Wash Bridge Abutments
2 (MB1 and MB2)	90	Proposed Medium Wash Bridge Abutments
8 (P1 thru P8)	5	Pavement

¹. Below ground surface.

The borings will be advanced to the planned depth below the existing ground surface (bgs) using hollow stem auger drilling for pavement locations 5" Tubex DTH Hammer with casing for bridge borings. If auger refusal is encountered in the pavement borings prior to planned depth, the boring will be terminated. The location of test borings may be adjusted depending upon actual subsurface conditions encountered.

Boring Layout and Elevations: We will use handheld GPS equipment to locate the borings with an estimated horizontal accuracy of +/-15 feet. Field measurements from existing site features may also be utilized. If available, approximate elevations will be obtained by interpolation from local topographic maps and/or Google Earth Pro.

Traffic Control: Traffic control for geotechnical borings planned on the existing roadway is anticipated to include lane closures, an arrow truck, signs, and cones. Geotechnical borings planned on the existing roadway are anticipated to be completed in 1 hour or less. Traffic control for geotechnical borings planned off of the existing roadway on vacant land is anticipated to include shoulder work signs and cones. Terracon will submit traffic control plans for approval as part of the permitting process. Because the existing bridges are one-lane we do not anticipate the need for flaggers for other areas of the project. We anticipate the approved traffic control plans will not limit work hours for fieldwork on the roadway.

Subsurface Exploration Procedures: We will advance the soil borings with a truck-mounted or track-mounted drill rig using continuous flight hollow stem augers for pavement locations and 5" Tubex DTH Hammer with casing for bridge borings. Samples are planned to be obtained with standard penetration test samplers and/or ring-lined barrel samplers at depths of 2½, 5, 7½, 10, 12½ and 15 feet, and at approximate intervals of 5 feet throughout the remainder of the depths explored. Bulk samples of auger cuttings will be collected from the borings at selected depth intervals. Drilling and sampling will be performed in general accordance with applicable ASTM or local standards. During the drilling operations, a field engineer or geologist will log the borings, record the results of penetration tests, and obtain representative samples for further laboratory evaluation and for further evaluation by the project geotechnical engineer. In addition, we will observe and record groundwater levels during drilling, at the full depth of investigation of the boring, and then after the drill stem is withdrawn if the boring remains open (if groundwater is encountered).

Our exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. The field logs will include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs will be prepared from the field logs and will represent the Geotechnical Engineer's interpretation and include modifications based on observations and the results of laboratory testing.

Property Disturbance: We will backfill the borings with auger cuttings upon completion, unless an ADWR permit is required for a particular boring, as outlined below. Our services do not include repair of the site beyond backfilling our boreholes. Borings drilled through asphalt concrete pavements are planned to be patched with asphalt cold patch. Excess auger cuttings will be dispersed in the general vicinity of each borehole. Because backfill material often settles below the surface after a period, we recommend the boreholes be periodically checked and backfilled, if necessary. We can provide this service, or grout all the boreholes for additional fees, at your request.

Based on the likelihood of groundwater being encountered in the bridge borings we have included all the additional services that would be required by the Arizona Department of Water Resources (ADWR) for borings if groundwater is encountered during exploration. This includes procuring ADWR permits for each boring where groundwater is encountered and based on ADWR requirements, each of the borings encountering groundwater will need to be backfilled with 20 feet of cement grout.

The use of a rubber-tire backhoe is planned to be used for some light clearing and grading as required. We have included the service of subcontracting a backhoe and backhoe operator in our fees. We assume environmental clearances and site restoration (if necessary) will be the responsibility of others.

Safety

Terracon is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our Scope of Services does not include environmental site assessment services, but identification of unusual or unnatural materials observed while drilling will be noted on our logs.

Site Access: Terracon must be granted access to the site by the property owner. By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the Scope of Services. In addition, our fees assume boring locations will be accessible without delay to our field crew and drill rig equipment.

Task 3 - Laboratory Testing

The project engineer will review the field data and assign laboratory tests, with coordination with HDR, to evaluate the engineering properties of various soil strata. Pending sample quality and quantity, the following table outlines the laboratory testing requested by HDR for the project.

Laboratory Test	Number of Tests
Atterberg Limits	36
Grain Size Analysis	36
Moisture Content of Soil	36
Unit Weight (ring samples)	14
Standard Proctor	8
Direct Shear	8
R-Value	2
Soluble Sulfates	8
Soluble Chlorides	8
pH & Resistivity	8
Consolidation	4

Laboratory testing will be conducted in general accordance with applicable ASTM or other locally recognized standards. Samples obtained during the field exploration will be discarded 30 days after the date the geotechnical engineering report (unless sample storage beyond the 30 days is incorporated into our scope of work and fees).

Task 4 – Geotechnical Engineering Data Report

The results of our field and laboratory programs will be evaluated, and a geotechnical engineering data report will be prepared under the supervision of a licensed professional engineer. The geotechnical engineering report will provide the following:

- Soil boring logs with field and laboratory data
- Soil stratification based on visual soil classification
- Summarized laboratory data
- Site Location and Boring Location Plan
- Subsurface exploration procedures
- Geology and encountered soil conditions
- Corrosion test results
- Photography log

The Geotechnical Engineering Data Report will initially be submitted in draft form for HDR's review. Following comments on the report, Terracon will provide a finalized version of the report.

Proposal for Geotechnical Engineering Services

Madera Canyon Bridge Project | Sahuarita, Arizona

August 26, 2024 | Terracon Proposal No. P63245064, Revision No. 3



Task 5 – Project Meetings

We anticipate that attendance at design team meetings will be required at certain times during the project. For the purposes of this proposal, we anticipate attendance of one (1) meeting by the project geotechnical team and have assumed all the meetings will be via video conference calls.

Exhibit C - Compensation and Project Schedule

Compensation

Based upon our understanding of the site, the project as summarized in Exhibit A, and our planned Scope of Services outlined in Exhibit B, our base fee is shown in the following table:

Task	Estimated Fee ¹
Task 1 – Project Setup and Coordination	\$3,647.02
Task 2 – Field Exploration	\$76,939.05
Task 3 – Laboratory Testing	\$16,256.11
Task 4 – Geotechnical Engineering Data Report	\$6,982.96
Task 5 – Project Meetings	\$867.08
Total for Above Geotechnical Engineering Services	\$104,692.22
Total for Florida Canyon Wash Bridge	\$52,346.11
Total for Medium Wash Bridge	\$52,346.11

1. Proposed fees noted above are effective for 90 days from the date of the proposal.

A detailed cost estimate for Geotechnical Engineering Services is included in Exhibit E.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. A separate invoice for each bridge will be provided in concert with the fees outlined above since each bridge will have its own unique federal job number. If conditions are encountered that require Scope of Services revisions and/or result in higher fees, we will contact you for approval, prior to initiating services. A supplemental proposal stating the modified Scope of Services as well as its effect on our fee will be prepared. We will not proceed without your authorization.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.



Task	Estimated Time to Complete Task ^{1,2}
Project Setup and Coordination	2 to 3 weeks
Field Exploration	2 to 3 weeks
Laboratory Testing	3 to 5 weeks
Geotechnical Engineering Data Report	3 to 4 weeks

Estimated Total Number of Weeks:
12 to 15 weeks

1. Upon receipt of your notice to proceed we will activate the schedule component on **Client Portal** with specific, anticipated dates for the delivery points noted above as well as other pertinent events.
2. Standard workdays. We will maintain an activities calendar within on **Client Portal**. The schedule will be updated to maintain a current awareness of our plans for delivery.

Exhibit D – Site Location

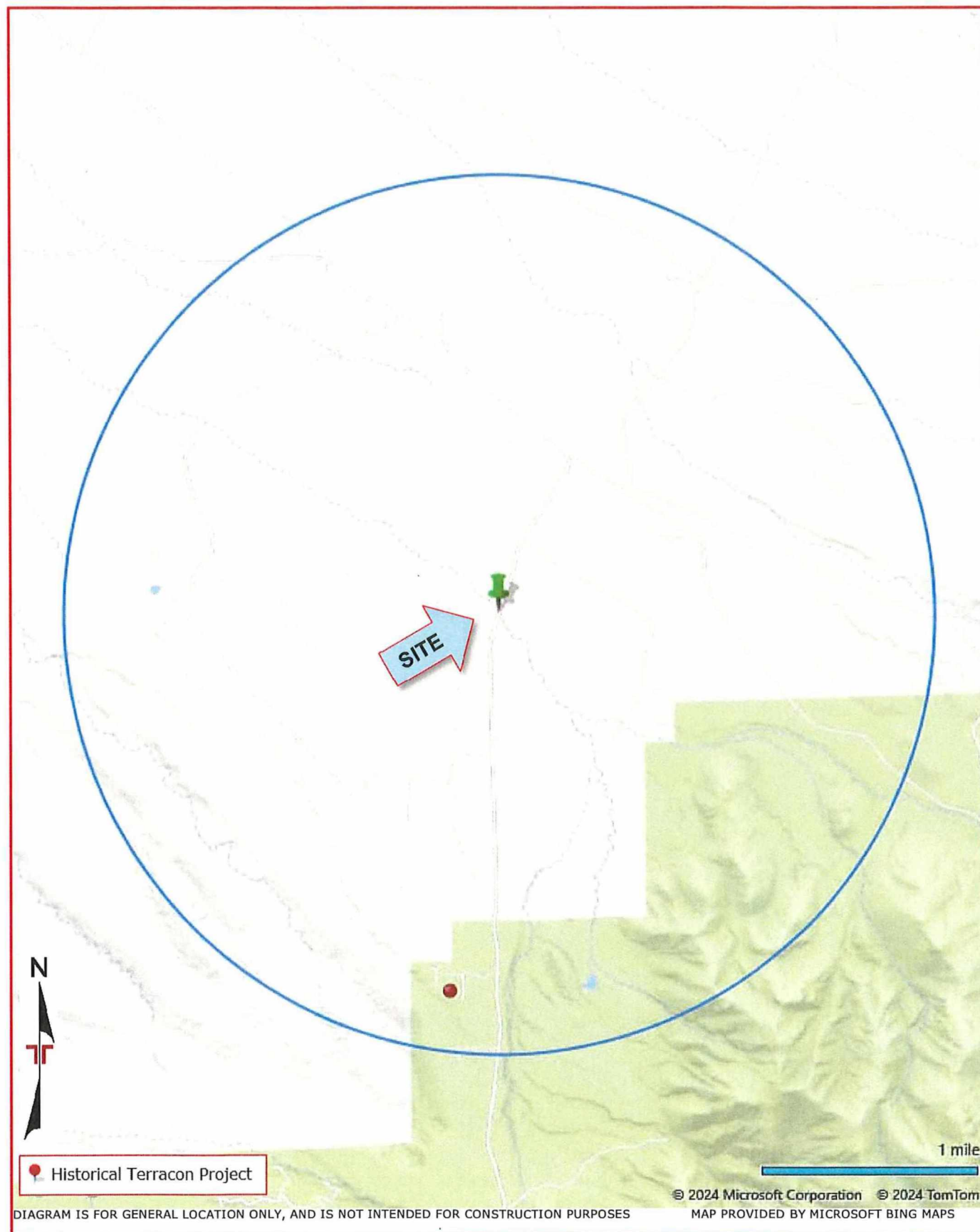


Exhibit E – Anticipated Exploration Plan

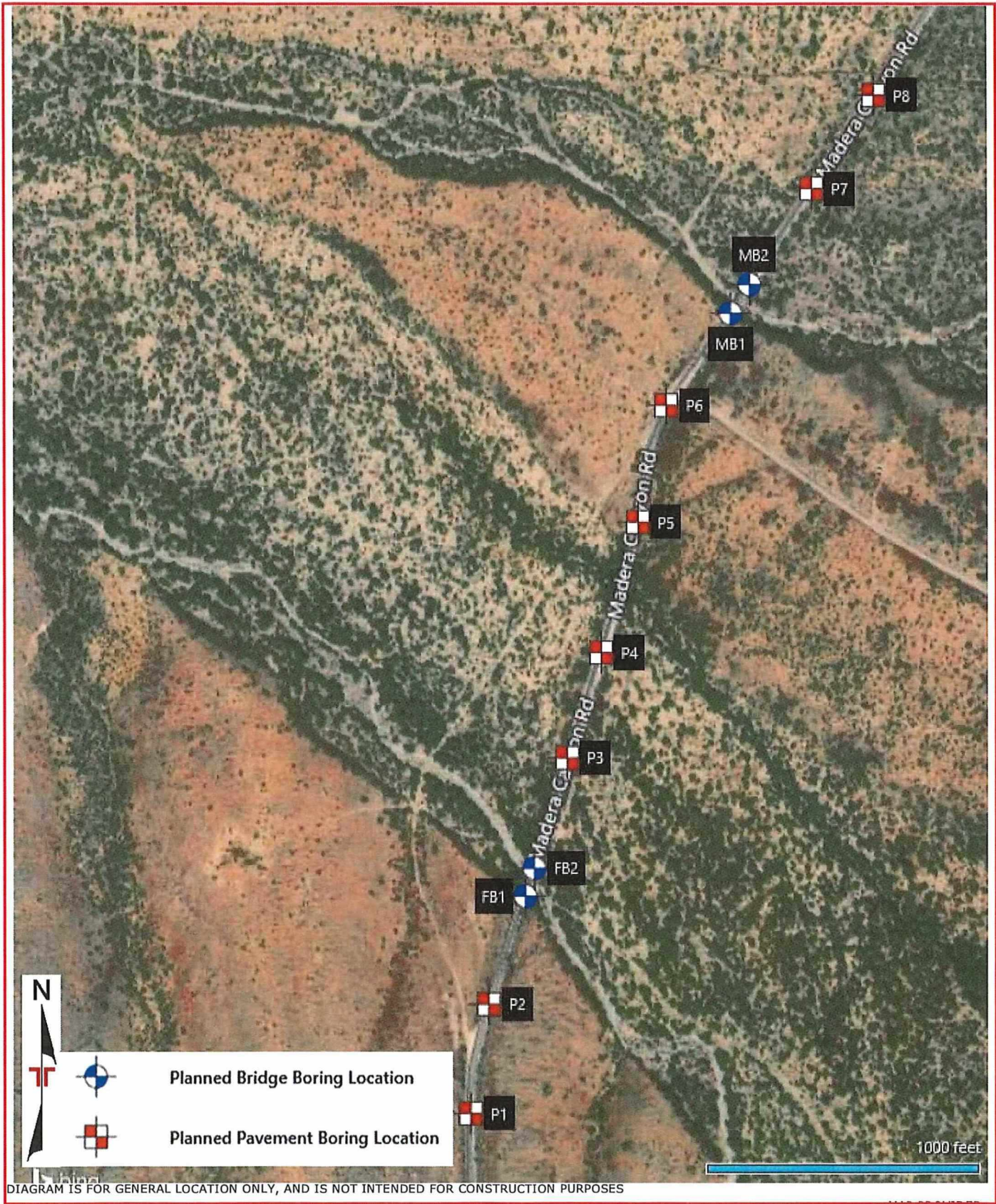


Exhibit F – Detailed Cost Estimate for Geotechnical Engineering Services

HDR Engineering
Detailed Cost Estimate for Geotechnical Engineering Services
Madera Canyon Bridge Project
Pima County
Terracon Reference No. P63245064, Revision No. 2



PAY ITEM	Work Tasks (Proposed Hours/Units)					Total HRS/UNITS	Direct Labor Rate	Total Direct Costs
	1	2	3	4	5			
Senior Geotechnical Engineer	1	3	2	4	2	12	76.00	\$ 912.00
Senior Project Manager	10	20	4	14	2	50	55.00	\$ 2,750.00
Project Engineer	2	8		10		20	41.00	\$ 820.00
Staff Engineer/Field Engineer	10	96	6	16		128	35.00	\$ 4,480.00
Clerical	2			3		5	22.00	\$ 110.00
Subtotal Labor Costs:								\$ 9,072.00
Overhead Rate @ 200.86%								\$ 18,222.02
Fee (Profit) @ 10%								\$ 2,729.40
Total Estimated Project Labor Costs								\$ 30,023.42
Other Direct Project Costs:								
Traffic Control - with Truck on site (Trafficade)		4				4	1,153.70	4,614.80
Traffic Control - only layout (Trafficade)		4				4	543.50	2,174.00
Drilling Subcontractor (GSI)		1				1	53,550.00	53,550.00
Subtotal Direct Costs:								60,338.80
Laboratory Testing:								
R-Value			2			2	490.00	980.00
Sieve Analysis, Coarse and Fine, Washed (ASTM C136, AASHTO T27, ARIZ 201)			24			24	130.00	3,120.00
Plasticity Index (ASTM D4318, AASHTO T89/90)			24			24	100.00	2,400.00
Moisture Content			36			36	20.00	720.00
Soil Unit Weight (Undisturbed Sample) with Moisture Content (ASTM C29)			14			14	35.00	490.00
Soluble Sulfates			8			8	50.00	400.00
Soluble Chlorides			8			8	50.00	400.00
pH & Resistivity			8			8	180.00	1,440.00
Direct Shear (3 Point)			4			4	550.00	2,200.00
Standard Proctor			8			8	175.00	1,400.00
Consolidation			4			4	195.00	780.00
Subtotal for Laboratory Testing:								14,330.00
Estimated Man Hours For Project & Direct Project Costs	25	127	12	47	4	215		\$ 104,692.22

Terracon Task	Direct Labor Costs	Overhead @200.86%	Profit @10%	Subcontract and Lab Costs	Total Costs
Task 1 - Project Setup, ROW Permit Preparation, and Staking	\$ 1,102.00	\$ 2,213.48	\$ 331.55	\$ -	\$ 3,647.02
Task 2 - Field Exploration: Geotechnical Borings	\$ 5,016.00	\$ 10,075.14	\$ 1,509.11	\$ 60,338.80	\$ 76,939.05
Task 3 - Sample Review, Lab Work Order and Laboratory Testing	\$ 582.00	\$ 1,169.01	\$ 175.10	\$ 14,330.00	\$ 16,256.11
Task 4 - Preparation of Geotechnical Data Report	\$ 2,110.00	\$ 4,238.15	\$ 634.81	\$ -	\$ 6,982.96
Task 5 - Project Meetings	\$ 262.00	\$ 526.25	\$ 78.83	\$ -	\$ 867.08
Total for Above Services	\$ 9,072.00	\$ 18,222.02	\$ 2,729.40	\$ 74,668.80	\$ 104,692.22

Cost Proposal

for

Wheat Design Group, Inc. (DBE) – SWPPP & Landscaping

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)

August 6, 2024

Ted Buell, P.E.
HDR Inc.
One South Church Ave., Suite 625
Tucson, AZ 85701-1612

Re: Madera Canyon, Medium Wash Bridge Replacement (4MADMB)
Federal ID No.: PPM-0(274) D; ADOT Tracs No.: T054103D

Ted,

We are pleased to submit this proposal for providing landscape architectural services for the above-stated project. We have based this scope and fee on the emails and exhibits HDR has provided. Basic services will include submittal of Native Plant Inventory & Mitigation charts, Riparian Mitigation exhibit for in lieu fee documentation, Landscape Mitigation Plans and Details, Erosion Control Plans and Details, SWPPP book, Special Provisions, and Cost Estimate. Please refer to the attached Workhour Estimates for a detailed breakdown of services offered.

Assumptions:

- 1. Landscape architectural services are provided for 12-months.*
- 2. Pima Association of Governments Standard Specifications and Details (2016) will be used.*
- 3. CAD drafting of the construction documents will be provided in Microstation to Pima County standards.*
- 4. HDR will provide base files in Microstation format.*
- 5. Native plant inventory will follow the Environmentally Sensitive Roadway (ESR) guidelines located in Chapter 4 of Pima County's Roadway Design Manual.*
- 6. It is assumed that there will be impacts to riparian habitat on this project. However, this project will not include onsite riparian habitat mitigation. Wheat Design will provide an exhibit reflecting acreage of disturbance based on riparian habitat classification and in lieu fee calculation per classification. This exhibit will be provided to the County Project Manager.*
- 7. WDG to provide erosion control plans and SWPPP book for contractor use.*
- 8. WDG does not anticipate public participation involvement.*
- 9. The technical review, checking procedures, and monitoring process shall follow Wheat Design Group's QA/QC plan for each submittal.*
- 10. Landscape Architect's hours for performing quality control shall be billed toward the specific tasks.*
- 11. All submittals will be in pdf format to HDR; including no mylars for Signed & Sealed Final submittal.*

SCOPE OF WORK

TASK A DESIGN SERVICES

TASK A.1: PROJECT MANAGEMENT AND QUALITY CONTROL

Task A.1.2 Quality Control Plan. Provide WDG project-specific Quality Control Plan to HDR.

Task A.1.3 Meetings and Communication

This task includes preparation and attendance to the following meetings:

- Attend (1) Kick-off Meeting

- Attend (11 max.) Monthly Meetings; which will include comment resolution meetings
- All meetings are assumed to include both the Medium Wash and Florida Canyon Wash Bridges

TASK A.13 PROJECT ASSESSMENT REPORT (PA)

Task A.13.1 Project Assessment Report

This task includes coordination with HDR regarding the native vegetation and landscape mitigation information for inclusion in the PA.

Task A.13.5 Cost Estimate

This task includes coordination with HDR regarding landscape cost information for inclusion in the PA and other project documents.

TASK A.14 ENVIRONMENTAL CLEARANCE TECHNICAL REPORTS

Task A.14.3 Vegetation Sampling/Measurement

This task includes:

- Native plant inventory and relevés per Pima County ESR guidelines within the project limits, including the temporary detour; also includes riparian habitat evaluation.
- Native Plant Inventory Plans and mitigation charts to be included in the Construction Documents
- Riparian Mitigation exhibit for Pima County Flood Control

TASK A.16 PREPARATION OF CONSTRUCTION DOCUMENTS

Task A.16.1 Initial Design Phase Submittal.

Task A.16.2 Final Design Phase Submittal (30%)

Task A.16.3 Initial PS&E Submittal (60%)

Task A.16.4 Final PS&E Submittal (90% and 100%)

Prepare the SWPPP document to meet Pima County requirements.

Deliverables:

1. *Initial Design Phase Submittal: No landscape sheets for this submittal.*
2. *Final Design Phase Submittal: No landscape sheets for this submittal.*
3. *Initial PS&E Submittal: Native Plant Inventory Plans and mitigation charts (5 plan sheets, 2 summary sheets); Landscape Mitigation Plans and Details (5 plan sheets, 1 summary sheet, 1 detail sheet); Erosion Control Plans and Details (5 plan sheets, 1 summary sheet, 4 detail sheets), and a cost estimate. **Total sheet count=24 sheets***
4. *Final PS&E Submittal (90%): Sheet count - same as above; will also include the Riparian mitigation exhibit and Special Provisions.*
5. *Final PS&E Submittal (100%): Signed & Sealed Plans and Details, cost estimate, and Special Provisions; will also include the final SWPPP book.*

TASK C POST DESIGN SERVICES

TASK C.1: PRE-BID SERVICES

Task C.1.1 Pre-Bid Services.

This task may include the following tasks:

- Attend pre-bid meeting
- Assist with amendments
- Addressing questions from the PSE submittal

TASK C.2 CONSTRUCTION SERVICES

Task C.2.1 Construction Services.

This task may include the following tasks:

- Attend pre-construction and partnering meeting
- Revise drawings to support construction efforts
- Review shop drawings and/or product submittals

TASK C.3 POST CONSTRUCTION SERVICES

Task C.3.1 Construction Services.

This task to include the following task:

- Prepare “as-built” documents

PROFESSIONAL FEES

The work will be based on the hourly rates provided and based on the hours and tasks listed in the attached Workhour Estimate worksheet. Work beyond this scope will be considered additional services and will not proceed without approval from the Client. Design services and post design services will be billed on a unit price of work basis.

We very much look forward to working with you on this project.

Sincerely,



Laura Mielcarek, Principal
Wheat Design Group, Inc.

Wheat Design Group DERIVATION OF COST PROPOSAL SUMMARY

PROJECT: **Madera Canyon, Medium Wash Bridge Replacement (4MADMB)**
 Project No.: Federal ID No.: PPM-0(274) D; ADOT Tracs No.: T054103D
 DBE: Yes #1025
 PREPARED BY: Laura Mielcarek, Principal
 CONTRACT TIME: 12 months

DATE: **08/06/24**
 CONTRACT NO.:
 CONSULTANT: **Wheat Design Group, Inc.**

DESIGN DIRECT LABOR COST

Item No.	TASK DESCRIPTION	CLASSIFICATION	No. HOURS	HOURLY RATE	TOTAL COST
		<u>Hours</u>		<u>Rates</u>	<u>Cost</u>
	Landscape Architectural	Principal	53	\$160.00	\$8,480.00
	Services	Project Manager	50	\$138.00	\$6,900.00
		A/E	58	\$102.00	\$5,916.00
		Designer	58	\$95.00	\$5,510.00
(A) Direct Labor			219	Hrs.	\$26,806.00
OTHER DIRECT EXPENSES					
	TRAVEL				\$0.00
	EXHIBITS				\$0.00
				TOTAL OTHER DIRECT EXPENSES:	\$0.00
ESTIMATED FEES					

(F) TOTAL DESIGN CONSULTANT FEE	=	\$26,806.00
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POST DESIGN FULLY LOADED LABOR COST

Item No.	TASK DESCRIPTION	CLASSIFICATION	No. HOURS	FULLY LOADED HOURLY RATE	TOTAL COST
		<u>Hours</u>		<u>Rates</u>	<u>Cost</u>
	Landscape Architectural	Principal	12	\$160.00	\$1,920.00
	Services: POST DESIGN	Project Manager	12	\$138.00	\$1,656.00
		A/E	0	\$102.00	\$0.00
		Designer	6	\$95.00	\$570.00
(A) Direct Labor			30	Hrs.	\$4,146.00
TOTAL POST DESIGN CONSULTANT FEE					

TOTAL CONTRACT AMOUNT	\$30,952.00
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Wheat Design Group Workhour Estimate by Task

Madera Canyon, Medium Wash Bridge Replacement (4MADMB)

8/6/2024

DIRECT HOURLY LABOR RATES		\$160.00	\$138.00	\$102.00	\$95.00	
Description		Principal	Project Manager	A/E	Designer	TOTAL
A.1	PROJECT MANAGEMENT AND QUALITY CONTROL					
A.1.2	Quality Control Plan	2	0	0	0	2
A.1.3	Meetings and Communication					
	Kick-off Meeting	1	1	0	0	2
	Monthly Meetings (11 max., includes Florida Canyon Wash Bridge); includes comment resolution meetings	11	0	0	0	11
	Subtotal	14	1	0	0	15
	TASK A.1	\$2,240.00	\$138.00	\$0.00	\$0.00	\$2,378.00
Description		Principal	Project Manager	A/E	Designer	TOTAL
A.13	PROJECT ASSESSMENT (PA)					
A.13.1	Project Assessment (landscape write-up)	4	0	0	0	4
A.13.5	Cost Estimate (landscape items)	2	2	0	0	4
	Subtotal	6	2	0	0	8
	TASK A.13	\$960.00	\$276.00	\$0.00	\$0.00	\$1,236.00
Description		Principal	Project Manager	A/E	Designer	TOTAL
A.14	ENVIRONMENTAL CLEARANCE TECHNICAL REPORTS					
A.14.3	Vegetation Sampling/Measurement (2 people, 1 day), relevés	1	1	10	10	22
	Native Plant Inventory Plans, mitigation charts	1	4	6	6	17
	Riparian Mitigation exhibit	1	3	2	2	8
	Subtotal	3	8	18	18	47
	TASK A.14	\$480.00	\$1,104.00	\$1,836.00	\$1,710.00	\$5,130.00
Description		Principal	Project Manager	A/E	Designer	TOTAL
A.16	PREPARATION OF CONSTRUCTION DOCUMENTS					
A.16.1	Initial Design Phase Plans	2	0	0	0	2
A.16.2	Final Design Phase Plans (30%)	2	0	0	0	2
A.16.3	Initial PS&E (60%) (24 sheets)	6	16	16	16	54
A.16.4	Final PS&E (90%) (24 sheets)	4	8	6	6	24
	Final PS&E (100%) (24 sheets)	2	6	4	4	16
A.14.4	SWPPP book	4	4	14	14	36
A.16.5	Quality Control Review of Plans	10	5	0	0	15
	Subtotal	30	39	40	40	149
	TASK A.16	\$4,800.00	\$5,382.00	\$4,080.00	\$3,800.00	\$18,062.00
	DESIGN TOTAL WORK-HOURS	53	50	58	58	219
	DESIGN TOTAL DIRECT LABOR	\$8,480.00	\$6,900.00	\$5,916.00	\$5,510.00	\$26,806.00
FULLY LOADED POST DESIGN HOURLY LABOR RATES		\$160.00	\$138.00	\$102.00	\$95.00	
Description		Principal	Project Manager	A/E	Designer	TOTAL
C.1	PRE-BID SERVICES					
C.1.1	Pre-bid services	4	0	0	0	4
	Subtotal	4	0	0	0	4
	TASK C.1	\$640.00	\$0.00	\$0.00	\$0.00	\$640.00
Description		Principal	Project Manager	A/E	Designer	TOTAL
C.2	CONSTRUCTION SERVICES					
C.2.1	Construction services	4	8	0	0	12
	Subtotal	4	8	0	0	12
	TASK C.2	\$640.00	\$1,104.00	\$0.00	\$0.00	\$1,744.00
Description		Principal	Project Manager	A/E	Designer	TOTAL
C.3	POST CONSTRUCTION SERVICES					
C.3.1	Post Construction Electronic As-Builts	4	4	0	6	14
	Subtotal	4	4	0	6	14
	TASK C.3	\$640.00	\$552.00	\$0.00	\$570.00	\$1,762.00
	POST DESIGN WORK HOURS	12	12	0	6	30
	POST DESIGN DESIGN TOTAL DIRECT LABOR	\$1,920.00	\$1,656.00	\$0.00	\$570.00	\$4,146.00

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D

COMPENSATION SCHEDULE

Direct Labor & Overhead & FCCM	Totals
TASK A - DESIGN SERVICES (HDR)	\$ 488,379.94
Task A Direct Expenses:	\$ 348.38
Task A Net Fee @10% of DL +OH:	\$ 48,752.47
TOTAL TASK A - DESIGN SERVICES (HDR):	\$ 537,480.79
TASK B - ADDITIONAL SERVICES (HDR)	\$ -
Task B Direct Expenses:	\$ -
Task B Net Fee @10% of DL +OH:	\$ -
TOTAL TASK B - ADDITIONAL SERVICES (HDR):	\$ -
TASK C - POST DESIGN SERVICES (HDR)	\$ 105,204.74
Task C Direct Expenses:	\$ 2,000.00
Task C Net Fee @10% of DL +OH:	\$ 10,502.05
TOTAL TASK C - POST DESIGN SERVICES (HDR):	\$ 117,706.79

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

	COST	
Alta Survey, LLC - Field Survey & ROW	\$ 15,693.82	Task A
K2 Site Assessments (DBE) - Hazardous Materials	\$ 8,053.07	Task A
SWCA Environmental Consultants - Biological Resource Surveys	\$ 2,917.79	Task A
SWCA Environmental Consultants - Biological Resource Surveys	\$ 4,544.04	Task B
Solis Engineering Co., LLC (DBE) - Signing, Striping, Pvmnt dgn, Detour Dgn	\$ 56,638.22	Task A
Terracon Consultants, Inc. - Geotechnical	\$ 52,346.11	Task A
Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	\$ 26,806.00	Task A
Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	\$ 4,146.00	Task C
Total Outside Services and Consultants	\$ 171,145.05	

TOTAL TASK A - DESIGN SERVICES

TOTAL TASK A - DESIGN SERVICES (HDR):	\$ 537,480.79
TOTAL TASK A - OUTSIDE SERVICES AND CONSULTANTS:	\$ 162,455.01
TOTAL TASK A - DESIGN SERVICES (HDR & SUBCONSULTANTS):	\$ 699,935.80

TOTAL TASK B - ADDITIONAL SERVICES

TOTAL TASK B - ADDITIONAL SERVICES (HDR):	\$ -
TOTAL TASK B - OUTSIDE SERVICES AND CONSULTANTS:	\$ 4,544.04
TOTAL TASK B - ADDITIONAL SERVICES (HDR & SUBCONSULTANTS):	\$ 4,544.04

TOTAL TASK C - POST DESIGN SERVICES

TOTAL TASK C - POST DESIGN SERVICES (HDR):	\$ 117,706.79
TOTAL TASK C - OUTSIDE SERVICES AND CONSULTANTS:	\$ 4,146.00
TOTAL TASK C - POST DESIGN SERVICES (HDR & SUBCONSULTANTS):	\$ 121,852.79

TOTAL TASK A - DESIGN SERVICES (HDR & SUBCONSULTANTS):	\$ 699,935.80
TOTAL TASK A & B- DESIGN & ADDITIONAL SERVICES (HDR & SUBCONSULTANTS):	\$ 704,479.84
TOTAL TASK A, B & C- DESIGN & ADDITIONAL SERVICES & POST DESIGN (HDR & SUBCONSULTANTS):	\$ 826,332.63

HDR Engineering, Inc.
HDR Project Number: TBD
September 9, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

**DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D**

**COST PROPOSAL
FOR
TASK A - DESIGN SERVICES (TASKS A.1 THROUGH A.16)**

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Project Principal	2 \$	122.06 \$	244.12
Project Manager	167 \$	93.67 \$	15,642.89
Senior A/E	314 \$	103.39 \$	32,464.46
A/E	478 \$	71.89 \$	34,363.42
Junior A/E	525 \$	49.58 \$	26,029.50
Designer	607 \$	39.41 \$	23,921.87
CADD Technician	545 \$	56.20 \$	30,629.00
Senior Environmental Planner	46 \$	94.09 \$	4,328.14
Senior Biologist	216 \$	47.57 \$	10,275.12
Senior Archaeologist	30 \$	57.10 \$	1,713.00
Archaeologist	37 \$	36.14 \$	1,337.18
Technical Editor	68 \$	49.44 \$	3,361.92
GIS Analyst	27 \$	57.90 \$	1,563.30
GIS Technician	32 \$	38.99 \$	1,247.68
Administrative Support III	18 \$	58.65 \$	1,055.70
Administrative Support II	15 \$	41.91 \$	628.65
Administrative Support I	6 \$	33.51 \$	201.06
Sub-Total (Direct Labor)	3133	\$	189,007.01

OVERHEAD & FCCM:

Overhead Rate 157.94%	Overhead Cost	\$	298,517.67
	Sub-Total (DL+OH)	\$	487,524.68
FCCM 0.4525%	FCCM Cost	\$	855.26
	Sub-Total (DL+OH+FCCM)		\$488,379.94

PROFIT:

Profit Rate (Net Fee) 10.00%	Profit (on DL+OH)	\$	48,752.47
	Subtotal:		\$537,132.41

ESTIMATED DIRECT EXPENSES:

Reproductions, Printing, & Misc.	\$	348.38
Sub-Total Estimated Direct Expenses	\$	348.38

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

	COST
Alta Survey, LLC - Field Survey & ROW	\$ 15,693.82
K2 Site Assessments (DBE) - Hazardous Materials	\$ 8,053.07
SWCA Environmental Consultants - Biological Resource Surveys	\$ 2,917.79
Solis Engineering Co., LLC (DBE) - Signing, Striping, Pvmnt dgn, Detour Dgn	\$ 56,638.22
Terracon Consultants, Inc. - Geotechnical	\$ 52,346.11
Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	\$ 26,806.00
Sub-Total Outside Services and Consultants	\$ 162,455.01

Total Estimated Cost For Task A (Cost Plus Fixed Fee) \$699,935.80

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract between HDR Engineering and Pima County.

Reproduction & Plotting

	Number	Unit	Unit Cost	Cost
Task A.7 Survey and Mapping				
8 1/2" x 11" prints B&W	50	each	\$ 0.045	\$ 2.25
8 1/2" x 11" prints color		each	\$ 0.135	\$ -
11" x17" prints B&W	20	each	\$ 0.076	\$ 1.52
				\$ 3.77
Task A.13 Project Assessment Report				
8 1/2" x 11" prints B&W	50	each	\$ 0.045	\$ 2.25
8 1/2" x 11" prints color	10	each	\$ 0.135	\$ 1.35
11" x17" prints B&W	10	each	\$ 0.076	\$ 0.76
				\$ 4.36
Task A.14 Environmental and Supporting Technical Documentation				
8 1/2" x 11" prints B&W	1,100	each	\$ 0.045	\$ 49.50
8 1/2" x 11" prints color	100	each	\$ 0.400	\$ 40.00
Mailings - Agency Scoping	15	each	\$ 0.550	\$ 8.25
				\$ 97.75
Task A.16 Preparation of Construction Documents				
Roll Plots (Color Bond) (2'x8') 12 Total	192	SF	\$ 0.900	\$ 172.80
8 1/2" x 11" prints B&W	100	each	\$ 0.045	\$ 4.50
8 1/2" x 11" prints color	-	each	\$ 0.135	\$ -
11" x17" prints B&W	200	each	\$ 0.076	\$ 15.20
				\$ 192.50
Miscellaneous printing				\$ 50.00
Total Reproduction & Plotting				\$ 348.38

Task A.7 - Survey & Mapping

Miscellaneous Field Supplies

Task A.14.10 Agency Scoping

Mailing	each	\$ 0.55	\$ -
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Total Direct Expenses: \$ 348.38

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

SUBCONSULTANT COSTS																												
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
September 9, 2024																												
TASKS																												
TASK A.1 PROJECT MANAGEMENT AND QUALITY CONTROL																												
A.1.1 Project Management (Project setup, Project Guide, ProjectWise, etc.)	1	12	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	25	\$ 5,065.28		\$ 5,065.28					\$ 2,127.72	\$ 2,378.00	\$ 9,571.00
A.1.1a-1.1d Coordination with stakeholders, Ensure communication, generate & update project contact list, keep correspondence & files updated, coordinate with subconsultants (PM 1.0 hr/week for 12 mo design duration, Sr. Biologist 1.0 hr/mo for 12 months, 1 hr/mo for Admin for 12 mo design duration)	1	26	0	0	0	0	0	0	6	0	0	0	0	0	2	6	0	41	\$ 9,127.10		\$ 9,127.10							\$ 9,127.10
A.1.1e Provide monthly progress reports with invoices (2.0 hr/mo for PM, 2.0 hr/mo for Acct for 12 mo design duration)	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	24	\$ 5,194.47		\$ 5,194.47							\$ 5,194.47
A.1.2 Quality Control Plan	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	\$ 770.60		\$ 770.60							\$ 770.60
A.1.3a Meetings and Communication - Monthly mtgs with project team (Assumes 1 hr mtgs, 1 hr prep and 1 hr minute review for PM, 0.5 hr prep by Sr. Bio, 1 hr attendance by a rep. of Drainage (Sr. A/E), Rdwy (A/E), Bridge (Jr. A/E), + 1 hr attendance + 1 hr minutes by Designer for 12 months, Admin to attend as needed ~ 4 times) (Review comments meetings will take the place of monthly meetings when they occur in the same month.)	0	18	6	6	6	12	0	0	9	0	0	0	0	0	0	0	2	59	\$ 11,376.81		\$ 11,376.81					\$ 3,049.67		\$ 14,426.48
A.1.3b Conduct bi-weekly coordination calls between Pima County PM and HDR PM (Assumes 2 calls/mo @ 0.5 hrs/call, no minutes)	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	\$ 1,597.18		\$ 1,597.18							\$ 1,597.18
A.1.3d Conduct other meetings as needed or required. (Assumes two additional 2.0 hr meetings required for PM and one other discipline lead) (No Minutes)	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	\$ 941.00		\$ 941.00							\$ 941.00
A.1.3f Conduct two site visits (Assumes site visit attended by HDR's PM, AE, and Jr. A/E @ 4 hrs Each, No minutes or report)	0	4	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	12	\$ 2,951.56		\$ 2,951.56							\$ 2,951.56
A.1.5 Schedule (12 hrs to develop, 2.0 hr to update for 3 updates (~every submittal) for PM, 4 hrs total for Env Planner to provide input & updates)	0	9	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	11	\$ 2,930.56		\$ 2,930.56							\$ 2,930.56
A.1.6 Base Cost Estimate (Estimate rdwy reconstruction length, bridge type, develop rough quantities & prepare cost estimate within 45 days of NTP. (16 hrs for Designer to develop rough quantities, 16 hrs for Jr. A/E to create estimate and initial unit costs, 8 hrs for Sr. A/E & 8 hrs for PM to evaluate and research current pricing) (Hours for updating base estimate during design is included in Task A.16)	0	4	4	0	8	8	0	0	0	0	0	0	0	0	0	0	0	24	\$ 4,263.25		\$ 4,263.25					\$ 2,581.81		\$ 6,845.06
Subtotal Task A.1	2	95	10	12	14	20	0	6	15	0	0	0	0	0	18	12	6	210	\$ 44,217.83	\$ -	\$ 44,217.83	\$ -	\$ -	\$ -	\$ 7,759.20	\$ -	\$ 2,378.00	\$ 54,355.03
TASK A.5 UTILITY COORDINATION																												
A.5.1 Data Gathering, Utility Designation, Letter of Acceptance					9	6												15	\$ 1,940.08		\$ 1,940.08							\$ 1,940.08
A.5.2 Design Coordination, Utility Impact Identification					9	6												15	\$ 1,940.08		\$ 1,940.08							\$ 1,940.08
A.5.3 Utility Impact Mitigation					9	4												13	\$ 1,716.09		\$ 1,716.09							\$ 1,716.09
A.5.4 Quality Control Review			4	0	0	0												4	\$ 1,175.28		\$ 1,175.28							\$ 1,175.28
Subtotal Task A.5	0	0	4	0	27	16	0	0	0	0	0	0	0	0	0	0	0	47	\$ 6,771.54	\$ -	\$ 6,771.54	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,771.54

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

SUBCONSULTANT COSTS																													
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task	
September 9, 2024																													
TASK A.7 SURVEY AND MAPPING																													
A.7.1 Initial Planning and Reconnaissance																		0	\$ -	\$ 3.77	\$ 3.77							\$ 3.77	
A.7.2 Horizontal Control																		0	\$ -		\$ -	\$ 2,289.72						\$ 2,289.72	
A.7.3 Vertical Control Traverse																		0	\$ -		\$ -	\$ 1,617.74						\$ 1,617.74	
A.7.4 Results of Survey Drawing																		0	\$ -		\$ -							\$ -	
A.7.5 Survey Report																		0	\$ -		\$ -							\$ -	
A.7.6 Aerial Mapping																		0	\$ -		\$ -							\$ -	
A.7.7 Utility Surveys		1	0	2	9	0	4											16	\$ 2,581.75		\$ 2,581.75	\$ 3,619.24						\$ 6,200.99	
A.7.8 Cultural Surveys		0	0	2	0	2	6											10	\$ 1,590.88		\$ 1,590.88	\$ 4,246.60						\$ 5,837.48	
A.7.9 Right-of-Way Surveys		0	0	0	0	0	0											0	\$ -		\$ -	\$ 2,314.02						\$ 2,314.02	
A.7.10 Roadway Design Manual Survey Efforts		0	0	1	0	1	0											2	\$ 316.30		\$ 316.30							\$ 316.30	
A.7.11 Legal Descriptions & Reference Maps		1	0	9	0	9	20											39	\$ 6,307.15		\$ 6,307.15							\$ 6,307.15	
A.7.12 Quality Control Review		1	2	0	0	0	0									1		4	\$ 972.94		\$ 972.94							\$ 972.94	
A.7.13 Stake boring locations and provide ground elevations		0	0	0	2	0	0											2	\$ 281.80		\$ 281.80	\$ 1,606.50						\$ 1,888.30	
Subtotal Task A.7	0	3	2	14	11	12	30	0	0	0	0	0	0	0	0	1	0	73	\$ 12,050.81	\$ 3.77	\$ 12,054.58	\$ 15,693.82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,748.40
TASK A.8 DRAINAGE																													
A.8.1 Drainage Design Criteria Review Meeting (Attended by PM, Sr. AE & A/E)		4	4	5	0													13	\$ 3,261.58		\$ 3,261.58							\$ 3,261.58	
A.8.2 Review Existing Plans and Reports		0	4	0	7													11	\$ 2,161.58		\$ 2,161.58							\$ 2,161.58	
A.8.3 Drainage Maps and Exhibits		0	5	22	31								7					65	\$ 11,483.44		\$ 11,483.44							\$ 11,483.44	
A.8.4 Scour Computations		0	5	14	22													41	\$ 7,429.12		\$ 7,429.12							\$ 7,429.12	
A.8.5 Drainage Reports		0	5	19	32													56	\$ 9,859.62		\$ 9,859.62							\$ 9,859.62	
A.8.6 Quality Control Reviews		0	5	0	0													5	\$ 1,469.10		\$ 1,469.10							\$ 1,469.10	
Subtotal Task A.8	0	4	28	60	92	0	0	0	0	0	0	0	7	0	0	0	0	191	\$ 35,664.44	\$ -	\$ 35,664.44	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35,664.44
TASK A.9 GEOTECHNICAL																													
A.9.1 Review of Existing Data			0	7														7	\$ 1,430.11		\$ 1,430.11	\$ -	\$ -	\$ -	\$ -	\$ 433.54	\$ -	\$ 1,863.65	
A.9.1 Exploration & Access Plan Preparation			1	10			4											15	\$ 2,975.69		\$ 2,975.69	\$ -	\$ -	\$ -	\$ -	\$ 1,823.51	\$ -	\$ 4,799.20	
A.9.1 Environmental/Access Permits & Clearances and Coordination			1	7														8	\$ 1,723.93		\$ 1,723.93	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,723.93	
A.9.1 Field Subsurface Investigation & Laboratory Testing			0	7														7	\$ 1,430.11		\$ 1,430.11	\$ -	\$ -	\$ -	\$ -	\$ 50,089.06	\$ -	\$ 51,519.17	
A.9.1 Geotechnical Foundation Design, Recommendations & Geotechnical Foundation Report			6	85			7											98	\$ 20,246.55		\$ 20,246.55	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20,246.55	
A.9.2 Quality Control Review			6	5														11	\$ 2,784.43		\$ 2,784.43	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,784.43	
Subtotal Task A.9	0	0	14	121	0	0	11	0	0	0	0	0	0	0	0	0	0	146	\$ 30,590.83	\$ -	\$ 30,590.83	\$ -	\$ -	\$ -	\$ -	\$ 52,346.11	\$ -	\$ 82,936.94	
TASK A.10 PAVEMENT DESIGN																													
A.10.1 Pavement Design Report per the ADOT Pavement Design Manual including ESAL Calculations (By Solis)																		0	\$ -		\$ -				\$ 3,288.72			\$ 3,288.72	
A.10.2 Quality Control Review of Pavement Design Report			4															4	\$ 1,175.28		\$ 1,175.28				\$ 945.86			\$ 2,121.14	
Subtotal Task A.10	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	\$ 1,175.28	\$ -	\$ 1,175.28	\$ -	\$ -	\$ -	\$ 4,234.58	\$ -	\$ -	\$ 5,409.86	

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

SUBCONSULTANT COSTS																												
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
September 9, 2024																												
TASK A.13 PROJECT ASSESSMENT (PA)																												
A.13.1 Project Assessment Report (Draft & Final)		6	15	42	0	0	40	0	9	0	0	40						152	\$ 27,810.43	\$ 4.36	\$ 27,814.79						\$ 1,236.00	\$ 29,050.79
A.13.2 Bridge Type Selection (Abbreviated and simplified evaluation of Precast Bridge, CIP Slab Bridge, and CIP Superbox (Includes two plan sheets for selected alternative only)		5	15	0	40	19	32	0	0	0	0	0						111	\$ 18,613.05	\$ -	\$ 18,613.05							\$ 18,613.05
A.13.2 Cost Estimate		5	5	0	27	44	0	0	0	0	0	0						81	\$ 11,532.29	\$ -	\$ 11,532.29							\$ 11,532.29
A.12.3 Quality Control Review of PA		0	15	0	0	0	0	0	0	0	0	0						15	\$ 4,407.31		\$ 4,407.31							\$ 4,407.31
Subtotal Task A.13	0	16	50	42	67	63	72	0	9	0	0	40	0	0	0	0	0	359	\$ 62,363.08	\$ 4.36	\$ 62,367.44	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,236.00	\$ 63,603.44
TASK A.14 ENVIRONMENTAL CLEARANCE MEMORANDUM																												
A.14.1 ADOT Categorical Exclusion (CE): Internal and external coordination with County and ADOT		0	4	1	0	0	0	0	20	5	0	0	0	0				30	\$ 4,894.69	\$ 97.75	\$ 4,992.44							\$ 4,992.44
A.14.2 Cultural Resources Inventory and Report		4	0	0	0	0	0	0	0	20	37	6	0	0				67	\$ 8,953.30		\$ 8,953.30							\$ 8,953.30
A.14.3 Biological Evaluation/Wildlife Habitat		2	0	0	0	0	0	2	72	0	0	5	10	17				108	\$ 15,032.30	\$ -	\$ 15,032.30			\$ 2,917.79				\$ 17,950.09
A.14.4 Vegetation Sampling/Measurement (Wheat Design Group)		0	0	0	0	0	0	0	0	0	0	0	0	0				0	\$ -		\$ -						\$ 5,130.00	\$ 5,130.00
A.14.5 Approved Jurisdictional Delineation		1	0	0	0	0	0	7	72	0	0	5	10	15				110	\$ 15,881.45		\$ 15,881.45							\$ 15,881.45
A.14.6 Hazardous Materials Survey (K2 Site Assessments)		2	0	0	0	0	0	0	0	0	0	0	0	0				2	\$ 532.39		\$ 532.39		\$ 8,053.07					\$ 8,585.46
A.14.7 Air Quality-Qualitative only (summarize for inclusion in the CE)		1	0	0	0	0	0	0	5	0	0	0	0	0				6	\$ 942.14		\$ 942.14							\$ 942.14
A.14.8 Noise Analysis--Qualittive only (summarize for inclusion in the CE)		1	0	0	0	0	0	0	5	0	0	0	0	0				6	\$ 942.14		\$ 942.14							\$ 942.14
A.14.9 Visual Resources --Qualitative only (summarize for inclusion in the CE)		1	0	0	0	0	0	0	9	0	0	0	0	0				10	\$ 1,482.89		\$ 1,482.89							\$ 1,482.89
A.14.10 Agency and Public Scoping		2	0	0	0	0	0	0	9	0	0	12	0	0				23	\$ 3,435.10	\$ -	\$ 3,435.10							\$ 3,435.10
A.14.11 Quality Control Review of Reports		4	0	0	0	0	0	31	0	5	0	0	0	0				40	\$ 10,165.27		\$ 10,165.27							\$ 10,165.27
Subtotal Task A.14	0	18	4	1	0	0	0	40	192	30	37	28	20	32	0	0	0	402	\$ 62,261.65	\$ 97.75	\$ 62,359.40	\$ -	\$ 8,053.07	\$ 2,917.79	\$ -	\$ -	\$ 5,130.00	\$ 78,460.26
TASK A.15 RIGHT-OF-WAY ACQUISITION SUPPORT																												
A.15.1 Existing Right-of-Way and Easements				9	0	0	12											21	\$ 3,755.27		\$ 3,755.27							\$ 3,755.27
A.15.2 Right-of-Way Plans				0	0	0	0											0	\$ -	\$ -	\$ -							\$ -
A.15.3 Right-of-Entry (Provided by County)				1	0	0	0											1	\$ 204.30		\$ 204.30							\$ 204.30
A.15.4 State Land Coordination & Reaearch (by Pima County)		4	0	15	0	5	6											30	\$ 5,647.58		\$ 5,647.58							\$ 5,647.58
A.15.5 Quality Control Review of TCE Documents			2	2	0	0	0									2		6	\$ 1,234.45		\$ 1,234.45							\$ 1,234.45
Subtotal Task A.15	0	4	2	27	0	5	18	0	0	0	0	0	0	0	0	2	0	58	\$ 10,841.60	\$ -	\$ 10,841.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,841.60

ESTIMATED LABOR HOURS: TASK A - DESIGN SERVICES
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

SUBCONSULTANT COSTS																												
	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
September 9, 2024																												
TASK A.16 PREPARATION OF CONSTRUCTION DOCUMENTS																												
A.16.1 Initial Design Phase Plans - Roadway			4	27	52	45	42											170	\$ 25,766.05	\$ 25.09	\$ 25,791.14							\$ 25,791.14
A.16.1 Initial Design Phase Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0												\$ -	\$ -	\$ -				\$ 12,410.39			\$ 12,410.39
A.16.1 Initial Design Phase Plans - Bridge (Bridge Plan Preparation this phase includes Gen. Note sheet & bridge removal sheet. Plan, Elev. & Typ. Section included in PA Task A.11.1)			2	5	9	16	14											46	\$ 6,905.19	\$ 6.79	\$ 6,911.98							\$ 6,911.98
A.16.2 Final Design Phase Plans - Roadway & Drainage			15	27	40	61	55											198	\$ 31,175.51	\$ 29.22	\$ 31,204.74							\$ 31,204.74
A.16.2 Final Design Phase Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0												\$ -	\$ -	\$ -				\$ 6,071.94			\$ 6,071.94
A.16.2 Final Design Phase Plans - Bridge			11	22	45	80	69											227	\$ 34,047.16	\$ 33.50	\$ 34,080.67							\$ 34,080.67
A.16.2 Final Design Phase Plans - Landscape Plans (See Wheat Design Scope & Fee)			0	0	0	0	0											0	\$ -	\$ -	\$ -						\$ 484.89	\$ 484.89
A.16.3 Initial PS&E Plans - Roadway & Drainage			15	17	27	30	29											118	\$ 19,676.33	\$ 17.42	\$ 19,693.75							\$ 19,693.75
A.16.3 Initial PS&E Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0												\$ -	\$ -	\$ -				\$ 12,159.51			\$ 12,159.51
A.16.3 Initial PS&E Plans - Bridge			22	45	91	160	136											454	\$ 68,120.10	\$ 67.01	\$ 68,187.11							\$ 68,187.11
A.16.3 Initial PS&E Plans - Erosion Control, Native Plant, & Landscape (See Wheat Design Scope & Fee)			0	0	0	0	0											0	\$ -	\$ -	\$ -						\$ 6,545.96	\$ 6,545.96
A.16.3 Initial PS&E - Draft Special Provisions		9	21	15	0	10	0											55	\$ 12,750.51	\$ 8.12	\$ 12,758.63							\$ 12,758.63
A.16.4 Final PS&E - Roadway & Drainage			4	9	14	15	14											56	\$ 8,902.54	\$ 8.27	\$ 8,910.81							\$ 8,910.81
A.16.4 Final PS&E Plans - Signing & Marking Plans & Detour Plans (Solis Engineering)			0	0	0	0	0												\$ -	\$ -	\$ -				\$ 10,068.49			\$ 10,068.49
A.16.4 Final PS&E - Bridge			9	19	36	64	55											183	\$ 27,550.57	\$ 27.01	\$ 27,577.58							\$ 27,577.58
A.16.4 Final PS&E - Erosion Control, Native Plant, & Landscape (See Wheat Design Scope & Fee)			0	0	0	0	0											0	\$ -	\$ -	\$ -						\$ 11,031.15	\$ 11,031.15
A.16.4 Final PS&E - Special Provisions		9	21	15	0	10	0											55	\$ 12,750.51	\$ 8.12	\$ 12,758.63							\$ 12,758.63
A.16.5 Quality Control Review of Plans & Specs		9	72	0	0	0	0											81	\$ 23,550.85	\$ 11.96	\$ 23,562.80				\$ 3,934.11			\$ 27,496.91
Subtotal Task A.16	0	27	196	201	314	491	414	0	0	0	0	0	0	0	0	0	0	1643	\$ 271,195.34	\$ 242.50	\$ 271,437.84	\$ -	\$ -	\$ -	\$ 44,644.44	\$ -	\$ 18,062.00	\$ 334,144.28
TOTAL TASKS A.1 THROUGH A.16	2	167	314	478	525	607	545	46	216	30	37	68	27	32	18	15	6	3133	\$ 537,132.41	\$ 348.38	\$ 537,480.79	\$ 15,693.82	\$ 8,053.07	\$ 2,917.79	\$ 56,638.22	\$ 52,346.11	\$ 26,806.00	\$ 699,935.80

MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
SHEET LIST
ROADWAY, DRAINAGE, PAVEMENT MARKING, SIGNING & DETOUR

	From	To	No
Cover Sheet	1	1	1
General Notes	2	2	1
Typical Sections	3	3	1
New Barrier Summary, Guardrail Layou & Calcs	4	4	1
Geometric Layout Sheet	5	5	1
Roadway Plan & Profile	6	7	2
Detour Plan & Profile (by Solis)	8	11	4
Borrow Grading Detail and Sections	12	13	2
Bank Protection at Bridge	14	16	3
Erosion Control Plans (By Wheat Design)	17	27	11
Pavement Marking and Signing (By Solis)	28	32	5
Bridge Plans (See Bridge List for Hours)	33	54	22
Native Plant Preservation Plans (By Wheat Design)	55	62	8
Landscape Mitigation Plans & Details (By Wheat Design)	63	70	8
			70
Cross Sections, Modeling, Earthwork Calcs	1	5	5
			75

SHEET COUNT BY SUBMITTAL

	PA Plans (15%)	Initial Design Phase Plans (30%)	Final Design Phase Plans (50%)	Initial PS&E (90%)	Final PS&E (100%)
Cover Sheet	1	1	1	1	1
General Notes	1	1	1	1	1
Typical Sections	1	1	1	1	1
New Barrier Summary, Guardrail Layou & Calcs	--	--	1	1	1
Geometric Layout Sheet	--	--	1	1	1
Roadway Plan & Profile	2	2	2	2	2
Detour Plan & Profile (by Solis)		4	4	4	4
Borrow Grading Detail and Sections	--	--	2	2	2
Bank Protection at Bridge	--	0	1	3	3
Erosion Control Plans (By Wheat Design)	--			11	11
Pavement Marking and Signing (By Solis)		4	4	5	5
Bridge Plans (See Bridge List for Hours)	4	4	20	22	22
Native Plant Preservation Plans (By Wheat Design)	--	--		8	8
Landscape Mitigation Plans & Details (By Wheat Design)	--			8	8
	--				
Cross Sections, Modeling, Earthwork Calcs	--	--	5	5	5
Plan Sheets:	9	17	43	75	75

MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
BRIDGE SHEET LIST

Single-Span AASHTO I-Girder or UBT
Girder Bridge Sheet List

Approx. New Bridge Length (feet):	105 ft					5%	10%	20%	35%	30%	
	From	To	No	Hrs/Sht		Senior A/E	A/E	Junior A/E	Designer	CADD Tech	
Bridge Plan & Elevation	32	32	1	42		2	4	8	15	13	42
Typical Section, Quantities & Profile Grade	33	33	1	34		2	3	7	12	10	34
General Notes	34	34	1	34		2	3	7	12	10	34
Bridge Removal Plan & Constr. Phasing	35	35	1	34		2	3	7	12	10	34
Foundation Plan	36	36	1	50		3	5	10	18	15	50
Foundation Details	37	37	1	50		3	5	10	18	15	50
Abutment 1 Plan & Elevation	38	38	1	42		2	4	8	15	13	42
Abutment 2 Plan & Elevation	39	39	1	42		2	4	8	15	13	42
Abutment Details - 1	40	40	1	42		2	4	8	15	13	42
Abutment Details - 2	41	41	1	42		2	4	8	15	13	42
Girder Details - 1	42	42	1	42		2	4	8	15	13	42
Girder Details - 2	43	43	1	42		2	4	8	15	13	42
Deck Plan	44	44	1	34		2	3	7	12	10	34
Deck Section & Details	45	45	1	42		2	4	8	15	13	42
Abutment Diaphragm & Details	46	46	1	34		2	3	7	12	10	34
Miscellaneous Details	47	47	1	34		2	3	7	12	10	34
Miscellaneous Details	48	48	1	34		2	3	7	12	10	34
Camber & Screed Details	49	49	1	42		2	4	8	15	13	42
Boring Location Plan & Notes	50	50	1	7		0	1	1	2	2	7
Foundation Data Explanations	51	51	1	2		0	0	0	1	1	2
Foundation Data B-1	52	52	1	2		0	0	0	1	1	2
Foundation Data B-2	53	53	1	2		0	0	0	1	1	2
			22	729.00		36	73	146	255	219	729

MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
BRIDGE SHEET COUNT BY SUBMITTAL

	PA Plans (15%)	Initial Design Phase Plans (30%)	Final Design Phase Plans (50%)	Initial PS&E (90%)	Final PS&E (100%)
Bridge Plan & Elevation	1	1	1	1	1
Typical Section, Quantities & Profile Grade	1	1	1	1	1
General Notes	1	1	1	1	1
Bridge Removal Plan & Constr. Phasing	1	1	1	1	1
Foundation Plan	--	--	1	1	1
Foundation Details	--	--	1	1	1
Abutment 1 Plan & Elevation	--	--	1	1	1
Abutment 2 Plan & Elevation	--	--	1	1	1
Abutment Details - 1	--	--	1	1	1
Abutment Details - 2	--	--	1	1	1
Girder Details - 1	--	--	1	1	1
Girder Details - 2	--	--	1	1	1
Deck Plan	--	--	1	1	1
Deck Section & Details	--	--	1	1	1
Abutment Diaphragm & Details	--	--	1	1	1
Miscellaneous Details	--	--	1	1	1
Miscellaneous Details	--	--	1	1	1
Camber & Screed Details	--	--	1	1	1
Boring Location Plan & Notes	--	--	1	1	1
Foundation Data Explanations	--	--	1	1	1
Foundation Data B-1	--	--	--	1	1
Foundation Data B-2	--	--	--	1	1
Plan Sheets:	4	4	20	22	22

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: TO540 03D

COST PROPOSAL
FOR
TASK B - ADDITIONAL SERVICES (TASKS B.1 THROUGH B.4)

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Project Principal	0	\$ 122.06	\$ -
Project Manager	0	\$ 93.67	\$ -
Senior A/E	0	\$ 103.39	\$ -
A/E	0	\$ 71.89	\$ -
Junior A/E	0	\$ 49.58	\$ -
Designer	0	\$ 39.41	\$ -
CADD Technician	0	\$ 56.20	\$ -
Senior Environmental Planner	0	\$ 94.09	\$ -
Senior Biologist	0	\$ 47.57	\$ -
Senior Archaeologist	0	\$ 57.10	\$ -
Archaeologist	0	\$ 36.14	\$ -
Technical Editor	0	\$ 49.44	\$ -
GIS Analyst	0	\$ 57.90	\$ -
GIS Technician	0	\$ 38.99	\$ -
Administrative Support III	0	\$ 58.65	\$ -
Administrative Support II	0	\$ 41.91	\$ -
Administrative Support I	0	\$ 33.51	\$ -
Sub-Total (Direct Labor)	0	\$	-

OVERHEAD & FCCM:

Overhead Rate 157.94%	Overhead Cost	\$ -
	Sub-Total (DL+OH)	\$ -
FCCM 0.4525%	FCCM Cost	\$ -
	Sub-Total (DL+OH+FCCM)	\$0.00
Profit Rate 10.00%	Profit (on DL+OH)	\$ -
	Subtotal:	\$0.00

ESTIMATED DIRECT EXPENSES:

Allowance for Utility Line Location Subcontractor if needed with the assumption of approximately 1 potholes and 1 utility marking with survey. Assumed to include ROW permit and traffic control

Sub-Total Estimated Direct Expenses \$ -

Total Estimated Cost For Task B (Cost Plus Fixed Fee) **\$0.00**
(Estimated cost to be re-evaluated at time services are requested)

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

	COST
SWCA Environmental Consultants - Biological Resource Surveys	\$ 4,544.04
Sub-Total Outside Services and Consultants	\$ 4,544.04
	\$4,544.04

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract between HDR Engineering and Pima County.

ESTIMATED LABOR HOURS: TASK B - ADDITIONAL SERVICES
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

																						SUBCONSULTANT COSTS								
September 9, 2024	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	ALTA Survey	K2 Site Assess.	SWCA	Solis Eng.	Terracon	Wheat Design	Total Cost of Task		
TASKS																														
TASK B.1 ADDITIONAL UTILITY INVESTIGATION																														
B. 1.1 Utility Coordination and Survey (Coordination with Subcontractor) - NOT REQUIRED																		0	\$	-	\$	-						\$		
Subtotal Task B.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$	-	\$	-	\$	-	\$	-	\$	-	\$	
TASK B.2 STATE LAND COORDINATION																														
B. 2.1a State Land Coordination & Research (by Pima County) - NOT REQUIRED																		0	\$	-	\$	-						\$		
B. 2.1.b Prepare exhibit of project design features - NOT REQUIRED																		0	\$	-	\$	-						\$		
B. 2.1.c State Land legal description & Exhibit - NOT REQUIRED																		0	\$	-	\$	-						\$		
Subtotal Task B.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	\$	-	\$	-	\$	-	\$	-	\$	-	\$	
TASK B.3 ADDITIONAL BIOLOGICAL SURVEYS																														
B. 3.1 Cactus Ferruginous Pygmy Owl (CFPO) Surveys (See SWCA Proposal)																		0	\$	-	\$	-			\$ 1,885.97			\$ 1,885.97		
B. 3.2 Yellow Billed Cuckoo (YBCU) Surveys (See SWCA Proposal)																		0	\$	-	\$	-			\$ 2,658.07			\$ 2,658.07		
Subtotal Task B.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$	-	\$	-	\$	-	\$ 4,544.04	\$	-	\$	-	\$ 4,544.04
TASK B.4 OTHER SERVICES																														
B. 4.1 Other Services (allowance) - NOT REQUIRED																		0	\$	-	\$	-						\$		
Subtotal Task B.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$	-	\$	-	\$	-	\$	-	\$	-	\$	
TOTAL TASKS B.1 THROUGH B.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$	-	\$	-	\$	-	\$ 4,544.04	\$	-	\$	-	\$ 4,544.04

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: TO540 03D

COST PROPOSAL
FOR
TASK C - CONSTRUCTION SERVICES (TASKS C.1 THROUGH C.3)

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Project Principal	0	\$ 122.06	\$ -
Project Manager	217	\$ 93.67	\$ 20,326.39
Senior A/E	64	\$ 103.39	\$ 6,616.96
A/E	36	\$ 71.89	\$ 2,588.04
Designer	158	\$ 39.41	\$ 6,226.78
CADD Technician	56	\$ 56.20	\$ 3,147.20
Administrative Support III	24	\$ 58.65	\$ 1,407.60
Administrative Support I	12	\$ 33.51	\$ 402.12
Sub-Total (Direct Labor)	567	\$	40,715.09

OVERHEAD & FCCM:

Overhead Rate 157.94%	Overhead Cost	\$ 64,305.41
	Sub-Total (DL+OH)	\$ 105,020.50
FCCM 0.4525%	FCCM Cost	\$ 184.24
	Sub-Total (DL+OH+FCCM)	\$105,204.74
Profit Rate 10.00%	Profit (on DL+OH)	\$ 10,502.05
	Subtotal:	\$115,706.79

ESTIMATED DIRECT EXPENSES:

Drone flights during construction (Assume \$500 per flight & 4 flights)
(Cost and drone vendor to be confirmed and approved by Pima
County at the time of construction)

\$ 2,000.00
Sub-Total Estimated Direct Expenses \$ 2,000.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

Wheat Design Group, Inc. (DBE) - SWPPP & Landscaping	COST
	\$ 4,146.00
	\$ 4,146.00

Total Estimated Cost For Task C (Cost Plus Fixed Fee)	\$ 121,852.79
(Estimated cost to be re-evaluated at time services are requested)	

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract between HDR Engineering and Pima County.

ESTIMATED LABOR HOURS: TASK C - POST DESIGN SERVICES
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

SUBCONSULTANT COSTS																													
September 9, 2024	Project Principal	Project Manager	Senior A/E	A/E	Junior A/E	Designer	CADD Technician	Senior Envir. Planner	Senior Biologist	Senior Archaeol.	Archaeol.	Technical Editor	GIS Analyst	GIS Technician	Admin. Support III	Admin. Support II	Admin. Support I	Total Hours Per Task	HDR Cost of Task	HDR Direct Expenses	Total HDR Cost of Task	AeroTech Mapping	CMG Drainage	K2 Site Assess.	Newton Envir. Consulting	Solis Eng.	Terracon	Wheat Design	Total Cost of Task
TASKS																													
TASK C.1 PRE-BID SERVICES																													
C.1.1 Project Management during construction (2 hr/mo for PM & Admin III, 1 hr/mo for Admin I)		24													24		12	60	\$ 11,531.72		\$ 11,531.72								\$ 11,531.72
C.1.1a Attend pre-bid meeting (1 meetings @ 3 hours/meeting including prep)		3																3	\$ 798.59		\$ 798.59								\$ 798.59
C.1.1b Assist in the preparation of amendments (2 @ 4 hrs each for PM, Designer & CADD		8				8	8											24	\$ 4,303.27		\$ 4,303.27								\$ 4,303.27
C.1.1c Address questions on the plans and specifications		4		16		16												36	\$ 6,125.58		\$ 6,125.58								\$ 6,125.58
C.1.1d Bid Evaluations		4	8															12	\$ 3,415.35		\$ 3,415.35								\$ 3,415.35
Subtotal Task C.1	0	43	8	16	0	24	8	0	0	0	0	0	0	0	24	0	12	135	\$ 26,174.51	\$ -	\$ 26,174.51	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,174.51
TASK C.2 CONSTRUCTION SERVICES																													
C.2.1.a Attend one pre-construction meeting and one partnering meeting (4 hrs for PM at Pre-Con Mtg, 6 hrs for PM & Designer at Partnering mtg.)		10				6												16	\$ 3,333.96		\$ 3,333.96								\$ 3,333.96
C.2.1.b Attend weekly construction meeting (1.5 hrs/meeting x 12 months x 4 weeks/month for PM)		72																72	\$ 19,166.22		\$ 19,166.22								\$ 19,166.22
C.2.1.c Conduct site observations of work under construction (conducted after every other weekly construction meetings, 24 observations @ 2 hours)		48																48	\$ 12,777.48		\$ 12,777.48								\$ 12,777.48
C.2.1.d Evaluate and/or recommend changes in the construction documents		8		8		8												24	\$ 4,659.98		\$ 4,659.98								\$ 4,659.98
C.2.1.e Provide design details and revised drawings as needed to support construction (8 total revisions @ 6 hrs each)		4		12		12	24											52	\$ 8,693.49		\$ 8,693.49								\$ 8,693.49
C.2.1.f Review of shop drawings, erection procedure plans, form work details, and proposals for substitutions or "approved alternates" (Assumes 16 submittals at 10 hrs each on average)		20	40			100												160	\$ 28,276.56		\$ 28,276.56							\$ 4,146.00	\$ 32,422.56
C.2.1.g Evaluate value engineering proposals (1 proposal review)		8	16															24	\$ 6,830.71		\$ 6,830.71								\$ 6,830.71
C.2.1.h Prepare the "As-Built" documents		2				4	12											18	\$ 2,896.94		\$ 2,896.94								\$ 2,896.94
C.2.1.i Drone flights during construction are assumed to cost approximately \$500 per flight but will need to be confirmed during construction. (Assume 4 flights @ \$500)																		0	\$ -	\$2,000	\$ 2,000.00								\$ 2,000.00
Subtotal Task C.2	0	172	56	20	0	130	36	0	0	0	0	0	0	0	0	0	0	414	\$ 86,635.33	\$ 2,000.00	\$ 88,635.33	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,146.00	\$ 92,781.34	
TASK C.3 POST CONSTRUCTION SERVICES				0														0		\$ -		\$ -		\$ -					
C.3.1 Post Construction Electronic AS-Builts		2				4	12											18	\$ 2,896.94	\$ -	\$ 2,896.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,896.94
Subtotal Task C.3	0	2	0	0	0	4	12	0	0	0	0	0	0	0	0	0	0	18	\$ 2,896.94	\$ -	\$ 2,896.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,896.94
TOTAL TASKS C.1 THROUGH C.3	0	217	64	36	0	158	56	0	0	0	0	0	0	0	24	0	12	567	\$ 115,706.79	\$ 2,000.00	\$ 117,706.79	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,146.00	\$ 121,852.79	

Cost Proposal

for

Alta Survey, LLC – Field Survey & Right-of-Way

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)

geotechnical

PROPOSAL for PROFESSIONAL SURVEYING SERVICES

survey

Proposal No.: 241122

environmental

Date: August 28, 2024

 special
inspections

 Client: HDR, Inc.
1 S Church Ave, #1400
Tucson, AZ 85701

 material
testing

 Project: **Madera Canyon
Pima County**

Attention: Larry Barela

Alta Survey, LLC dba Alta Arizona, appreciates the opportunity to provide you with this proposal to provide professional survey services for the Madera Canyon project. Alta will utilize previous survey control and right-of-way information performed by Johnson Brittain/HDR for the Florida Canyon Wash and Medium Wash bridges. The following survey services will be provided by Alta Arizona (hereinafter referred to as "Alta"):

Phoenix

**MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (CTR.4MADMB)
FEDERAL ID PPM-0(274) D
ADOT TRACS NO. T0541 01D/03D**

Tucson

Florence

Sierra Vista

TASK A.7 SURVEY AND MAPPING

Task A.7.1. Initial Planning and Reconnaissance. The Consultant will not conduct a formal coordination meeting with County Surveyor prior to the start of any survey efforts. The Consultant has provided the County the survey report from the County's previous Madera Canyon bridge projects at Medium Wash, project no. 4MCAMW, and Florida Canyon Wash, project number 4MCAFW, initially submitted to the County in August of 2000. This previous report and survey and mapping data shall be the basis of this project's survey control and project design.

Task A.7.2. Horizontal Control. The control shall be based on NAD 83 (HARN 1992) and NAVD 88 datums by using PCDOT provided National Geodetic Survey, Forest Service, and PC/COT approved GIS control points. ALTA Survey, LLC will perform verification Global Positioning System (GPS) surveys on the control points.

Task A.7.3. Vertical Control Traverse. ALTA Survey, LLC will perform verification GPS surveys on the previous construction benchmarks.

Task A.7.7. Utility Surveys. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities markings will be done by the Consultant under the utility task for this project. ALTA Survey, LLC will perform verification surveys on previously located surface utilities and will locate more recent visible utilities and also locate underground utilities as identified and marked by others for the length of the project. ALTA Survey, LLC will determine the overhead wire elevations at the crossing locations of the temporary detour roads. Any potholing needed for utility locating will be provided under Task B.1 Additional Utility Investigation.

Task A.7.8. Culture Surveys. ALTA Survey, LLC will locate fences, traffic signs, culvert inverts, wash bottom, drainage features and flows, and match-in locations along the project length. ALTA Survey, LLC will also perform spot supplemental mapping surveys to locate terrain features at locations along the anticipated detour not covered by the previous mapping data.

Task A.7.9. Right-of-way of Surveys. ALTA Survey, LLC will perform verification surveys to search for controlling survey monuments including right-of-way centerline monuments, controlling right-of-way corners and existing occupation, to confirm the existing right-of-way lines and centerline. The controlling right-of-way monumentation along the original 66-foot right-of-way will not be established and no additional right-of-way survey documentation will be provided.

Task A.7.13 Boring Locations. ALTA Survey, LLC will stake anticipated boring hole locations as provided by geotechnical investigation and provide existing ground elevations at the final boring locations.

Deliverables:

- Digital ASCII point files in comma delimited format.
- Field survey information

MEDIUM WASH BRIDGE FEE

\$15,693.82

**MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (CTR.4MADFL)
FEDERAL ID PPM-0(273) D
ADOT TRACS NO. T0540 01D/03D**

TASK A.7 SURVEY AND MAPPING

Task A.7.2. Horizontal Control. The control shall be based on NAD 83 (HARN 1992) and NAVD 88 datums by using PCDOT provided National Geodetic Survey, Forest Service, and PC/COT approved GIS control points. ALTA Survey, LLC will perform verification Global Positioning System (GPS) surveys on the control points.

Task A.7.3. Vertical Control Traverse. ALTA Survey, LLC will perform verification GPS surveys on the previously construction benchmarks.

Task A.7.7. Utility Surveys. Blue Staking and other utility features will be located during the culture survey. Coordination for underground utilities markings will be done by the Consultant under the utility task for this project. ALTA Survey, LLC will perform verification surveys on previously located surface utilities and will locate more recent visible utilities and also locate underground utilities as identified and marked by others for the length of the project. ALTA Survey, LLC will determine the overhead wire elevations at the crossing locations of the temporary detour roads. Any potholing needed for utility locating will be provided under Task B.1 Additional Utility Investigation.

Task A.7.8. Culture Surveys. ALTA Survey, LLC will locate fences, traffic signs, culvert inverts, wash bottom, drainage features and flows, and match-in locations along the project length. ALTA Survey, LLC will also perform spot supplemental mapping surveys to locate terrain features at locations along the anticipated detour not covered by the previous mapping data.

Task A.7.9. Right-of-way of Surveys. ALTA Survey, LLC will perform verification surveys to search for controlling survey monuments including right-of-way centerline monuments, controlling right-of-way corners and existing occupation, to confirm the existing right-of-way lines and centerline. The controlling right-of-way monumentation along the original 66-foot right-of-way will not be established and no additional right-of-way survey documentation will be provided.

Task A.7.13 Boring Locations. ALTA Survey, LLC will stake anticipated boring hole locations as provided by geotechnical investigation and provide existing ground elevations at the final boring locations.

Deliverables:

- Digital ASCII point files in comma delimited format.
- Field survey information.

FLORIDA CANYON WASH BRIDGE FEE

\$15,693.82

I hope that this proposal is responsive to your request in terms of services, fee and schedule. If you have any questions or concerns, please contact me at 520.398.6651 or at patricia.gajda@altarizona.com.

Best Regards,

Patricia Gajda, RLS
Survey Manager



PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, FLORIDA WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D

COST PROPOSAL
FOR
TASK A.7 - SURVEY AND MAPPING

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours	Hourly Rate	Labor Cost
Registered Land Surveyor	20	\$ 62.12	\$ 1,242.40
Survey Crew 2-Person	56	\$ 60.20	\$ 3,371.20
CAD Tech	20	\$ 35.10	\$ 702.00
Clerical/Admin	4	\$ 28	\$ 112.00
Sub-Total (Direct Labor)	100	\$	5,427.60

OVERHEAD & FCCM:

Overhead Rate 167.73%	Overhead Cost	\$	9,103.71
	Sub-Total (DL+OH)	\$	14,531.31
FCCM 0.0000%	FCCM Cost	\$	-

Sub-Total (DL+OH+FCCM) \$14,531.31

PROFIT:

Profit Rate (Net Fee) 8.00%	Profit (on DL+OH)	\$	1,162.51
	Subtotal:		\$15,693.82

ESTIMATED DIRECT EXPENSES:

None	\$	-
	\$	-
	\$	-
Sub-Total Estimated Direct Expenses	\$	-

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None	COST
	\$ -
Sub-Total Outside Services and Consultants	\$ -

Total Estimated Cost For Task A.7 (Cost Plus Fixed Fee) \$15,693.82

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

Project Number:

241122

Project Name:

MADERA CANYON, FLORIDA WASH BRIDGE

Project Manager:

REPLACEMENT (CTR.4MADFL)

Date:

8/28/2024

Task No.	Task Description	RLS \$ 179.62 /Hr Hrs. Amount	Survey Crew 3-Person /Hr Hrs. Amount	Survey Crew 2-Person \$ 174.07 /Hr Hrs. Amount	CAD Tech \$ 101.49 /Hr Hrs. Amount	Clerical/Admin \$ 80.96 /Hr Hrs. Amount	Alta Arizona Task Total
A.7.2.	Horizontal Control						
	GPS verification of existing control points	4 \$ 718.48		6 \$ 1,044.42	2 \$ 202.98	4 \$ 323.84	\$ 2,289.72
A.7.3.	Vertical Control Traverse						
	GPS verification of existing construction benchmarks	4 \$ 718.48		4 \$ 696.28	2 \$ 202.98		\$ 1,617.74
A.7.7	Utility Surveys						
	Verify previously located surface utilities/locate new utilities	2 \$ 359.24		8 \$ 1,392.56	4 \$ 405.96		\$ 2,157.76
	Locate overhead wire elevations	2 \$ 359.24		4 \$ 696.28	4 \$ 405.96		\$ 1,461.48
A.7.8.	Culture Surveys						
	Locate culture and perform spot supplemental surveys	2 \$ 359.24		20 \$ 3,481.40	4 \$ 405.96		\$ 4,246.60
A.7.9.	Right-of-way Surveys						
	Verification surveys to search for controlling and r/w centerline monuments	4 \$ 718.48		8 \$ 1,392.56	2 \$ 202.98		\$ 2,314.02
A.7.13.	Boring Locations						
	Stake boring locations and provide ground elevations	2 \$ 359.24		6 \$ 1,044.42	2 \$ 202.98		\$ 1,606.64
	Total Survey and Mapping	20 \$ 3,592.40		56 \$ 9,747.92	20 \$ 2,029.80	4 \$ 323.84	\$ 15,693.82

Cost Proposal

for

K2 Site Assessments (DBE) – Hazardous Materials

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)



Mr. Ted W. Buell P.E.
Structures Section Manager
HDR Engineering, Inc.
One South Church Ave., Ste 1400
Tucson, AZ 85701-1612

September 9, 2024

RE: REVISED Proposal for PISA, Lead, and Asbestos Assessment Services
Madera Canyon Road, Florida Canyon Wash Bridge Project AND Medium Wash
Bridge Project
Pima County Proj. # 4MADFL, Federal Proj. # PPM-0(273)D, ADOT Tracs # T054003D
Pima County Proj. # 4MADMB, Federal Proj. # PPM-0(274)D, ADOT Tracs # T05403D
Pima County, Arizona

Dear Mr. Buell:

Pursuant to our conversations, I am providing an estimate of hours to provide a Preliminary Initial Site Assessment (PISA) report, and lead/asbestos analysis and letter reports for the projects referenced above. The project involves replacement of two bridges on Madera Canyon Road, over Florida Canyon Wash and Medium Wash, plus a concrete culvert located between the existing bridges. The environmental clearance for the project requires the completion of a Preliminary Initial Site Assessment (PISA), conforming to ASTM E 1528-21 protocols. The bridge (and culvert) concrete and roadway striping will be assessed for lead and asbestos content, and that deliverable will be separate PISA reports for the Medium Wash Bridge plus a concrete culvert, and for the Florida Canyon Wash Bridge. Lead and asbestos report letters, will be completed for each bridge. K2 Site Assessments (K2SA) is familiar with the procedures and expectations of ADOT's Hazardous Waste staff, and Pima County requirements as well.

The PISA reports will include a PISA Information Form / Geotech Clearance Form as an attachment. Graphics (maps) for all deliverables will be provided by HDR. The asbestos and lead sampling effort will include paint on the bridge elements (if any) and the roadway striping, and asbestos assessment will include all paint samples collected, plus any separate elements of the bridge that may contain asbestos (expansion joints, railing pads, etc.) if present. We anticipate that the field reconnaissance for the PISA, and sampling effort for asbestos and lead, can be completed in two field days, weather permitting.

We propose to use Fiberquant Labs in Phoenix for asbestos analysis (polarized light microscopy [PLM] only), and for lead analysis (samples analyzed by EPA Test Method SW 846 6010B, with required digestion). Regulatory data to support the PISA will be obtained from EDR of Southport, CT. Cost sheets from each of these three vendors are attached.

The schedule for the project is dependent upon the date of Notice-to-Proceed, the limitations of an encroachment permit from Pima County (if required), and weather. We anticipate 1-2 weeks of preliminary efforts prior to mobilizing to the site, two days of field work, one week for receipt of laboratory results, and two weeks for analysis of results and preparation of reports. If those estimates hold, we anticipate delivery of reports at 5-6 weeks following NTP.

The anticipated level of effort for the project is 76 hours for scientist-level effort (18 for field, 12 for pre-and-post field research, 28 hours for PISA report preparation, 14 hours for lead and asbestos letter preparation, and 4 hours for administration/billing/project documentation). Fixed costs will include lodging, laboratory costs (for analysis for asbestos and lead content of samples), costs for the EDR database report, and miscellaneous field costs. A breakdown of costs is provided below:

Cost plus fixed fee (10%)

Total Direct Labor (DL):	Env. Planner/Scientist-Sr. \$70/hr	\$5,320.00
(76 hrs) = Overhead (OH):	(150%)(5,320) =	<u>\$7,980.00</u>
Total (DL+OH):		\$13,300.00
Profit (10%)	(10%)(13,300)	\$1,330.00
Direct Expenses		\$1,476.14*
Total Estimated Fee:		\$16,106.14 - (\$8,053.07 per project)

*Direct Expenses

-EDR cost \$170.00

-Lab costs – Fiberquant (lead) \$16.50 x 8 samples = \$132.00, Fiberquant (asbestos) \$16.50 x 40 samples = \$660.00, \$132.00 + 660.00 = \$792.00

-Mileage Prescott to 150 W. Congress St., Tucson - R/T 442 miles @ \$0.67 per mile = \$296.14

-Field consumables (sample bags, masks, gloves, <\$20>, 2 day per diem \$39.00 [By Pima County policy]), 1 night hotel \$120, = \$218.00

Payment is expected to be in accordance with the terms of the subconsultant agreement.

The required insurance certifications will be provided along with our response to HDR's subconsultant agreement. We maintain coverages in agreement with HDR's and the State of Arizona's requirements. Please reply to this proposal with an executed subconsultant agreement, so that my signature thereupon will constitute an executed contract.

Thanks for the opportunity, and I look forward to assisting the HDR team to a successful execution of this project for this important client.

All the best –



Kelly W. Kading CPG
Vice President
K2 Site Assessments

Cc: Jana Kading, President, K2 Site Assessments

Attachments: Backup rate sheets for Fiberquant Lab, and EDR. NOTE – dates for these cost sheets are 2018-2020, but all costs are the same currently.

ATTACHMENTS

Backup cost sheets from Fiberquant and EDR



EDR Fee Schedule

Prices effective January 2021

EDR Packages with Lightbox™ (see table on page 3)

Premium Package	\$ 520
Standard Package	\$ 350
Basic Package	\$ 250
NJ PA Package	\$ 800

Scope Specific Addendums (with Package)

NEPACheck Report	\$ 115
Industrial Addendum	\$ 115
Multi Tenant Retail Report (no cov/cov)	\$ 70 / \$ 150

a la Carte Resources

Radius Map w/ GeoCheck	\$ 170
Radius Map w/o GeoCheck	\$ 145
NEPACheck Report	\$ 155
Certified Sanborns (no cov/coverage)	\$ 65 / \$ 145
Certified Sanborns (ordered w/Radius Map)	\$ 15 / \$ 95
Additional Certified Sanborn Tiles	\$ 65
Aerial Photo Decade Package	\$155
Adjoining Sets of Aerial Photos	\$155
City Directory Search (no cov/coverage)	\$65 / \$115
CD Additional Address (Abstract only)	\$25
CD Additional Street (Image only)	\$45
Historical Topographic Maps	\$115
Adjoining Sets of Historical Topos	\$115
EDR Building Permit Report	\$70
Tax Parcel Map Report	\$25

Report Authoring & Project Management

PARCEL Phase I ESA	\$ 150
PARCEL PCA	\$ 150
PARCEL FastTrack	\$ 100
PARCEL Phase I Update	\$ 85
PARCEL ASTM Transaction Screen	\$ 50 - \$100
PARCEL FDIC Checklist	\$ 50
PARCEL Database Review	\$ 50

Land Title Reports

Chain of Title (one owner/deed)	\$ 360
COT Additional Owner/Deed	\$ 360
COT Search with Premium Pack	\$ 160
Env Lien & AUL Search Report (one parcel)	\$ 255
Additional Parcel	\$ 100



EDR Fee Schedule

Prices effective January 2021

Industrial Reports

AuditCheck Facility Report	\$ 275
AuditCheck Facility Corporate Report	\$ 425
AuditCheck Destination Report	\$ 525
AuditCheck Risk Sharing Report	\$ 525
Site Report	\$ 115
NJ McRaes Industrial Directory Report	\$ 205
Offsite Receptor Report	\$ 425

Rush Charges

Super Rush - Per Product (1-2 days)	\$ 150
Rush - Per Product (2-3 days)	\$ 75

*Please call for rush fees on Liens and Chains

Custom Services, Call For a Quote

Area Study
Corridor Study
GIS Format
Water Wells
Aerial Custom Research
City Directory Custom Research
Historical Topographic Maps Custom Research
Certified Sanborns Custom Research
EDR OnDemand

State-Specific Reports

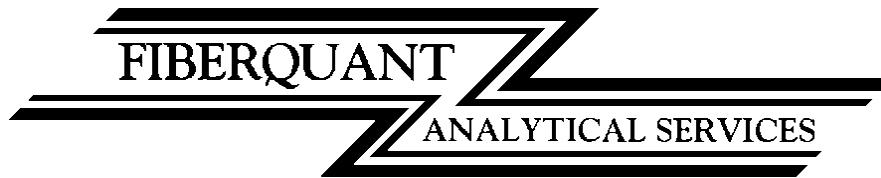
NJ Preliminary Assessment Package	\$ 800
GeoCheck Well Report	\$ 250
TX Oil/Gas Report 1/4 Mile	\$ 105
TX Oil/Gas Report 1/2 Mile	\$ 155
TX Oil/Gas Report 1 Mile	\$ 300
TX Oil/Gas Report > 1 Mile	custom
TX Water Well Report 1/4 Mile	\$ 105
TX Water Well Report 1/2 Mile	\$ 155
TX Water Well Report 1 Mile	\$ 300
TX Water Well Report > 1 Mile	custom



EDR Fee Schedule

Prices effective January 2021

EDR Packages	Radius Map	Basic	Standard	Premium
DATA COLLECTION & ANALYSIS				
Lightbox	X	X	X	X
Mobile App	X	X	X	X
VEC App	X	X	X	X
Reports & Data				
Radius Map Report	X	X	X	X
Recovered Govt. Archives (Exclusive)	X	X	X	X
Single File for Historical Reports		X	X	X
Certified Sanborn Maps		X	X	X
Historical Aerials		X Select One	X	X
Historical City Directories			X	X
Historical Topos			X	X
Property Tax Map Report				X
Building Permit Report (PDF)				X
EDR Lien & AUL Report				X
Free Historical Report Reworks				X
1-3 Day TAT (except Lien Search)				X



Kelly Kading
K2 Site Assessments
Prescott, AZ

July 6th, 2023

Dear Ms. Kading,

Thank you for your email yesterday. As requested, I am providing a fee schedule for our analyses.

Microbial

Non-viable Spore traps (1-2 day turnaround)	\$27.50 ea.
Non-viable Spore traps (6- hour turnaround)	\$41.25 ea.
Non-viable bulk identification (1-2 day turnaround)	\$25.00 ea.
Non-viable bulk identification (4-hour turnaround)	\$37.50 ea.

Asbestos

PLM all layers (1-3 day turnaround)	\$16.50 ea.
PLM all layers (6-hour turnaround)	\$24.75 ea.
PLM built-up roofing (1-3 day turnaround)	\$70.00/hour
PLM built-up roofing (6-hour turnaround)	\$105.00/hour
TEM air cassettes (24-hour turnaround)	\$90.00 ea.
TEM air cassettes (6-hour turnaround)	\$135.00 ea.
PCM air cassettes (24-hour turnaround)	\$11.00 ea.
PCM air cassettes (4-hour turnaround)	\$15.50 ea.

Lead

FAA lead wipes, chips, soils and filters (1-3 day turnaround)	\$16.50 ea.
FAA lead wipes, chips, soils and filters (6-hour turnaround)	\$37.50 ea.

Please let me know if there is any further information (references, certificates of insurance, etc....) that I can provide.

Sincerely,

A handwritten signature in black ink that reads 'Michael Breu'. The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Michael Breu
Technical Manager
Fiberquant Analytical Services

Cost Proposal

for

SWCA Environmental Consultants – Biological Resource Surveys

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)



ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.®

343 West Franklin Street
Tucson, Arizona 85701
Tel 520.325.9194 Fax 520.325.2033
www.swca.com

August 27, 2024

Maria M. Altemus, CEP-IT
HDR, Inc.
via email: Maria.Altemus@hdrinc.com

Re: Revised Scope and Cost to Provide Biological Resource Surveys and Desktop Reviews for the Madera Canyon, Florida Canyon Wash and Medium Wash Bridges Replacement Project (CTR.4MADFL), Pima County, Arizona

Dear Maria Altemus:

SWCA Environmental Consultants (SWCA) appreciates the opportunity to provide you with our revised scope of work and cost to complete biological resources services for the Madera Canyon Road bridges replacement project (**CTR.4MADFL**), Pima County, Arizona.

The cost to complete these services, as described in the attached scope of work, is a **not-to-exceed cost of \$14,923.66, including optional species-specific surveys, with the costs evenly split between the two projects.**

Thank you for providing us with the opportunity to work with you. Please contact me at (520) 325-9194 if you have any questions regarding this cost proposal.

Sincerely,

Russell Waldron
Senior Natural Resources Team Lead

SCOPE OF WORK

TASK 1. BIOLOGICAL EVALUATION SUPPORT

SWCA will prepare written species analyses for inclusion in the two Biological Evaluation reports to be prepared by HDR. The written analyses will address the following species listed under the Endangered Species Act (ESA): Pima pineapple cactus (*Coryphantha sheeri robustispina*), cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), jaguar (*Pantera onca*), and yellow-billed cuckoo (*Coccyzus americanus occidentalis*). The analyses will summarize the habitat requirements, historical and current known distribution, and potential for each species to be present in or near each of the two project areas.

To support the written analysis for the Pima pineapple cactus (PPC), SWCA will complete a protocol survey within the boundaries of disturbance for the two projects, according to the current approved protocol. SWCA will record the locations of any PPC, as well as the size and health of each individual, to support an assessment of appropriate avoidance or mitigation measures. Information gained during the site visit for the PPC survey will also be used to support the analysis for other ESA-listed species addressed in the written text.

DELIVERABLES:

Pima pineapple cactus survey results letter reports (Word/pdf)

Unformatted text for inclusion in HDR's BE documents (Word)

COST

Cost to complete Task 1 for Florida Canyon Wash bridge: \$2,917.79

Cost to complete Task 1 for Medium Wash bridge: \$2,917.79

TASK 2. CACTUS FERRUGINOUS PYGMY-OWL SURVEY (OPTIONAL TASK)

If the results of the site visit under Task 1 indicate that suitable habitat (appropriate vegetation community with plants that support nest cavities) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the cactus ferruginous pygmy-owl according to the most current approved protocol. The USFWS has indicated that an updated protocol may be released in the foreseeable future, and that in the interim, a previously approved protocol may be used. The current protocol recommends that surveys be conducted between January 1 and June 30. Three separate visits must be conducted, at least 15 days apart. Fall surveys between September 15 and October 31 may be conducted but are likely to provide poorer results, and negative results for fall surveys may not be considered evidence of absence. Two separate visits at least 15 days apart must be conducted in fall. If the surveys are determined to be warranted and if compatible with the project schedule, SWCA recommends completion of spring surveys to provide the most reliable results.

DELIVERABLES:

Cactus ferruginous pygmy-owl survey results letter reports (Word/pdf)

Updated analysis text for inclusion in HDR's BE documents, if needed based on survey results (Word)

COST

Cost to complete Task 2 for Florida Canyon Wash bridge: \$1,885.97

Cost to complete Task 2 for Medium Wash bridge: \$1,885.97

TASK ASSUMPTIONS:

Cost is based on a protocol that may be superseded. If an updated protocol approved by USFWS increases the level of effort, a change order would be required.

TASK 3. YELLOW-BILLED CUCKOO (OPTIONAL TASK)

If the results of the site visit under Task 1 indicate that suitable, yellow-billed cuckoo habitat (appropriate vegetation community) is present within or near the project area, or if required as a result of coordination with the U.S. Fish and Wildlife Service (USFWS) or other agencies, SWCA will complete a survey for the yellow-billed cuckoo according to the most current approved protocol. The current protocol recommends that one survey be conducted between June 15th and July 1st, two surveys between July 1st and July 31st and one survey between July 31st and August 15th. Because the survey windows have passed, surveys for this species would not be definitive for the absence of the species in the project area and would be considered non-protocol (exploratory) surveys. However, non-protocol surveys conducted in September 2024 along with a habitat assessment could inform the biological evaluation effects determination analysis and determine the need for protocol surveys in 2025, or seasonal restrictions on construction activities at one or both the bridge locations.

DELIVERABLES:

Yellow-billed cuckoo survey results letter reports (Word/pdf)

Updated analysis text for inclusion in HDR's BE documents, if needed based on survey results (Word)

COST

Cost to complete Task 3 for Florida Canyon Wash bridge: \$2,658.07

Cost to complete Task 3 for Medium Wash bridge: \$2,658.07

TASK ASSUMPTIONS:

Cost is based on current yellow-billed cuckoo protocol.

OVERALL ASSUMPTIONS

- The ability to conduct fieldwork will be unimpeded by weather, road construction, landowner restrictions, force majeure, or any other factor(s) outside SWCA's control. Access to project area lands will be arranged by a client representative. If for any reason SWCA personnel are not able to survey the project area as a result of access restrictions, additional costs could be incurred beyond the amount proposed herein.
- This scope and budget assume that both bridges assessments will be awarded together and will be surveyed at the same time. If only one bridge assessment is awarded or the assessments are staggered, then additional costs may be incurred and subject to a change order.
- Any task not expressly described herein is not included in the proposed cost.

SWCA
SWCA Project Number: 89828
August 27, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

**DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D**

&

**MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D**

**COST PROPOSAL
FOR
TASK 1 - BIOLOGICAL EVALUATION SUPPORT**

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours		Hourly Rate		Labor Cost
Project Manager (Specialist [SP] X)	3.0	\$	55.59	\$	166.77
Project Manager (Specialist [SP] IX)	2.0	\$	50.39	\$	100.78
Project Biologist (SP VII)	16.0	\$	39.49	\$	631.84
Project Biologist - Field Biologist (SP V)	10.0	\$	33.29	\$	332.90
Project Biologist - Field Biologist (SP IV)	10.0	\$	29.29	\$	292.90
GIS/CADD (SP IX)	4.0	\$	50.39	\$	201.56
GIS/CADD GIS/CADD (SP V)	1.0	\$	33.29	\$	33.29
Administration (SP VI)	2.5	\$	36.40	\$	91.00
Publications (SP VIII)	0.5	\$	44.39	\$	22.20
Publications (SP IX)	1.5	\$	50.39	\$	75.59
Sub-Total (Direct Labor)	50.5			\$	1,948.82

OVERHEAD & FCCM:

Overhead Rate 175.36%

Overhead Cost \$ 3,417.45

Sub-Total (DL+OH) \$ 5,366.27

FCCM 0.0000%

FCCM Cost \$ -

Sub-Total (DL+OH+FCCM) \$5,366.27

PROFIT:

Profit Rate (Net Fee) 8.00%

Profit (on DL+OH) \$ 429.30

Subtotal: \$5,795.57

ESTIMATED DIRECT EXPENSES:

Supplies (tablet + GPS)	\$	40.00
Hotel	\$	-
Per Diem	\$	-
Sub-Total Estimated Direct Expenses	\$	40.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None

COST

\$ -

Sub-Total Outside Services and Consultants \$ -

Total Estimated Cost For Task 1 (Cost Plus Fixed Fee) **\$5,835.57**

(Total Cost is split evenly between the two bridges)

Task 1 cost for Medium Wash Bridge Replacement: \$ 2,917.79

Task 1 cost for Florida Canyon Wash Bridge Replacement: \$ 2,917.79

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

SWCA
SWCA Project Number: 89828
August 27, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

**DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D**

&

**MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D**

**COST PROPOSAL
FOR
TASK 2 - CFPO Surveys**

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours		Hourly Rate		Labor Cost
Project Manager (Specialist [SP] X)	3.0	\$	55.59	\$	166.77
Project Manager (Specialist [SP] IX)	0.0	\$	50.39	\$	-
Project Biologist (SP VII)	6.0	\$	39.49	\$	236.94
Project Biologist - Field Biologist (SP V)	18.0	\$	33.29	\$	599.22
Project Biologist - Field Biologist (SP IV)	0.0	\$	29.29	\$	-
GIS/CADD (SP IX)	1.0	\$	50.39	\$	50.39
GIS/CADD GIS/CADD (SP V)	1.0	\$	33.29	\$	33.29
Administration (SP VI)	2.5	\$	36.40	\$	91.00
Publications (SP VIII)	0.0	\$	44.39	\$	-
Publications (SP IX)	1.0	\$	50.39	\$	50.39
Sub-Total (Direct Labor)	32.5			\$	1,228.00

OVERHEAD & FCCM:

Overhead Rate 175.36%

Overhead Cost \$ 2,153.42

Sub-Total (DL+OH) \$ 3,381.42

FCCM 0.0000%

FCCM Cost \$ -

Sub-Total (DL+OH+FCCM) \$3,381.42

PROFIT:

Profit Rate (Net Fee) 8.00%

Profit (on DL+OH) \$ 270.51

Subtotal: \$3,651.93

ESTIMATED DIRECT EXPENSES:

Supplies (tablet + GPS)- 3 days @ \$40 per day	\$	120.00
Hotel	\$	-
Per Diem	\$	-
Sub-Total Estimated Direct Expenses	\$	120.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None

COST

\$ -

Sub-Total Outside Services and Consultants \$ -

Total Estimated Cost For Task 1 (Cost Plus Fixed Fee) \$3,771.93

(Total Cost is split evenly between the two bridges)

Task 1 cost for Medium Wash Bridge Replacement: \$ 1,885.97

Task 1 cost for Florida Canyon Wash Bridge Replacement: \$ 1,885.97

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

SWCA
SWCA Project Number: 89828
August 27, 2024

PIMA COUNTY DEPARTMENT OF TRANSPORTATION

DESIGN ENGINEERING SERVICES FOR
MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB)
FEDERAL PROJECT NO.: PPM-0(274)D; ADOT TRACS NO.: T0541 03D
&
MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)
FEDERAL PROJECT NO.: PPM-0(273)D; ADOT TRACS NO.: T0540 03D

COST PROPOSAL
FOR
TASK 3 - YBCU SURVEYS

ESTIMATED DIRECT LABOR:

Staff Classification	Estimated Hours		Hourly Rate		Labor Cost
Project Manager (Specialist [SP] X)	1.0	\$	55.59	\$	55.59
Project Manager (Specialist [SP] IX)	2.0	\$	50.39	\$	100.78
Project Biologist (SP VII)	6.0	\$	39.49	\$	236.94
Project Biologist - Field Biologist (SP V)	0.0	\$	33.29	\$	-
Project Biologist - Field Biologist (SP IV)	30.0	\$	29.29	\$	878.70
GIS/CADD (SP IX)	1.0	\$	50.39	\$	50.39
GIS/CADD GIS/CADD (SP V)	1.0	\$	33.29	\$	33.29
Administration (SP VI)	2.5	\$	36.40	\$	91.00
Publications (SP VIII)	0.0	\$	44.39	\$	-
Publications (SP IX)	1.0	\$	50.39	\$	50.39
Sub-Total (Direct Labor)	44.5			\$	1,497.08

OVERHEAD & FCCM:

Overhead Rate 175.36%	Overhead Cost	\$	2,625.28
	Sub-Total (DL+OH)	\$	4,122.36
FCCM 0.0000%	FCCM Cost	\$	-
	Sub-Total (DL+OH+FCCM)		\$4,122.36

PROFIT:

Profit Rate (Net Fee) 8.00%	Profit (on DL+OH)	\$	329.79
	Subtotal:		\$4,452.15

ESTIMATED DIRECT EXPENSES:

Supplies (tablet + GPS)- 3 days at \$40 per day	\$	120.00
Hotel	\$	360.00
Per Diem	\$	384.00
Sub-Total Estimated Direct Expenses	\$	864.00

OUTSIDE SERVICES AND CONSULTANTS

(Listed by Item at Actual Cost - NO MARKUP)

None	COST	
	\$	-
Sub-Total Outside Services and Consultants	\$	-
Total Estimated Cost For Task 1 (Cost Plus Fixed Fee)		\$5,316.15
(Total Cost is split evenly between the two bridges)		
Task 1 cost for Medium Wash Bridge Replacement:	\$	2,658.07
Task 1 cost for Florida Canyon Wash Bridge Replacement:	\$	2,658.07

Hourly rates listed are average rates per category and are based on the rate schedule established for this contract. Actual hourly rates will be used for billing purposes in accordance with the cost plus fixed fee contract.

Table 1. Cost Estimate

Labor		Task 1. BE Support		Task 2. CFPO Surveys		Task 3. YBCU Surveys		Totals	
Project Role	Billing Rate	Hours	Charge	Hours	Charge	Hours	Charge	Hours	Charge
Project Manager (Specialist [SP] X)	\$ 165.32	3.0	\$ 495.96	3.0	\$ 495.96	1.0	\$ 165.32	7.0	\$ 1,157.24
Project Manager (Specialist [SP] IX)	\$ 149.85	2.0	\$ 299.70	0.0	\$ 0	2.0	\$ 299.70	4.0	\$ 599.40
Project Biologist (SP VII)	\$ 117.44	16.0	\$ 1,879.04	6.0	\$ 704.64	6.0	\$ 704.64	28.0	\$ 3,288.32
Project Biologist - Field Biologist (SP V)	\$ 99.00	10.0	\$ 990.00	18.0	\$ 1,782.00	0.0	\$ 0	28.0	\$ 2,772.00
Project Biologist - Field Biologist (SP IV)	\$ 87.11	10.0	\$ 871.10	0.0	\$ 0	30.0	\$ 2,613.30	40.0	\$ 3,484.40
GIS/CADD (SP IX)	\$149.85	4.0	\$ 599.40	1.0	\$ 149.85	1.0	\$ 149.85	6.0	\$ 899.10
GIS/CADD GIS/CADD (SP V)	\$ 99.00	1.0	\$ 99.00	1.0	\$ 9.00	1.0	\$ 99.00	3.0	\$ 297.00
Administration (SP VI)	\$108.25	2.5	\$ 270.63	2.5	\$ 270.63	2.5	\$ 270.63	7.5	\$ 811.89
Publications (SP VIII)	\$132.01	0.5	\$ 66.01	0.0	\$ 0	0.0	\$ 0	0.5	\$ 66.01
Publications (SP IX)	\$149.85	1.5	\$ 224.78	1.0	\$ 149.85	1.0	\$ 149.85	3.5	\$ 524.48
	Labor Totals	50.50	\$5,795.62	32.5	\$3,561.93	44.5	\$4,452.29	127.5	\$ 13,899.82
Expenses		Number/ Fee	Charge	Number/ Fee	Charge	Number/ Fee	Charge	Number/ Fee	Charge
Tablet		1 / \$40 per day	\$40	3 / \$40 per day	\$120	3 / \$40 per day	\$120	7 / \$280	\$280.00

Hotel (YBCU biologist)		0	0	0	0	3 / \$120 per night	\$360	3 / \$120 per night	\$360.00
Per diem (YBCU biologist)		0	0	0	0	6 / \$64 per day	\$384	6 / \$64 per day	\$384.00
Project Totals		50.5	\$5,835.58	32.5	\$3,771.94	44.5	\$5,316.14	127.5	\$14,923.66
Total for Madera Canyon Medium Wash Bridge (50% to each bridge):		25.25	\$2,917.79	16.25	\$1,885.97	22.25	\$2,658.07	63.75	\$7,461.83
Total for Madera Canyon Florida Canyon Wash Bridge (50% to each bridge):		25.25	\$2,917.79	16.25	\$1,885.97	22.25	\$2,658.07	63.75	\$7,461.83

Cost Proposal

for

**Solis Engineering Co., LLC (DBE) – Signing, Striping, Pavement
Design, Detour Design**

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)



July 29, 2024

Ted W. Buell, PE
Structures Section Manager
HDR
One South Church Ave., Suite 1400
Tucson, AZ 85701-1612
D 520.584.3632 M 520.906.1384
Ted.Buell@hdrinc.com

SOLIS ENGINEERING CO., LLC

239 N. CHURCH AVE.

TUCSON AZ, 85701

MAIL: 5325 S. CIVANO BLVD,
TUCSON AZ, 85747

WORK: (520) 207-0742

CELL: (520) 247-7691

RICK.SOLIS@SOLISENGCO.COM

**RE: ENGINEERING SUPPORT PROPOSAL FOR MADERA CANYON, 4MADFL - FLORIDA CANYON WASH BRIDGE
REPLACEMENT / FEDERAL ID PPM-0(273) D / ADOT TRACS NO. T0540 01D/03D**

Dear Mr. Buell,

Solis Engineering Co., LLC (CONSULTANT) is pleased to submit this proposal to HDR Engineering, Inc. (CLIENT) to provide Professional Engineering Design Services for the Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL) project. This proposal consists of the following items:

- Basis of Scope of Work
- Fee Derivation - 4MADFL
- Vehicle Classification Tube Count Cost Estimate (Attachment)

CONSULTANT will complete and coordinate all tasks indicated in the Basis of Scope of Work on a Cost Plus Fixed Fee Basis, according to the fee schedule rates, not to exceed the Estimated Cost without Client and Pima County approval. Any services performed outside of the tasks outlined in the Basis of Scope of Work and the detailed Fee Derivation will be billed as an additional service according to the above referenced rates.

We appreciate the opportunity to provide these services to you. Please contact me if you have any questions.

Sincerely,

SOLIS ENGINEERING CO. LLC

A handwritten signature in black ink, appearing to read "Rick P. Solis", written over a horizontal line.

Rick P. Solis, PE, PTOE - Manager

FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

BASIS OF SCOPE OF WORK & FEE DERIVATION

July 29, 2024

Solis Engineering Co. has prepared this basis of scope of work to document the assumptions used in the preparation of the fee derivation and respective labor hours.

Task A.1.1. Project Management Assumptions:

1. This task assumes one hour per month for invoice preparation and review.

Task A.1.3. Meetings and Communication.

2. This item assumes six, one-hour-duration monthly meetings, with no preparation of minutes.
3. This item assumes an additional four, half-hour-duration meetings for design coordination, totaling two hours.

Task A.1.6. Cost Estimating

4. Estimate and quantities for the Base cost estimate.

Task A.10.1. Pavement Design Report

5. A single combined pavement design report will be prepared to summarize pavement options and requirements for both the Medium Wash Bridge Replacement (4MADMB) and Florida Canyon Wash Bridge Replacement (4MADFL) projects.
6. The pavement design report will document a New Flexible Pavement Design per Chapter 2 of the ADOT Pavement Design Manual.
7. Consultant assumes that a 24-hour, classification tube count will be obtained for this project to verify pavement design requirements. The traffic data will be included in the appendix of the pavement design report.
8. No traffic memorandum will be prepared for this project.

Task A.10.2. Quality Control Review

9. QA review of the pavement design report will be performed and documented according to the Client's QC Plan.

Task A.16 Preparation of Construction Documents

Construction Detour:

10. The preferred approach of constructing both bridges in a single phase will be used.
11. The Client's recommended detour Option 1 (long detours) will be used.

Construction Plans:

12. Task A.16.1. Initial Design Phase Plans. Plans will be limited to eight plan sheets. Detour design and plans development will occur within this task.
13. Task A.16.2. Final Design Phase Plans. Plans will be limited to eight plan sheets. This task will only re-print the sheets to include any updated CADD base files from the prime Engineer. Sheet numbers will also be updated.
14. Task A.16.3. Initial PS&E. Plans will be limited to nine plan sheets.
15. Task A.16.4. Final PS&E. Plans will be limited to nine plan sheets.
16. Task A.16.5. Quality Control Review of Plans. A QA-QC review of the plans will be performed and documented according to the Client's QC Plan.

EXCLUSIONS:

- Any work or services not specifically outlined in this Basis of Scope of Work & Fee Derivation is not included in the Consultant's work tasks.

FEE SCHEDULE
4MADFL - Madera Canyon Bridges, Florida Canyon Wash
Engineering Support Services
Solis Engineering Co. (DBE / SBE)
July 29, 2024

Direct Labor

<u>Classification</u>	<u>Hours</u>	<u>Rate</u>	<u>Totals</u>
Principal	71	\$54.35	\$3,858.85
Senior A/E	59	\$62.50	\$3,687.50
Project Manager	85	\$55.29	\$4,699.65
A/E	10	\$50.48	\$504.80
Designer	99	\$45.19	\$4,473.81
CADD	0	\$33.65	\$0.00
Clerical / Admin	0	\$25.00	\$0.00

Direct Labor (DL)	324		<u>\$17,224.61</u>
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Estimated Direct Expenses

<u>Type</u>	<u>Amount</u>	<u>Unit Costs</u>	<u>Cost</u>
None	0	\$0.00	\$0

Total of Direct Expenses			<u>\$0.00</u>
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Estimated Outside Expenses

Field Data Services of Arizona, Inc.	1	\$445.00	\$445
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Total of Outside Expenses			<u>\$445.00</u>
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Overhead (196.58%) (OH)			<u>\$33,860.14</u>
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Total Labor Cost (DL + OH)			<u>\$51,084.75</u>
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Fixed Fee (10% of Labor Cost)			<u>\$5,108.47</u>
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Total Estimated Costs			<u>\$56,638.22</u>
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Solis Engineering Co. (DBE / SBE)
July 29, 2024
Man-hour Estimate

Task No.	Description	Total Labor Cost	10% Profit	Principal	Senior A/E	Project Manager	A/E	Designer	CADD	Clerical / Admin	Total
A.1	PROJECT MANAGEMENT AND QUALITY CONTROL										
A.1.1	Project Management (Assume 12 Months for Invoicing)	\$ 1,934.29	\$ 193.43	12	0	0	0	0	0	0	12
A.1.3	Meetings and Communication	\$ 2,772.43	\$ 277.24	8	8	0	0	0	0	0	16
A.1.6	Cost Estimating	\$ 2,347.10	\$ 234.71	2	2	6	0	5	0	0	15
A.10	PAVEMENT DESIGN										
A.10.1	Consultant to prepare a Pavement Design Report per the ADOT Pavement Design Manual.	\$ 2,585.20	\$ 258.52	1	6	8	0	0	0	0	15
A.10.2	Consultant to provide a quality control review of the Pavement Design Report.	\$ 859.87	\$ 85.99	1	2	2	0	0	0	0	5
A.12	TRAFFIC ENGINEERING										
A.12.1	Not in scope; Consultant to include traffic count in Pavement Design Report.	\$ -	\$ -	0	0	0	0	0	0	0	0
A.16	PREPARATION OF CONSTRUCTION DOCUMENTS										
A.16.1	Initial Design Phase Plans										
	(1) Signing & Marking Notes Sheet	\$ 1,052.41	\$ 105.24	2	0	2	0	3	0	0	7
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 2,612.37	\$ 261.24	3	2	5	0	7	0	0	17
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,772.48	\$ 177.25	2	3	3	0	3	0	0	11
	(4) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 5,844.91	\$ 584.49	5	5	12	0	16	0	0	38
A.16.2	Final Design Phase Plans										
	(1) Signing & Marking Notes Sheet	\$ 891.22	\$ 89.12	1	0	2	0	3	0	0	6
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 942.56	\$ 94.26	1	1	2	0	2	0	0	6
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 942.56	\$ 94.26	1	1	2	0	2	0	0	6
	(4) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 2,743.60	\$ 274.36	4	2	4	0	8	0	0	18
A.16.3	Initial PS&E Plans										
	(1) Signing & Marking Notes Sheet	\$ 593.22	\$ 59.32	1	0	1	0	2	0	0	4
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 2,016.36	\$ 201.64	3	2	3	0	5	0	0	13
	(1) Sign Summary Sheet (No Scale)	\$ 1,210.61	\$ 121.06	1	1	2	0	4	0	0	8
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,772.48	\$ 177.25	2	3	3	0	3	0	0	11
	(4) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 5,461.43	\$ 546.14	6	6	10	0	13	0	0	35
A.16.4	Final PS&E Plans										
	(1) Signing & Marking Notes Sheet	\$ 459.19	\$ 45.92	1	0	1	0	1	0	0	3
	(2) Signing & Marking Plan Sheets (Scale: 1"=40') (1,600 ft / sheet)	\$ 1,535.78	\$ 153.58	2	1	3	0	4	0	0	10
	(1) Sign Summary Sheet (No Scale)	\$ 1,076.59	\$ 107.66	1	1	2	0	3	0	0	7
	(1) Maintenance of Traffic Notes & Matrix (No Scale)	\$ 1,127.92	\$ 112.79	1	2	2	0	2	0	0	7
	(4) Detour Plan Sheets (Scale: 1"=40') (800 ft / sheet)	\$ 4,953.69	\$ 495.37	4	5	10	0	13	0	0	32
A.16.5	Consultant to provide quality control review of prepared plans.	\$ 3,576.46	\$ 357.65	6	6	0	10	0	0	0	22
	Totals	\$ 51,084.75	\$ 5,108.47	71	59	85	10	99	0	0	324



EXHIBIT A

ESTIMATE #: 24-300

SITE AERIAL



Cost Proposal

for

Terracon Consultants, Inc. – Geotechnical Field Work and Data Report

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)



355 S. Euclid Ave, Ste. 107
Tucson, Arizona 85719
P (520) 770-1789
Terracon.com

August 26, 2024

HDR Engineering, Inc.
One South Church Ave., Suite 1400
Tucson, Arizona 85701

Attn: Mr. Ted Buell, P.E.
P: (520) 584-3632
E: Ted.Buell@hdrinc.com

**RE: Proposal for Geotechnical Engineering Services
Madera Canyon Bridge Project
South Madera Canyon Road
Sahuarita, Arizona
Terracon Proposal No. P63245064, Revision No. 3**

Dear Mr. Buell:

We appreciate the opportunity to submit this revised proposal to HDR Engineering, Inc. (HDR) to provide Geotechnical Engineering services for the above referenced project. We have organized our proposal as follows for ease of reference:

- | | |
|--------------------|---|
| ■ Exhibit A | Project Understanding |
| ■ Exhibit B | Scope of Services |
| ■ Exhibit C | Compensation and Project Schedule |
| ■ Exhibit D | Site Location |
| ■ Exhibit E | Anticipated Exploration Plan |
| ■ Exhibit F | Detailed Cost Estimate and Fee Estimate Summary |

Exhibit C includes details of our fees and consideration of scope of services as well as a general breakdown of our anticipated schedule.

We understand this work will be executed through a mutually acceptable agreement between HDR and Terracon. We appreciate the opportunity to provide this proposal and look forward to the opportunity of working with you.

Sincerely,
Terracon

Louis D. Braun, P.E.
Geotechnical Group Manager

Donald R. Clark, P.E.
Sr. Consultant/Sr. Principal



Exhibit A – Project Understanding

Our Scope of Services is based on our understanding of the project as described by HDR as described below. We have visited the project site to confirm site conditions and portion of the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request the design team verify all information prior to our initiation of field exploration activities.

Planned Construction

Item	Description
Information Provided	<ul style="list-style-type: none"> South Madera Canyon Road Bridges in Plan and Section view Madera Concept overlay Emails from Crandell Sterling, PE of HDR outlining requested scope, which includes providing a Geotechnical Data Report with boring and laboratory testing information. We understand HDR will perform the engineering analysis based on the reports developed by Terracon.
Project Description	<p>The proposed construction will include reconstructing portions of South Madera Canyon Road as well as adding to the roadway as it approaches Florida Canyon Wash and Medium Wash. The pavement will consist of an asphalt concrete section.</p> <p>The new bridges at Florida Canyon Wash and Medium Wash are proposed single-span precast girder bridges supported on drilled shaft foundations or multi-span superbox bridges supported on a continuous concrete base slab.</p>

Site Location and Anticipated Conditions

Item	Description
Parcel Information	<p>The project is located along South Madera Canyon Road in Sahuarita, Arizona.</p> <p>Latitude/Longitude (approximate): 31.78213, -110.88694.</p> <p>See Exhibits D and E (Site Location and Anticipated Exploration Plan) for additional site location information.</p>
Existing Improvements	<p>An existing one-lane, two span bridge crosses Florida Canyon Wash and an existing one-lane, three span bridge crosses Medium Wash. The roadway is developed with asphalt concrete.</p>



Item	Description
Site Access	Based upon our site visit, we expect the site, and all exploration locations, are accessible with our track-mounted drilling equipment and support vehicles. Due to the vegetation at the proposed bridges, access paths are planned to be lightly cleared with a backhoe prior to exploration.

Exhibit B - Scope of Services

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

Task 1 - Project Setup and Coordination

Terracon will setup the project, stake the boring locations, contact the Arizona 811 Center to locate public underground utilities, and coordinate the field exploration. Terracon will coordinate to obtain a right-of-way permit from Pima County for the test borings. We will also provide traffic control plans for review and approval by Pima County. We have assumed if any permits, right-of-entry authorizations, or clearances required for Terracon and Terracon's subcontractors to access the site and perform the field work will be provided by HDR and/or the Owner.

Private Utilities – Based on the information provided and a review of available aerial photographs, it appears the exploration locations are comprised primarily of undeveloped vacant land. Therefore, private utilities (that are excluded from the Arizona 811 public utility locating system) are not anticipated. However, for the case private utilities are present on the site, we request private utilities be marked by the owner/client and identified to Terracon prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us.

Task 2 - Field Exploration

Terracon will perform a geotechnical field exploration at the site to evaluate the subsurface conditions and obtain representative samples. Based on the requested boring locations and depths provided by HDR for the project as outlined in the following table and the planned exploration locations are shown on the attached Exploration Plan (Exhibit E).

Number of Borings	Planned Boring Depth (feet) ¹	Planned Location
2 (FB1 and FB2)	90	Proposed Florida Canyon Wash Bridge Abutments
2 (MB1 and MB2)	90	Proposed Medium Wash Bridge Abutments
8 (P1 thru P8)	5	Pavement

1. Below ground surface.

The borings will be advanced to the planned depth below the existing ground surface (bgs) using hollow stem auger drilling for pavement locations 5" Tubex DTH Hammer with casing for bridge borings. If auger refusal is encountered in the pavement borings prior to planned depth, the boring will be terminated. The location of test borings may be adjusted depending upon actual subsurface conditions encountered.

Boring Layout and Elevations: We will use handheld GPS equipment to locate the borings with an estimated horizontal accuracy of +/-15 feet. Field measurements from existing site features may also be utilized. If available, approximate elevations will be obtained by interpolation from local topographic maps and/or Google Earth Pro.

Traffic Control: Traffic control for geotechnical borings planned on the existing roadway is anticipated to include lane closures, an arrow truck, signs, and cones. Geotechnical borings planned on the existing roadway are anticipated to be completed in 1 hour or less. Traffic control for geotechnical borings planned off of the existing roadway on vacant land is anticipated to include shoulder work signs and cones. Terracon will submit traffic control plans for approval as part of the permitting process. Because the existing bridges are one-lane we do not anticipate the need for flaggers for other areas of the project. We anticipate the approved traffic control plans will not limit work hours for fieldwork on the roadway.

Subsurface Exploration Procedures: We will advance the soil borings with a truck-mounted or track-mounted drill rig using continuous flight hollow stem augers for pavement locations and 5" Tubex DTH Hammer with casing for bridge borings. Samples are planned to be obtained with standard penetration test samplers and/or ring-lined barrel samplers at depths of 2½, 5, 7½, 10, 12½ and 15 feet, and at approximate intervals of 5 feet throughout the remainder of the depths explored. Bulk samples of auger cuttings will be collected from the borings at selected depth intervals. Drilling and sampling will be performed in general accordance with applicable ASTM or local standards. During the drilling operations, a field engineer or geologist will log the borings, record the results of penetration tests, and obtain representative samples for further laboratory evaluation and for further evaluation by the project geotechnical engineer. In addition, we will observe and record groundwater levels during drilling, at the full depth of investigation of the boring, and then after the drill stem is withdrawn if the boring remains open (if groundwater is encountered).

Our exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. The field logs will include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs will be prepared from the field logs and will represent the Geotechnical Engineer's interpretation and include modifications based on observations and the results of laboratory testing.

Property Disturbance: We will backfill the borings with auger cuttings upon completion, unless an ADWR permit is required for a particular boring, as outlined below. Our services do not include repair of the site beyond backfilling our boreholes. Borings drilled through asphalt concrete pavements are planned to be patched with asphalt cold patch. Excess auger cuttings will be dispersed in the general vicinity of each borehole. Because backfill material often settles below the surface after a period, we recommend the boreholes be periodically checked and backfilled, if necessary. We can provide this service, or grout all the boreholes for additional fees, at your request.

Based on the likelihood of groundwater being encountered in the bridge borings we have included all the additional services that would be required by the Arizona Department of Water Resources (ADWR) for borings if groundwater is encountered during exploration. This includes procuring ADWR permits for each boring where groundwater is encountered and based on ADWR requirements, each of the borings encountering groundwater will need to be backfilled with 20 feet of cement grout.

The use of a rubber-tire backhoe is planned to be used for some light clearing and grading as required. We have included the service of subcontracting a backhoe and backhoe operator in our fees. We assume environmental clearances and site restoration (if necessary) will be the responsibility of others.

Safety

Terracon is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our Scope of Services does not include environmental site assessment services, but identification of unusual or unnatural materials observed while drilling will be noted on our logs.

Site Access: Terracon must be granted access to the site by the property owner. By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the Scope of Services. In addition, our fees assume boring locations will be accessible without delay to our field crew and drill rig equipment.

Task 3 - Laboratory Testing

The project engineer will review the field data and assign laboratory tests, with coordination with HDR, to evaluate the engineering properties of various soil strata. Pending sample quality and quantity, the following table outlines the laboratory testing requested by HDR for the project.

Laboratory Test	Number of Tests
Atterberg Limits	36
Grain Size Analysis	36
Moisture Content of Soil	36
Unit Weight (ring samples)	14
Standard Proctor	8
Direct Shear	8
R-Value	2
Soluble Sulfates	8
Soluble Chlorides	8
pH & Resistivity	8
Consolidation	4

Laboratory testing will be conducted in general accordance with applicable ASTM or other locally recognized standards. Samples obtained during the field exploration will be discarded 30 days after the date the geotechnical engineering report (unless sample storage beyond the 30 days is incorporated into our scope of work and fees).

Task 4 – Geotechnical Engineering Data Report

The results of our field and laboratory programs will be evaluated, and a geotechnical engineering data report will be prepared under the supervision of a licensed professional engineer. The geotechnical engineering report will provide the following:

- Soil boring logs with field and laboratory data
- Soil stratification based on visual soil classification
- Summarized laboratory data
- Site Location and Boring Location Plan
- Subsurface exploration procedures
- Geology and encountered soil conditions
- Corrosion test results
- Photography log

The Geotechnical Engineering Data Report will initially be submitted in draft form for HDR's review. Following comments on the report, Terracon will provide a finalized version of the report.

Proposal for Geotechnical Engineering Services

Madera Canyon Bridge Project | Sahuarita, Arizona

August 26, 2024 | Terracon Proposal No. P63245064, Revision No. 3



Task 5 – Project Meetings

We anticipate that attendance at design team meetings will be required at certain times during the project. For the purposes of this proposal, we anticipate attendance of one (1) meeting by the project geotechnical team and have assumed all the meetings will be via video conference calls.

Exhibit C - Compensation and Project Schedule

Compensation

Based upon our understanding of the site, the project as summarized in Exhibit A, and our planned Scope of Services outlined in Exhibit B, our base fee is shown in the following table:

Task	Estimated Fee ¹
Task 1 – Project Setup and Coordination	\$3,647.02
Task 2 – Field Exploration	\$76,939.05
Task 3 – Laboratory Testing	\$16,256.11
Task 4 – Geotechnical Engineering Data Report	\$6,982.96
Task 5 – Project Meetings	\$867.08
Total for Above Geotechnical Engineering Services	\$104,692.22
Total for Florida Canyon Wash Bridge	\$52,346.11
Total for Medium Wash Bridge	\$52,346.11

1. Proposed fees noted above are effective for 90 days from the date of the proposal.

A detailed cost estimate for Geotechnical Engineering Services is included in Exhibit E.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. A separate invoice for each bridge will be provided in concert with the fees outlined above since each bridge will have its own unique federal job number. If conditions are encountered that require Scope of Services revisions and/or result in higher fees, we will contact you for approval, prior to initiating services. A supplemental proposal stating the modified Scope of Services as well as its effect on our fee will be prepared. We will not proceed without your authorization.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.



Task	Estimated Time to Complete Task ^{1,2}
Project Setup and Coordination	2 to 3 weeks
Field Exploration	2 to 3 weeks
Laboratory Testing	3 to 5 weeks
Geotechnical Engineering Data Report	3 to 4 weeks

Estimated Total Number of Weeks: **12 to 15 weeks**

1. Upon receipt of your notice to proceed we will activate the schedule component on **Client Portal** with specific, anticipated dates for the delivery points noted above as well as other pertinent events.
2. Standard workdays. We will maintain an activities calendar within on **Client Portal**. The schedule will be updated to maintain a current awareness of our plans for delivery.

Exhibit D – Site Location

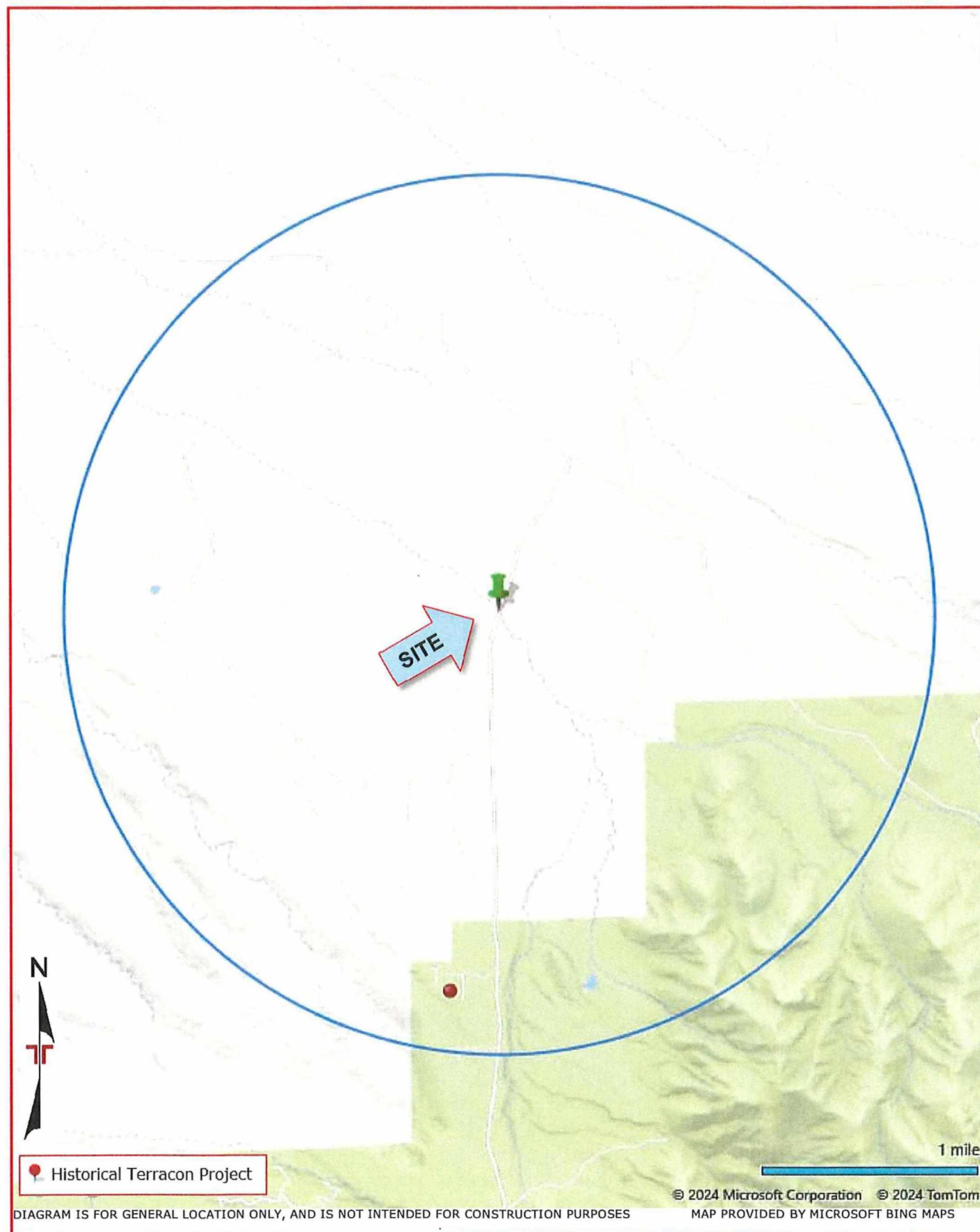


Exhibit E – Anticipated Exploration Plan

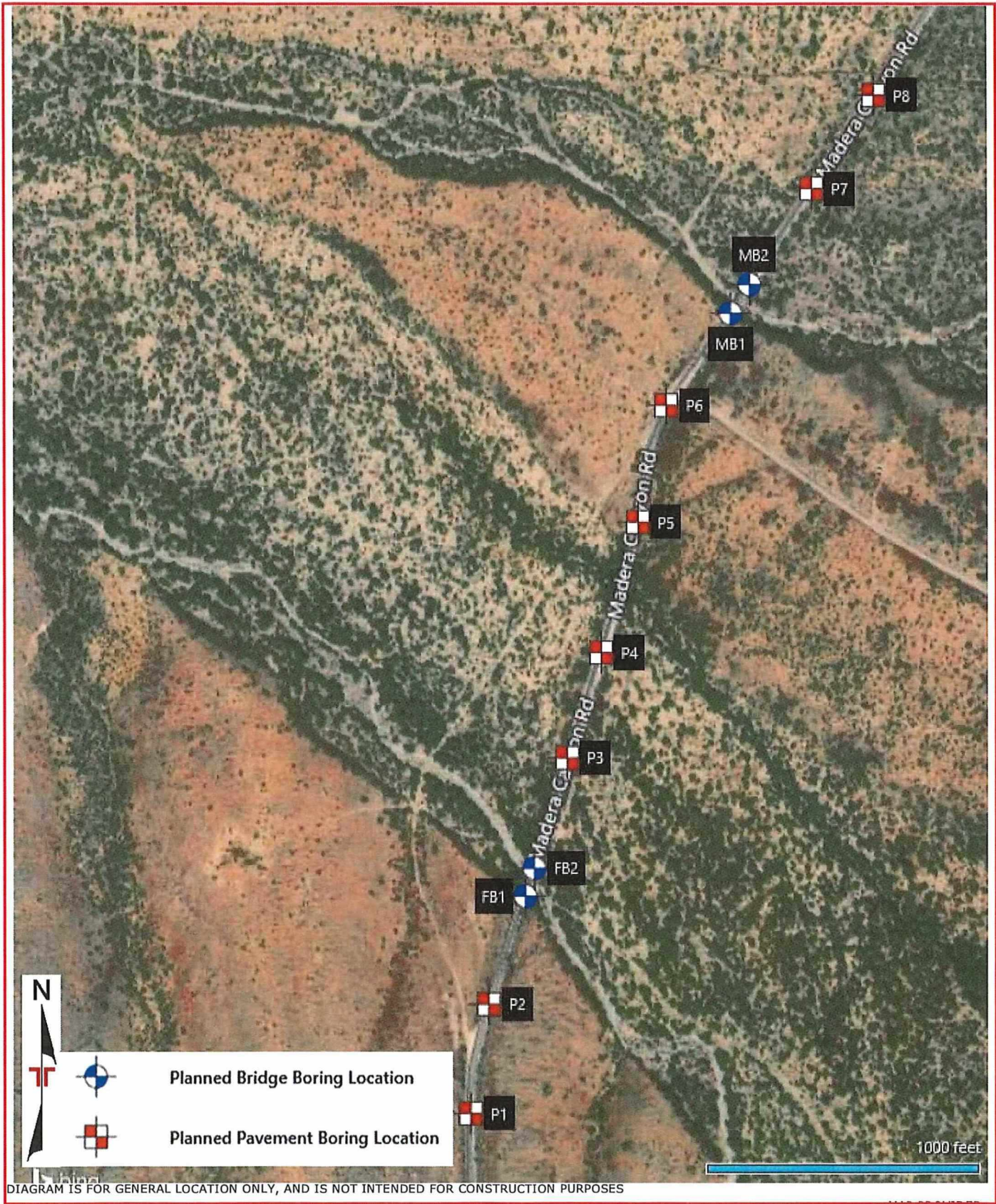


Exhibit F – Detailed Cost Estimate for Geotechnical Engineering Services

HDR Engineering
Detailed Cost Estimate for Geotechnical Engineering Services
Madera Canyon Bridge Project
Pima County
Terracon Reference No. P63245064, Revision No. 2



PAY ITEM	Work Tasks (Proposed Hours/Units)					Total HRS/UNITS	Direct Labor Rate	Total Direct Costs
	1	2	3	4	5			
Senior Geotechnical Engineer	1	3	2	4	2	12	76.00	\$ 912.00
Senior Project Manager	10	20	4	14	2	50	55.00	\$ 2,750.00
Project Engineer	2	8		10		20	41.00	\$ 820.00
Staff Engineer/Field Engineer	10	96	6	16		128	35.00	\$ 4,480.00
Clerical	2			3		5	22.00	\$ 110.00
Subtotal Labor Costs:								\$ 9,072.00
Overhead Rate @ 200.86%								\$ 18,222.02
Fee (Profit) @ 10%								\$ 2,729.40
Total Estimated Project Labor Costs								\$ 30,023.42
Other Direct Project Costs:								
Traffic Control - with Truck on site (Trafficade)		4				4	1,153.70	4,614.80
Traffic Control - only layout (Trafficade)		4				4	543.50	2,174.00
Drilling Subcontractor (GSI)		1				1	53,550.00	53,550.00
Subtotal Direct Costs:								60,338.80
Laboratory Testing:								
R-Value			2			2	490.00	980.00
Sieve Analysis, Coarse and Fine, Washed (ASTM C136, AASHTO T27, ARIZ 201)			24			24	130.00	3,120.00
Plasticity Index (ASTM D4318, AASHTO T89/90)			24			24	100.00	2,400.00
Moisture Content			36			36	20.00	720.00
Soil Unit Weight (Undisturbed Sample) with Moisture Content (ASTM C29)			14			14	35.00	490.00
Soluble Sulfates			8			8	50.00	400.00
Soluble Chlorides			8			8	50.00	400.00
pH & Resistivity			8			8	180.00	1,440.00
Direct Shear (3 Point)			4			4	550.00	2,200.00
Standard Proctor			8			8	175.00	1,400.00
Consolidation			4			4	195.00	780.00
Subtotal for Laboratory Testing:								14,330.00
Estimated Man Hours For Project & Direct Project Costs	25	127	12	47	4	215		\$ 104,692.22

Terracon Task	Direct Labor Costs	Overhead @200.86%	Profit @10%	Subcontract and Lab Costs	Total Costs
Task 1 - Project Setup, ROW Permit Preparation, and Staking	\$ 1,102.00	\$ 2,213.48	\$ 331.55	\$ -	\$ 3,647.02
Task 2 - Field Exploration: Geotechnical Borings	\$ 5,016.00	\$ 10,075.14	\$ 1,509.11	\$ 60,338.80	\$ 76,939.05
Task 3 - Sample Review, Lab Work Order and Laboratory Testing	\$ 582.00	\$ 1,169.01	\$ 175.10	\$ 14,330.00	\$ 16,256.11
Task 4 - Preparation of Geotechnical Data Report	\$ 2,110.00	\$ 4,238.15	\$ 634.81	\$ -	\$ 6,982.96
Task 5 - Project Meetings	\$ 262.00	\$ 526.25	\$ 78.83	\$ -	\$ 867.08
Total for Above Services	\$ 9,072.00	\$ 18,222.02	\$ 2,729.40	\$ 74,668.80	\$ 104,692.22

Cost Proposal

for

Wheat Design Group, Inc. (DBE) – SWPPP & Landscaping

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)

August 6, 2024

Ted Buell, P.E.
HDR Inc.
One South Church Ave., Suite 625
Tucson, AZ 85701-1612

Re: Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)
Federal ID No.: PPM-0(273) D; ADOT Tracs No.: T054003D

Ted,

We are pleased to submit this proposal for providing landscape architectural services for the above-stated project. We have based this scope and fee on the emails and exhibits HDR has provided. Basic services will include submittal of Native Plant Inventory & Mitigation charts, Riparian Mitigation exhibit for in lieu fee documentation, Landscape Mitigation Plans and Details, Erosion Control Plans and Details, SWPPP book, Special Provisions, and Cost Estimate. Please refer to the attached Workhour Estimates for a detailed breakdown of services offered.

Assumptions:

- 1. Landscape architectural services are provided for 12-months.*
- 2. Pima Association of Governments Standard Specifications and Details (2016) will be used.*
- 3. CAD drafting of the construction documents will be provided in Microstation to Pima County standards.*
- 4. HDR will provide base files in Microstation format.*
- 5. Native plant inventory will follow the Environmentally Sensitive Roadway (ESR) guidelines located in Chapter 4 of Pima County's Roadway Design Manual.*
- 6. It is assumed that there will be impacts to riparian habitat on this project. However, this project will not include onsite riparian habitat mitigation. Wheat Design will provide an exhibit reflecting acreage of disturbance based on riparian habitat classification and in lieu fee calculation per classification. This exhibit will be provided to the County Project Manager.*
- 7. WDG to provide erosion control plans and SWPPP book for contractor use.*
- 8. WDG does not anticipate public participation involvement.*
- 9. The technical review, checking procedures, and monitoring process shall follow Wheat Design Group's QA/QC plan for each submittal.*
- 10. Landscape Architect's hours for performing quality control shall be billed toward the specific tasks.*
- 11. All submittals will be in pdf format to HDR; including no mylars for Signed & Sealed Final submittal.*

SCOPE OF WORK

TASK A DESIGN SERVICES

TASK A.1: PROJECT MANAGEMENT AND QUALITY CONTROL

Task A.1.2 Quality Control Plan. Provide WDG project-specific Quality Control Plan to HDR.

Task A.1.3 Meetings and Communication

This task includes preparation and attendance to the following meetings:

- Attend (1) Kick-off Meeting

- Attend (11 max.) Monthly Meetings; which will include comment resolution meetings
- All meetings are assumed to include both the Medium Wash and Florida Canyon Wash Bridges

TASK A.13 PROJECT ASSESSMENT REPORT (PA)

Task A.13.1 Project Assessment Report

This task includes coordination with HDR regarding the native vegetation and landscape mitigation information for inclusion in the PA.

Task A.13.5 Cost Estimate

This task includes coordination with HDR regarding landscape cost information for inclusion in the PA and other project documents.

TASK A.14 ENVIRONMENTAL CLEARANCE TECHNICAL REPORTS

Task A.14.3 Vegetation Sampling/Measurement

This task includes:

- Native plant inventory and relevés per Pima County ESR guidelines within the project limits, including the temporary detour; also includes riparian habitat evaluation
- Native Plant Inventory Plans and mitigation charts to be included in the Construction Documents
- Riparian Mitigation exhibit for Pima County Flood Control

TASK A.16 PREPARATION OF CONSTRUCTION DOCUMENTS

Task A.16.1 Initial Design Phase Submittal.

Task A.16.2 Final Design Phase Submittal (30%)

Task A.16.3 Initial PS&E Submittal (60%)

Task A.16.4 Final PS&E Submittal (90% and 100%)

Prepare the SWPPP document to meet Pima County requirements.

Deliverables:

1. *Initial Design Phase Submittal: No landscape sheets for this submittal.*
2. *Final Design Phase Submittal: No landscape sheets for this submittal.*
3. *Initial PS&E Submittal: Native Plant Inventory Plans and mitigation charts (6 plan sheets, 2 summary sheets); Landscape Mitigation Plans and Details (6 plan sheets, 1 summary sheet, 1 detail sheet); Erosion Control Plans and Details (6 plan sheets, 1 summary sheet, 4 detail sheets); and a cost estimate. **Total sheet count=27 sheets***
4. *Final PS&E Submittal (90%): Sheet count - Same as above; will also include the Riparian mitigation exhibit and Special Provisions.*
5. *Final PS&E Submittal (100%): Signed & Sealed Plans and Details, cost estimate, and Special Provisions; will also include the final SWPPP book.*

TASK C POST DESIGN SERVICES

TASK C.1: PRE-BID SERVICES

Task C.1.1 Pre-Bid Services.

This task may include the following tasks:

- Attend pre-bid meeting
- Assist with amendments
- Addressing questions from the PSE submittal

TASK C.2 CONSTRUCTION SERVICES

Task C.2.1 Construction Services

This task may include the following tasks:

- Attend pre-construction and partnering meeting
- Revise drawings to support construction efforts
- Review shop drawings and/or product submittals

TASK C.3 POST CONSTRUCTION SERVICES

Task C.3.1 Construction Services.

This task to include the following task:

- Prepare “as-built” documents

PROFESSIONAL FEES

The work will be based on the hourly rates provided and based on the hours and tasks listed in the attached Workhour Estimate worksheet. Work beyond this scope will be considered additional services and will not proceed without approval from the Client. Design services and post design services will be billed on a unit price of work basis.

We very much look forward to working with you on this project.

Sincerely,



Laura Mielcarek, Principal
Wheat Design Group, Inc.

Wheat Design Group DERIVATION OF COST PROPOSAL SUMMARY

PROJECT: **Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)**
 Project No.: Federal ID No.: PPM-0(273) D; ADOT Tracs No.: T054003D
 DBE: Yes #1025
 PREPARED BY: Laura Mielcarek, Principal
 CONTRACT TIME: 12 months

DATE: **08/06/24**
 CONTRACT NO.:
 CONSULTANT: **Wheat Design Group, Inc.**

DESIGN DIRECT LABOR COST

Item No.	TASK DESCRIPTION		No. HOURS	HOURLY RATE	TOTAL COST
		<u>CLASSIFICATION</u>	<u>Hours</u>	<u>Rates</u>	<u>Cost</u>
	Landscape Architectural	Principal	53	\$160.00	\$8,480.00
	Services	Project Manager	50	\$138.00	\$6,900.00
		A/E	58	\$102.00	\$5,916.00
		Designer	58	\$95.00	\$5,510.00
(A) Direct Labor			219	Hrs.	\$26,806.00
OTHER DIRECT EXPENSES					
	TRAVEL				\$0.00
	EXHIBITS				\$0.00
					TOTAL OTHER DIRECT EXPENSES: \$0.00
ESTIMATED FEES					

(F) TOTAL DESIGN CONSULTANT FEE = \$26,806.00

POST DESIGN FULLY LOADED LABOR COST

Item No.	TASK DESCRIPTION		No. HOURS	FULLY LOADED HOURLY RATE	TOTAL COST
		<u>CLASSIFICATION</u>	<u>Hours</u>	<u>Rates</u>	<u>Cost</u>
	Landscape Architectural	Principal	12	\$160.00	\$1,920.00
	Services: POST DESIGN	Project Manager	12	\$138.00	\$1,656.00
		A/E	0	\$102.00	\$0.00
		Designer	6	\$95.00	\$570.00
(A) Direct Labor			30	Hrs.	\$4,146.00
TOTAL POST DESIGN CONSULTANT FEE \$4,146.00					

TOTAL CONTRACT AMOUNT \$30,952.00

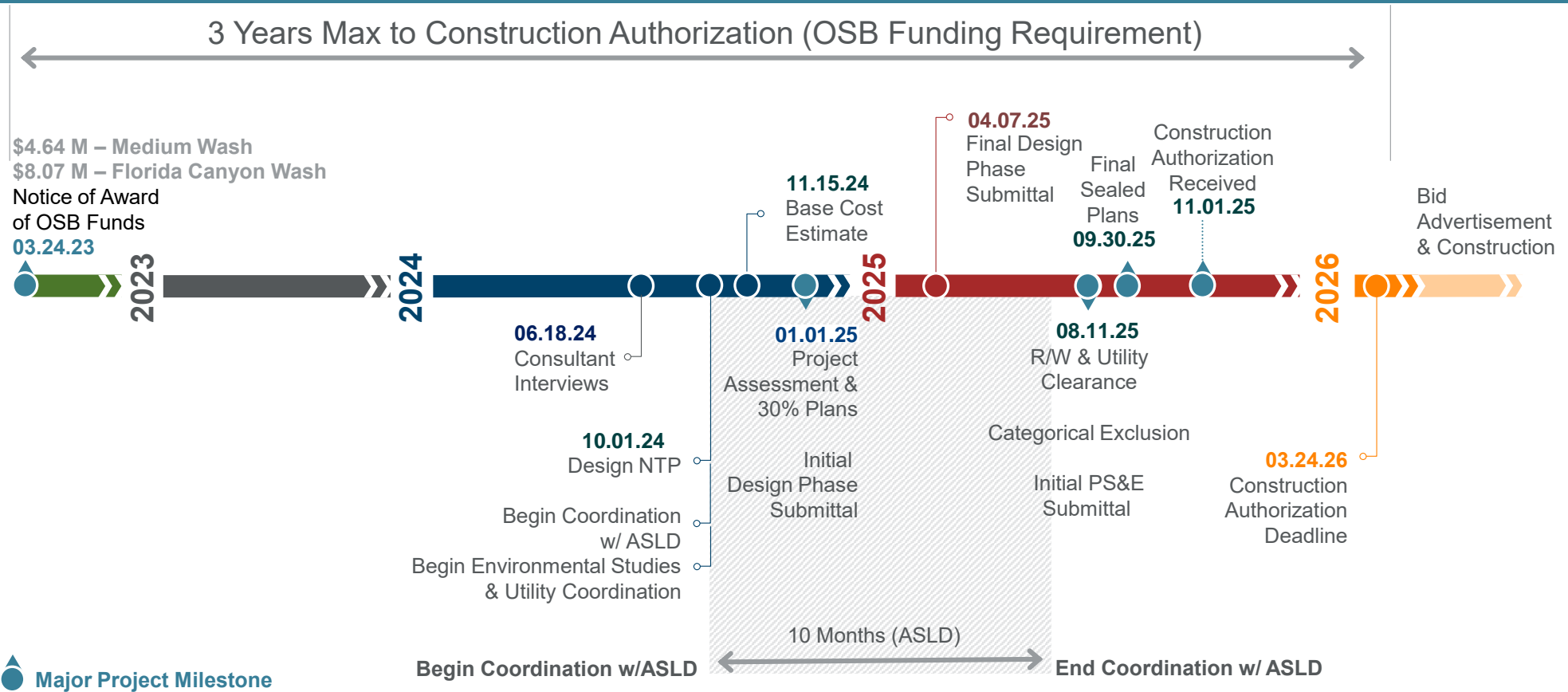
Wheat Design Group Workhour Estimate by Task

Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)

8/6/2024

DIRECT HOURLY LABOR RATES		\$160.00	\$138.00	\$102.00	\$95.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
A.1 PROJECT MANAGEMENT AND QUALITY CONTROL						
A.1.2 Quality Control Plan	2	0	0	0	2	
A.1.3 Meetings and Communication					0	
Kick-off Meeting	1	1	0	0	2	
Monthly Meetings (11 max., includes Medium Wash Bridge); includes comment resolution meetings	11	0	0	0	11	
Subtotal	14	1	0	0	15	
TASK A.1	\$2,240.00	\$138.00	\$0.00	\$0.00	\$2,378.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
A.13 PROJECT ASSESSMENT (PA)						
A.13.1 Project Assessment (landscape write-up)	4	0	0	0	4	
A.13.5 Cost Estimate (landscape items)	2	2	0	0	4	
Subtotal	6	2	0	0	8	
TASK A.13	\$960.00	\$278.00	\$0.00	\$0.00	\$1,238.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
A.14 ENVIRONMENTAL CLEARANCE TECHNICAL REPORTS						
A.14.3 Vegetation Sampling/Measurement (2 people, 1 day), relevés	1	1	10	10	22	
Native Plant Inventory Plans, mitigation charts	1	4	6	6	17	
Riparian Mitigation exhibit	1	3	2	2	8	
Subtotal	3	8	18	18	47	
TASK A.14	\$480.00	\$1,104.00	\$1,836.00	\$1,710.00	\$5,130.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
A.16 PREPARATION OF CONSTRUCTION DOCUMENTS						
A.16.1 Initial Design Phase Plans	2	0	0	0	2	
A.16.2 Final Design Phase Plans (30%)	2	0	0	0	2	
A.16.3 Initial PS&E (60%) (27 sheets)	6	16	16	16	54	
A.16.4 Final PS&E (90%) (27 sheets)	4	8	6	6	24	
Final PS&E (100%) (27 sheets)	2	6	4	4	16	
A.14.4 SWPPP book	4	4	14	14	36	
A.16.5 Quality Control Review of Plans	10	5	0	0	15	
Subtotal	30	39	40	40	149	
TASK A.16	\$4,800.00	\$5,382.00	\$4,080.00	\$3,800.00	\$18,062.00	
DESIGN TOTAL WORKHOURS	53	50	58	58	219	
DESIGN TOTAL DIRECT LABOR	\$8,480.00	\$6,900.00	\$5,916.00	\$5,510.00	\$26,806.00	
FULLY LOADED POST DESIGN HOURLY LABOR RATES		\$160.00	\$138.00	\$102.00	\$95.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
C.1 PRE-BID SERVICES						
C.1.1 Pre-bid services	4	0	0	0	4	
Subtotal	4	0	0	0	4	
TASK C.1	\$640.00	\$0.00	\$0.00	\$0.00	\$640.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
C.2 CONSTRUCTION SERVICES						
C.2.1 Construction services	4	8	0	0	12	
Subtotal	4	8	0	0	12	
TASK C.2	\$640.00	\$1,104.00	\$0.00	\$0.00	\$1,744.00	
Description	Principal	Project Manager	A/E	Designer	TOTAL	
C.3 POST CONSTRUCTION SERVICES						
C.3.1 Post Construction Electronic As-Builts	4	4	0	6	14	
Subtotal	4	4	0	6	14	
TASK C.3	\$640.00	\$552.00	\$0.00	\$570.00	\$1,762.00	
POST DESIGN WORK HOURS	12	12	0	6	30	
POST DESIGN DESIGN TOTAL DIRECT LABOR	\$1,920.00	\$1,656.00	\$0.00	\$570.00	\$4,146.00	

PRELIMINARY PROJECT SCHEDULE



Note: A detailed schedule will be provided using Microsoft Project within 15 days of receipt of Notice to Proceed

END OF EXHIBIT "B" COMPENSATION SCHEDULE

EXHIBIT “C” - UNIFORM TERMS AND CONDITIONS (55 Pages)

FEDERAL AND STATE CONTRACT REQUIREMENTS (Project Specific Contract)

SECTION 4.0 UNIFORM TERMS AND CONDITIONS

- 4.1 EMPLOYMENT OF PERSONNEL OF PUBLIC AGENCIES
- 4.2 FEDERAL DEBARMENT AND SUSPENSION
- 4.3 SUBCONTRACTS
- 4.4 ANTI-LOBBYING
- 4.5 RECORDS RETENTION, MAINTENANCE AND AUDIT
- 4.6 REVIEWS AND INSPECTIONS
- 4.7 NONDISCRIMINATION
- 4.8 AFFIRMATIVE ACTION (FOR FEDERAL-AID CONTRACTS)
- 4.9 PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES
- 4.10 ENVIRONMENTAL PROTECTION
- 4.11 ENERGY CONSERVATION
- 4.12 OWNERSHIP OF DATA
- 4.13 FRAUD AND FALSE STATEMENTS
- 4.14 FEDERAL IMMIGRATION AND NATIONALITY ACT
- 4.15 ERRORS AND OMISSIONS
- 4.16 TERMINATION FOR DEFAULT OR CONVENIENCE
- 4.17 PROMPT PAY
- 4.18 FINAL/INCURRED COST AUDIT
- 4.19 KEY PERSONNEL
- 4.20 CONFLICT OF INTEREST
- 4.21 CONSULTANT/CONTRACTOR CONFLICT OF INTEREST
- 4.22 CONSULTANT OR SUBCONSULTANT ENDORSEMENT OF PLANS
- 4.23 PROFESSIONAL CONDUCT AND PROFESSIONAL REGISTRATION

SECTION APPENDICES

- A. TITLE VI / NONDISCRIMINATION ASSURANCES (APPENDICES A and E)
- B. PROFESSIONAL SERVICES DBE SPECIAL PROVISIONS
- C. INSURANCE AND INDEMNIFICATION REQUIREMENTS
- D. CONSULTANT EVALUATION SCHEDULE
- E. PROMPT PAYMENT REPORTING PROVISIONS

Remainder of page intentionally left blank.

4.1 EMPLOYMENT OF FEDERAL HIGHWAY ADMINISTRATION AND PIMA COUNTY'S PERSONNEL

The Contractor shall not employ any person or persons in the employ of the Federal Highway Administration ("FHWA") or of Pima County ("COUNTY") or any of its boards, agencies, or commissions, for any work required by the terms of this Contract, without prior written permission of the Federal Highway Administration or of the State.

4.2 FEDERAL DEBARMENT AND SUSPENSION

- a. By signature on this Contract, the Consultant certifies its compliance, and the compliance of its Subconsultants or subcontractors, present or future, by stating that any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor, or any position of authority involving federal funds:
 1. Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal Agency;
 2. Does not have a proposed debarment pending;
 3. Has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal Agency within the past three (3) years; and
 4. Has not been indicted, convicted, or had a civil judgment rendered against the firm by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years as specified by Code of Federal Regulations 49 CFR paragraph 29.305(a).
- b. Where the Consultant or its Subconsultant is unable to certify to the statement in Section a.1. above, the Consultant or its Subconsultant shall be declared ineligible to enter into Contract or participate in the project.
- c. Where the Consultant or Subconsultant is unable to certify to any of the statements as listed in Sections a.2., a.3., or a.4., above, the Consultant or its Subconsultant shall submit a written explanation to the Department. The certification or explanation shall be considered in connection with the Department's determination whether to enter into Contract.
- d. The Consultant shall provide immediate written notice to the Department if, at any time, the Consultant or its Subconsultant, learn that its Debarment and Suspension certification has become erroneous by reason of changed circumstances.

4.3 SUBCONTRACTS

- a. Sub-Contract Terms:

The Consultant agrees to execute a written Contract with all Subconsultants for work to be completed under this Contract. The executed Contract shall include Subconsultant's Scope of Work and all the Uniform Terms and Conditions set forth in Section 4.0 of this Contract.

The Consultant shall provide electronic copies of signed subcontract agreements with all Subconsultants to ADOT Business Engagement and Compliance Office (BECO) by uploading them to the ADOT DBE System at <https://adot.dbesystem.com>. Subcontract agreements shall include all required assurances and required clauses as outlined in Section 4.0 of this Contract. Each agreement and required attachment shall be dated and signed by the Subconsultant in order for the subcontract to be considered valid.

The Consultant shall be in breach of this Contract if the Consultant materially modifies the federal regulations and State statutes in its subcontract agreements terms and conditions

with its Subconsultants. Deviations from the terms of this Contract may result in termination of the Contract, or any other such remedy as deemed appropriate by the Department.

b. Sub-Contract Payments

1. Retention: If the prime contract does not provide for retention, the consultant and each subconsultant of any tier shall not withhold retention on any subcontract. If the prime contract provides for retention, the prime consultant and each subconsultant of any tier shall not retain a higher percentage than the Department may retain under the prime contract. Retainage shall be paid to the subconsultant within 7 days of satisfactory completion of the work performed by the subconsultant.
2. No Set-offs Arising from Other Contracts: If a subconsultant is performing work on multiple contracts for the same consultant or subconsultant of any tier, the consultant or subconsultant of any tier shall not withhold or reduce payment from its subconsultants on the contract because of disputes or claims on another contract.
3. Partial Payment: The consultant and each subconsultant of any tier shall make prompt partial payments to its subconsultants within seven days of receipt of payment from the Department. Notwithstanding any provision of Arizona Revised Statutes Section 28-411, the parties may not agree otherwise.
4. Final Payment: The consultant and each subconsultant of any tier shall make prompt final payment to each of its subconsultants. The consultant and each subconsultant of any tier shall pay all monies, including retention, due to its subconsultant within seven days of receipt of payment. Notwithstanding any provision of Arizona Revised Statutes Section 28-411, the parties may not agree otherwise.
5. Payment Reporting: For the purposes of this subsection "Reportable Contracts" means any subcontract, of any tier, DBE or non-DBE, by which work shall be performed on behalf of the consultant and any contract of any tier with a DBE material or service supplier.

The requirements of this subsection apply to all Reportable Contracts.

Payment Reporting for all Reportable Contracts shall be done through the Department's web-based DBE System. The DBE System can be accessed from the Department's BECO website. No later than fifteen calendar days after the Notice to Proceed is issued, the consultant shall log into the Department's web based DBE System and enter or verify the name, contact information, and subcontract amounts for Reportable Contracts on the project. As Reportable Contracts are approved over the course of the contract, the consultant shall enter them in the system. Reportable contracts shall be entered into the system no later than five calendar days after approval by the Department.

The consultant shall report on a monthly basis indicating the amounts actually paid and the dates of each payment under any Reportable Contract on the project. In addition, the consultant shall require that all participants in any Reportable Contract electronically verify receipt of payment on the contract by the last day of the month and the consultant shall actively monitor the Department's DBE System to ensure that the verifications are input. The consultant shall proactively work to resolve any payment discrepancies in the DBE System between payment amounts it reports and payment confirmation amounts reported by others.

The consultant shall ensure that all Reportable Contract activity is reported to the Department. This includes all lower-tier Reportable Contracts, regardless of whether a DBE is involved or not.

The consultant shall maintain records for each payment explaining the amount requested by the subconsultant, and the amount actually paid pursuant to the request, which may include but are not limited to, estimates, invoices, pay requests, copies of checks or wire transfers, and lien waivers in support of the monthly payments in the DBE System.

The consultant shall provide information for payments made on all Reportable Contracts during the previous month by the 15th day of the current month. In the event that no payments were made during a given month, the consultant shall identify that by entering a dollar value of zero. If the consultant does not pay the full amount of any invoice from a subconsultant, the consultant shall note that and provide the reasons in the comment section of the Monthly Payment Audit of the DBE System.

For each Reportable Contract on which the consultant fails to submit timely payment information the Department will retain \$1,000.00 as liquidated damages, from the monies due to the consultant. Liquidated damages will be deducted each month for each Reportable Contract on which the consultant fails to submit payment information until the consultant provides the required information as described herein. After 90 consecutive days of non-reporting, the liquidated damages will increase to \$2,000.00 for each subsequent month, for each Reportable Contract on which the consultant fails to report until the information is provided. These liquidated damages shall be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

Payment reporting requirements apply to all contracts, federal and non-federal funded.

The consultant shall ensure that a copy of this Subsection is included in every Reportable Contract of every tier.

(a) Sanctions for Inadequate Reporting:

For each Reportable Contract on which the consultant fails to submit timely and complete payment information the Department will retain \$1,000.00 as liquidated damages, from the monies due to the consultant. Liquidated damages will be deducted each month for each Reportable Contract on which the consultant fails to submit payment information until the consultant provides the required information as described herein. After 90 consecutive days of non-reporting, the liquidated damages will increase to \$2,000.00 for each subsequent month, for each Reportable Contract on which the consultant fails to report until the information is provided. These liquidated damages shall be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

6. Completion of Work: A subconsultant's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented, and accepted by the Department.
7. Disputes: If disputes arise regarding payment of subconsultants, the consultant shall immediately provide the ADOT Project Manager with a written, verifiable explanation if:

- The consultant does not pay the full amount of any invoice from a

subconsultant within seven days of receipt of a progress payment from the Department, or

- The monthly estimate does not include all work claimed by a subconsultant to have been performed.

The Department will determine whether the consultant has acted in good faith concerning any such explanations. The Department reserves the right to request and receive documents from the consultant and all subconsultants of any tier, in order to determine whether prompt payment requirements were met. The consultant shall implement and use the dispute resolution process outlined in the subcontract to resolve payment disputes.

8. Non-Compliance: Failure to make prompt partial payment or prompt final payment including any retention, within the time frames established in this contract, will result in remedies, as the Department deems appropriate, which may include, but are not limited to:

- Liquidated Damages: These liquidated damages shall be in addition to all other retention or liquidated damages provided for elsewhere in the contract.
 - (i) The Department will withhold two times the disputed dollar amount not paid to each subconsultant.
 - (ii) If full payment is made within 30 days of the Department's payment to the consultant, the amount withheld by the Department will be released.
 - (iii) If full payment is made after 30 days of the Department's payment to the consultant, the Department will release 75 percent of the funds withheld. The Department will retain 25 percent of the monies withheld as liquidated damages.
- Additional Remedies: If the consultant fails to make prompt payment for three consecutive months, or any four months over the course of one project, or if the consultant fails to make prompt payment on two or more contracts within 24 months, the Department may, in addition, invoke the following remedies:
 - (i) Withhold monthly progress payments until the issue is resolved and full payment has been made to all subconsultants and vendors subject to the requirements outlined under "Liquidated Damages" above,
 - (ii) Terminate the contract for default in accordance with Section 4.18 of this Contract, and/or
 - (iii) Disqualify the consultant from future bidding temporarily or permanently, depending on the number and severity of violation.
 - (iv) Reflect the consultant's performance in submitting payment reports and making subconsultant payments in the consultants Annual and Contract Completion Performance Evaluation.

4.4 ANTI-LOBBYING

The Consultant certifies, by signing and submitting the SOQ, to the best of his/her knowledge and belief, that:

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

- b. If any funds other than federally appropriated funds have been paid or shall be paid to any person for influencing or attempting to influence an officer or employee of any Federal Agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit the "Disclosure of Lobbying Activities" form in accordance with its instructions (<http://www.whitehouse.gov/omb/grants/sflllin.pdf>).
- c. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making and entering into this transaction imposed by Section 1352, Title 31 and U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty or not less than \$10,000 and not more than \$100,000 for each such failure.
- d. The Consultant also agrees, by submitting its SOQ that it shall require that the language of this certification be included in subcontracts with all Subconsultant(s) and lower-tier Subconsultants which exceed \$100,000 and that all such Subconsultants and lower-tier Subconsultants shall certify and disclose accordingly.
- e. COUNTY shall keep the firm's certification on file as part of its original SOQ. The Consultant shall keep individual certifications from all Subconsultants and lower-tier Subconsultants on file. Certification shall be retained for three (3) years following completion and acceptance of any given project.
- f. Disclosure forms for the Consultant and its Subconsultants and lower-tier Subconsultants shall be submitted to the COUNTY Procurement Officer assigned to this Solicitation on the date the Statement of Qualifications are due. The Consultant and each Subconsultant and lower-tier Subconsultant shall file revised disclosure forms at the end of each calendar quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. The Disclosure forms shall be submitted by the COUNTY Representative to FHWA for further review.

4.5 RECORDS RETENTION, MAINTENANCE AND AUDIT

- a. Pursuant to A.R.S. §35-214, the Consultant and its Subconsultant(s) shall keep and maintain all books, papers, records, accounting records, files, accounts, expenditure records, reports, cost proposals with backup data and all other such materials related to the Contract and other related project(s). The Consultant shall make all such materials related to the project(s) available at any reasonable time and place during the term of the Contract and for **five (5)** years from the date the Initial Closeout Letter is sent to the Consultant after COUNTY indicates that work on the Contract has been completed to the satisfaction of COUNTY. All Documents shall be retained for auditing, inspection and copying upon COUNTY's, ADOT's or at FHWA's request, or any other authorized representative of the Federal Government.
- b. Pursuant to A.R.S. §35-215, the Consultant and its Subconsultant(s) with intent to defraud, deceive, improperly influence, obstruct or impair an audit being conducted or about to be conducted in relation to any Contract or subcontract with the Department is guilty of a Class 5 Felony.
- c. In case of an audit and the Consultant has failed to retain records in accordance with the applicable Contract provision, it shall be presumed that the documents would not have supported the Consultant's position. Therefore, failure to retain such records shall result in the Consultant being required to reimburse ADOT for unsupported costs. The Consultant may also be disqualified per revised ECS Rules Section 2.02 from submitting future SOQ proposals.
- d. Upon completion and final closeout of the Contract, physical/paper or electronic Contract files and any supporting materials shall be maintained in accordance with COUNTY, ADOT and

4.6 REVIEWS AND INSPECTIONS

Representatives from COUNTY, ADOT and FHWA are authorized to review and inspect the Contract activities and facilities during the Consultant's and its Subconsultants normal business hours.

4.7 NONDISCRIMINATION

1. During the performance of this Contract, the Consultant, for itself, its Subconsultants, assignees and successors shall:
 - a. Not discriminate on the basis of race, color, sex or national origin in the performance of this Contract. The Consultant shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this contract. Failure by the Consultant to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the State deems appropriate, which may include, but are not limited to:
 - i. Withholding monthly progress payments;
 - ii. Assessing sanctions;
 - iii. Liquidated damages;
 - iv. Disqualifying the consultant from submitting SOQs, or any other forms of proposals, as non-responsible;
 - v. Cancellation, termination, or suspension of the Contract, in whole or in part.

The Consultant, subconsultant, subrecipient and/or subcontractor shall ensure all subcontract agreements contain the nondiscrimination assurance.

- b. Comply with the provisions of Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60). Said provisions are made applicable by reference and are hereinafter considered a part of this Contract.
 - c. Post in conspicuous places available to employees and applicants for employment, the following notice:

"It is the policy of this company not to discriminate against any employee, or applicant for employment, because of race, color, religion, creed, national origin, sex, age, handicapped, or disabled veterans and Vietnam era veterans. Such actions shall include, but are not limited to: employment, upgrading, demotion, transfer, recruitment, or recruitment advertising; laying-off or termination; rates of pay or other compensation; and selection for training, and on-the-job training. Also, it is the policy to insure and maintain a working environment free of harassment, intimidation and coercion."
 - d. Comply with Appendix A through E of the Arizona Department of Transportation "Title VI/Non- Discrimination Assurances" as found in **APPENDIX A** of this Contract.
 2. The Consultant shall include the provisions of Section 4.08 of this Contract, paragraph 1.a. through 1.e. and **APPENDIX A** of this Contract in every subcontract with Subconsultants, DBEs and Non-DBEs, including procurement of materials and equipment leases, unless exempt by the Regulations or directives issued pursuant thereto.

3. The Consultant shall take such action with respect to any Subconsultants or procurement as the State or the Federal Aviation Administration (FAA), FHWA and the Federal Transit Administration (FTA) may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event the Consultant becomes involved in or is threatened with litigation with a Subconsultant or supplier as a result of such direction, the Consultant may request the State to enter into such litigation to protect the interests of the State, and in addition, the Consultant may request the United States to enter into such litigation to protect the interests of the United States.

4.8 AFFIRMATIVE ACTION (FOR FEDERAL-AID CONTRACTS)

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

1. Include qualified firms owned by socially and economically disadvantaged individuals on solicitation lists.
2. Assure that firms owned by socially and economically disadvantaged individuals are solicited whenever they are potential sources.
3. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by firms owned by socially and economically disadvantaged individuals.
4. Where the requirement permits, establish delivery schedules which shall encourage participation by firms owned by socially and economically disadvantaged individuals.
5. Use the services and assistance of ADOT DBE Supportive Services Program, the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as needed.

4.9 PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES

Race Conscious Contract (With DBE Goal)

The Department has established a Disadvantaged Business Enterprise (DBE) program in accordance with the regulations of the U.S. Department of Transportation (USDOT), 49 CFR Part 26. ADOT has received federal financial assistance from the USDOT and as a condition of receiving this assistance, ADOT has signed an assurance that it shall comply with 49 CFR Part 26.

It is ADOT's policy to ensure that DBEs, as defined in 49 CFR Part 26, have an equal opportunity to receive and participate in federally-funded contracts.

A DBE GOAL OF **6.47%** HAS BEEN ESTABLISHED ON THIS CONTRACT. THE CONSULTANT IS ENCOURAGED TO OBTAIN DBE PARTICIPATION ABOVE AND BEYOND THE GOAL ON THIS CONTRACT.

The contract terms, conditions and special provisions associated with the administration of the ADOT DBE Program related to this contract is documented in **APPENDIX B** of this contract.

4.10 ENVIRONMENTAL PROTECTION

(This clause is applicable if this Contract exceeds \$100,000. It applies to Federal-aid contracts only.)

The Consultant is required to comply with all applicable standards, orders or requirements issued

under Section 306 of the Clean Air Act (42 U.S.C. 1857 (h)), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency (EPA) regulations (40 CFR Part 15) which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Violations shall be reported to the FHWA and to the U.S. EPA Assistant Administrator for Enforcement (EN-329).

4.11 ENERGY CONSERVATION

(This clause is applicable to Federal-aid contracts only.)

The Consultant is required to comply with mandatory standards and policies, as applicable, relating to energy efficiency, which is contained in the State Energy Conservation Plan issued by the Department in compliance with the Energy Policy Conservation Act (Public Law. 94-163).

4.12 OWNERSHIP OF DATA

- a. The Consultant agrees to maintain (in sufficient detail as shall properly reflect all work done and results achieved in the performance of this Contract) tracings, plans, specifications and maps, basic survey notes and sketches, books, records, reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, computer programs and documentation thereof, and other graphic or written data generated in connection with the work required in the Contract; all such information and documentation to be termed "Data" under this Contract.
- b. All data procured hereunder for the work funded by COUNTY shall become the property of COUNTY and delivered to COUNTY upon request and shall not be used or released by the Consultant or any other person except with the prior written approval by COUNTY, provided the Consultant shall not be required to retain any Data not requested by COUNTY within five (5) years from the date of final payment to the Consultant hereunder; and provided further that until such delivery to COUNTY, the Consultant agrees to permit COUNTY, ADOT and FHWA representatives to examine and review at reasonable times all Data still in the possession of the Consultant.
- c. All services, information, computer program elements, reports and other deliverables which may be patented or copyrighted and created under this Contract are the property of COUNTY and shall not be used or released by the Consultant or any other person except with the prior written approval by COUNTY.

4.13 FRAUD AND FALSE STATEMENTS

The Consultant understands that, if the project which is the subject of this Contract is financed in whole or in part by federal funds, that if the undersigned, the company that the Consultant represents, or any employee or agent thereof, knowingly makes any false statement, representation, report or claim as to the character, quality, quantity, or cost of material used or to be used, or quantity or quality work performed or to be performed, or makes any false statement or representation of a material fact in any statement, certificate, or report, the Consultant and any company that the Consultant represents may be subject to prosecution under the provision of 18 USC §1001 and §1020.

4.14 FEDERAL IMMIGRATION AND NATIONALITY ACT

a. GENERAL

The Consultant, including all Subconsultants, shall comply with all federal, state and local immigration laws and regulations, as set forth in Arizona Executive Order 2005-30, relating to the immigration status of their employees who perform services on the Contract during the

duration of the Contract. COUNTY shall retain the right to perform random audits of Consultant and Subconsultants' records or to inspect papers of any employee thereof to ensure compliance.

The Consultant shall include the provisions of this Section in all its subcontracts. In addition, the Consultant shall require that all Subconsultants comply with the provisions of this Section, monitor such Subconsultants' compliance, and assist the Department in any compliance verification regarding its Subconsultant(s).

b. **COMPLIANCE REQUIREMENTS**

The Department retains the legal right to inspect the papers or records of the Consultant and its Subconsultants who works on this Contract to ensure compliance with A.R.S. §41-4401, Government Procurement, E-Verify Requirements; Sanctions.

By submission of an SOQ proposal, the Consultant warrants that the Consultant and all proposed Subconsultant(s) are and shall remain in compliance with:

1. All federal, state, and local immigration laws and regulations relating to the immigration status of their employees who perform services on the Contract; and
2. A.R.S. §23-214 (A) which states "After December 31, 2007, every employer, after hiring an employee, shall verify the employment eligibility of the employee through the E-Verify program and shall keep a record of the verification for the duration of the employee's employment or at least three years, whichever is longer."

A breach of a warranty regarding compliance with immigration laws and regulations shall be deemed a material breach of the Contract, and the Consultant and its Subconsultant(s) are subject to sanctions specified in Section D below.

Failure to comply with a Department audit process to randomly verify the employment records of Consultant and Subconsultants shall be deemed a material breach of the Contract, and the Consultant and Subconsultants are subject to sanctions specified in Section d below.

c. **COMPLIANCE VERIFICATION**

The State may, at its sole discretion, require evidence of compliance from the Consultant and its Subconsultant(s).

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

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

The Department retains the legal right to inspect the papers of any employee who works on the Contract to ensure that the Consultant and its Subconsultant(s) is/are complying with the warranty specified in this Section.

d. **SANCTIONS FOR NONCOMPLIANCE**

For purposes of this paragraph, noncompliance refers to either the Consultants or its Subconsultants' failure to follow the immigration laws or to the Consultant's failure to provide records when requested. Failure to comply with the immigration laws or to submit proof of compliance constitutes a material breach of Contract. At a minimum, the Department shall

reduce the Consultant's compensation by \$10,000 for the initial instance of noncompliance by the Consultant or its Subconsultant(s). If the same Consultant or its Subconsultant(s) is in noncompliance within two (2) years from the initial noncompliance, the Consultant's compensation shall be reduced by a minimum of \$10,000 for each instance of noncompliance. The third instance by the same Consultant or its Subconsultant(s) within a two (2) year period may result in addition to the minimum \$50,000 reduction in compensation, in removal of the offending Consultant or its Subconsultant(s), suspension of work in whole or in part or, in the case of a third violation by the Consultant, termination of the Contract for default. Instances of noncompliance are counted on a firm-wide basis, not on a contract-by-contract basis.

In addition, the Department may declare the Consultant or its Subconsultant(s) who is in noncompliance three times within a two (2) year period ineligible to perform on any Department Contract for up to one (1) year. For purposes of considering a declaration of ineligibility: (1) noncompliance by a Subconsultant does not count as a violation by the Consultant; and (2) the Department shall count instances of noncompliance on other Department Contracts.

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

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

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

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

4.15 ERRORS AND OMISSIONS

If COUNTY determines that the Consultant had made any errors and/or omissions (E&O) in the work product delivered to COUNTY under the terms of this Contract, the Consultant shall make all necessary revisions or corrections resulting from E&O without additional cost to

COUNTY. Errors and Omissions is defined as a deviation from the standard of care on the part of a design engineering consultant in the performance of architectural and/or engineering services under this Contract. COUNTY shall actively pursue the resolution of E&Os at the lowest possible level within a reasonable timeframe in accordance with the most current version of COUNTY's Errors and Omissions procedure.

If COUNTY determines that the Consultant had made any Errors and/or Omissions (E&Os), in the work product delivered to COUNTY, under the terms of this Contract, the Consultant is immediately notified of the E&O, verbally and followed up in writing, and invited to participate in corrective actions in order to mitigate the cost. No waiver, release, or settlement of claims or potential claims against a Consultant shall be valid without written approval of COUNTY's Senior Management, when project is funded with federal funds. When claims are resolved, COUNTY will notify all parties in writing.

4.16 TERMINATION FOR DEFAULT OR CONVENIENCE

a. Termination for Default

COUNTY may terminate the Contract for default under the following circumstances:

1. Consultant's failure to perform the services as detailed herein and in any modifications to the Contract.
2. Consultant's failure to complete the Contract within the timeframe specified herein and in any modifications to the Contract.
3. Consultant's failure to comply with any of the material terms of the Contract.

If COUNTY contemplates termination under the provisions of Subsections a.1., a.2., or a.3. above, COUNTY shall issue a written notice of default describing the deficiency. The Consultant shall have five (5) business days to cure such deficiency. In the event the Consultant does not cure such deficiency, COUNTY may terminate the Contract without further consideration by issuing a Notice of Termination for Default and may recover compensation for damages.

If, after the Notice of Termination for Default has been issued, it is determined that the Consultant was not in default or the termination for default was otherwise improper, the termination shall be deemed to have been a Termination for Convenience.

b. Termination for Convenience

COUNTY may terminate the Contract for convenience, in whole or in part, when, for any reason, COUNTY determines that such termination is in its best interest. The Contract termination is effected by notifying the Consultant, in writing, specifying that all or a portion of the Contract is terminated for convenience and the termination effective date. The Consultant shall be compensated only for work satisfactorily completed prior to the termination of the Contract. The Consultant is not entitled to loss or profit. The amount due to the Consultant is determined by COUNTY.

In the event of termination for convenience, COUNTY shall be liable to the Consultant only for Consultant's work performed prior to termination and only to the extent and as provided in ARTICLE 19 of the Contract.

c. The Agency's Right to Proceed with Work

In the event this Contract is terminated, COUNTY shall have the option of completing the Contract or entering into an agreement with another party to complete services outlined in the Contract.

4.17 PROMPT PAY LAW (A.R.S. §28-411)

In accordance with the Arizona Prompt Payment Law (A.R.S. §28-411), COUNTY shall issue payments to Consultants within 21 calendar days after receipt of complete and accurate Payment Report (PR) unless proper objection is made under the statute. The law also requires the Consultant to pay their Subconsultants within seven (7) calendar days after receiving payment from COUNTY, to the extent of each Subconsultant's contractual interest in the payment, subject to provision of the statute.

Incomplete or incorrect PR shall be returned to the Consultant within seven (7) calendar days of receipt by COUNTY. The 21 calendar-day payment timeframe shall begin anew upon receipt of the complete and corrected PR.

COUNTY shall not withhold retention on progress payments; however, if satisfactory progress has not been made on the project, the Department may first retain a maximum of 10% of the current and subsequent billings. If unsatisfactory progress continues for a second subsequent month, the Department may, at its sole option, refuse to make progress payment(s) of such sums, which COUNTY considers necessary. This provision shall not limit COUNTY's rights to terminate the Contract for default.

The Consultant shall not withhold the Subconsultant's payment if COUNTY has paid the full value of services rendered. Failure by the Consultant to invoice COUNTY in accordance with the terms of the Contract and/or pay its Subconsultants in accordance with the Arizona Prompt Pay Law is a material breach of the Contract and the Consultant shall be subject to disqualification in accordance with Article 4 of COUNTY's Contract. COUNTY reserves the right to request that Consultant provides proof of payment to its Subconsultants.

The Consultant shall be found to be in breach of the Contract if it executes subcontract agreements with Subconsultants, DBE and non-DBE, which materially change the Prompt Pay requirement. This action may result in termination of the Contract, or any other such remedy as deemed appropriate by COUNTY.

Failure to make prompt partial payment, or prompt final payment including any retention, within the time frames established above, will result in remedies, as COUNTY deems appropriate, which may include but are not limited to:

- a. Withholding monthly progress payments;
- b. Assessing sanctions;
- c. Liquidated damages;
- d. Disqualifying the contractor from future bidding as non-responsible;
- e. Cancellation, termination, or suspension of the Contract, in whole or in part.

4.18 FINAL/INCURRED COST AUDIT

- a. Final/Incurred Cost Audit (ICA) of the Consultant's costs may be performed by COUNTY Audit and Analysis to determine the Contract costs' allowability, allocability, and reasonableness in accordance with the terms of the Contract before it is closed. COUNTY's final audit process is according to COUNTY's Contract Award and Administration Guidelines for Federal-Aid Projects Funded by FHWA.
[Vendor Information | Pima County, AZ](#)
- b. A CPA-prepared overhead schedule or a Cognizant Audit Report that meets ADOT/AASHTO/FHWA guidelines is acceptable for establishing a given year's overhead rate with the concurrence of COUNTY's Office of Audit & Analysis.

- c. Upon receipt of an ICA draft report, the Consultant has 14 calendar days to respond to the Incurred Cost Auditor with any disagreements, questions, or request for additional supporting documentation. A time extension may be allowed, if requested in writing within the 14-day timeframe, by the appropriate parties. Disagreements related to the results of the ICA draft report shall be addressed or resolved with the Incurred Cost Auditor on or before the date of the formal Exit Conference with the Incurred Cost Auditor and the Consultant. Non-response to the draft audit report after the 14-day timeframe and after the Exit Conference will be deemed by Agency Audit and Analysis as the Consultant's acceptance of the findings in the draft report. The ICA report shall be issued by Agency Audit and Analysis to the Consultant after Agency Audit and Analysis review and approval. Once the audit report is issued, Agency Audit and Analysis shall not re-examine any new issues not addressed in the draft report and/or formal Exit Conference. The Consultants disagreeing with the ICA report has the option of escalating the matter in accordance with the COUNTY's Pre-Award/ICA Escalation Guidelines process.
- d. COUNTY or the Consultant shall reimburse either party in accordance with the ICA results. Failure of the Consultant to reimburse COUNTY for over-billed charges based on the results of the Pre-award Reviews or ICAs shall result in disqualification of the Consultant in accordance with ARTICLE 4 of the COUNTY'S Contract.

4.19 KEY PERSONNEL

- a. No substitution or transfer of personnel, specifically identified in the approved Key Personnel list shall be made without prior written approval by the Agency.
- b. Key Personnel are those individuals whose qualifications were highly significant and appropriate in evaluating the overall qualifications of the project team Key Personnel includes, at a minimum:
 - 1) The Consultant's registered Project Principal/Owner responsible for the overall technical and administration aspects of this Contract;
 - 2) The person in direct charge of the overall project work (Project Manager);
 - 3) The person in charge of each major engineering disciplines/component of the work (e.g., bridge, pavement design, environmental, etc.);
 - 4) Where applicable, the person in charge of overall scheduling of the project work.

Key Personnel may also include, but are not limited to, Project Engineer, Subconsultants' Team members and any other Key Personnel deemed vital to the completion of the project, and whose qualifications were evaluated by the Selection Panel.

- c. The Agency will review the Consultant's proposed list of Key Personnel presented during contract negotiations and will approve the list of Key Personnel assigned to the Contract. The Department's decision as to Key Personnel composition shall be final.
- d. The Consultant shall not change any of the Key Personnel assigned to this Contract until it has obtained written approval from the Agency PM through a Contract Modification. The Consultant shall notify the Agency in advance of an anticipated change in the Key Personnel no later than 10 calendar days prior to the change, and shall inform the Department of the reasons the change for the change and shall certify that the overall intent of the Contract will not be impaired by the change. The advance notice requesting a Key Personnel change shall include the name(s) of the Key Personnel, date of departure, the proposed replacement and his/her credentials/resume. Qualifications of any Key Personnel proposed in a change shall be equal to or greater than the original qualifications of the person being replaced.

The Agency shall have the right to approve or reject the proposed successor. The Agency will consider any change in Key Personnel, and at its discretion may decide to terminate the

Contract for convenience if, in the Agency's sole discretion, the Agency believes that the project team is materially different because of the change. The Agency shall make its decision within 30 days of the Consultant's request to change Key Personnel.

Failure to provide the Agency with advanced notification may result in termination of the Contract, award of damages to the Agency or loss of prequalification status.

4.20 CONFLICT OF INTEREST

- a. The Consultant shall not engage the services on the Contract of any present or former COUNTY employee who was involved as a decision maker in the selection or approval processes or who negotiated and/or approved billings or Contract modifications for the Contract.
- b. The Consultant agrees that no public or private interest exists and none shall be acquired directly or indirectly which would conflict in any manner with the performance of the Contract.
- c. COUNTY must disclose in writing any potential conflict of interest to the Federal award agency or pass-through entity in accordance with applicable Federal awarding agency policy.

4.21 CONSULTANT/CONTRACTOR CONFLICT OF INTEREST

- a. No Contract for the construction of a project shall be awarded to the Consultant that designed the project, or its subsidiaries, affiliates, parent company or Subconsultants, except with the written approval by COUNTY.
- b. The applicability of the above also applies to a Management and/or General Consultant or any of its subsidiaries, affiliates, parent company or Subconsultants that were involved in any aspect of the design phase.
- c. The Consultant agrees that it shall not perform services on this project for subconsultants or any supplier in accordance with COUNTY Conflict of Interest Policy.
- d. The Consultant shall not negotiate, contract, or make any agreement with subconsultants or any supplier with regard to any of the work under the Contract, or any services, equipment or facilities to be used on the Contract.

4.22 CONSULTANT OR SUBCONSULTANT ENDORSEMENT OF PLANS

Pursuant to the Arizona Administrative Code (A.A.C.) R4-30-304 (Use of Seals), which is incorporated herein by reference and hereby made a part of this Contract, the Consultant shall affix a proper engineer's seal to all plans, reports and engineering data furnished under this Contract.

4.23 PROFESSIONAL CONDUCT AND PROFESSIONAL REGISTRATION

The Consultant shall comply with the "Rules of Professional Conduct" provision pursuant to A.A.C. R4-30-301, which is incorporated herein by reference and hereby made a part of this Contract.

The Consultant shall comply with the "Registration as an Architect, Assayer, Engineer, Geologist, Landscape Architect, or Land Surveyor" provision pursuant to A.A.C. R4-30-201, which is incorporated herein by reference and hereby made a part of this Contract.

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APPENDIX "A" TO EXHIBIT "C" (8 PAGES)

Pima County Department of Transportation Title VI Assurances

The Pima County Department of Transportation (herein referred to as the "Recipient"), HEREBY AGREES THAT, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), through *Federal Highway Administration and Arizona Department of Transportation*, is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation--Effectuation Of Title VI Of The Civil Rights Act Of 1964*);
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

"No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity," for which the Recipient receives Federal financial assistance from DOT, including the Federal Highway Administration.

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these non-discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

Specific Assurances

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its *Federal Aid Highway Program*.

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23 (b) and 21.23 (e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all *Federal Aid Highway Program* and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

*"The **Pima County Department of Transportation**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."*

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.
5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:
 - a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures

or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:

- a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
- b. the period during which the Recipient retains ownership or possession of the property.

9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.


10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, **Pima County Department of Transportation** also agrees to comply (and require any sub-recipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing *Federal Highway Administration or Arizona Department of Transportation* access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by the *Federal Highway Administration or Arizona Department of Transportation*. You must keep records, reports, and submit the material for review upon request to *Federal Highway Administration, Arizona Department of Transportation*, or its designee in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

Pima County Department of Transportation gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation under the *Federal Highway Administration and Arizona Department of Transportation*. This ASSURANCE is binding on Arizona, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the *Federal Aid Highway Program*. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

Pima County Department of Transportation

(Name of Recipient)

by 
(Signature of Authorized Official)

Dated September 12, 2022

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, *Federal Highway Administration or the Arizona Department of Transportation*, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient, the *Federal Highway Administration or Arizona Department of Transportation* to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient, the *Federal Highway Administration, or Arizona Department of Transportation*, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the *Federal Highway Administration or Arizona Department of Transportation*, may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with request to any subcontract or procurement as the Recipient, the *Federal Highway Administration, or Arizona Department of Transportation* may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

A

APPENDIX B

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4:

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the **Pima County Department of Transportation** will accept title to the lands and maintain the project constructed thereon in accordance with *Title 23*, United States Code the Regulations for the Administration of *Federal Aid for Highways*, and the policies and procedures prescribed by the *Arizona Department of Transportation ,Federal Highway Administration* and the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252;42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the **Pima County Department of Transportation** all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto **Pima County Department of Transportation** and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on **Pima County Department of Transportation**, its successors and assigns.

The **Pima County Department of Transportation**, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [.] [and]* (2) that the **Pima County Department of Transportation** will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.

B

APPENDIX C

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the Pima County Department of Transportation pursuant to the provisions of Assurance 7(a):

A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:

1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities,

B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, Pima County Department of Transportation will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*

C. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, Pima County Department of Transportation will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the Pima County Department of Transportation and its assigns*.

*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.

C

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by Pima County Department of Transportation pursuant to the provisions of Assurance 7(b):

A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended set forth in this Assurance.

B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, Pima County Department of Transportation will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*

C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, Pima County Department of Transportation will there upon revert to and vest in and become the absolute property of Pima County Department of Transportation and its assigns.*

Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1687 *et seq.*).

APPENDIX “B” TO EXHIBIT “C” (23 PAGES)

PROFESSIONAL SERVICES DBE PROVISIONS

(PROJECT SPECIFIC - CONTRACTS)

FOR USE ON LPA/SUBRECIPIENT FEDERAL AID PROJECTS WITH DBE GOALS

* NOTE: REFER TO EDITING INSTRUCTIONS IN SECTIONS 11.0 AND 16.0 *

(LPA PS EPRISE, 6/23/2016)

DISADVANTAGED BUSINESS ENTERPRISES:

1.0 Policy:

The Arizona Department of Transportation (hereinafter the Department) has established a Disadvantaged Business Enterprise (DBE) program in accordance with the regulations of the U.S. Department of Transportation (USDOT), 49 CFR Part 26. The Department has received Federal financial assistance from the U.S. Department of Transportation and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26.

It is the policy of the Department to ensure that DBEs, as defined in Part 26, have an equal opportunity to receive and participate in USDOT-assisted contracts. It is also the policy of the Department:

1. To ensure nondiscrimination in the award and administration of USDOT-assisted contracts;
2. To create a level playing field on which DBEs can compete fairly for USDOT-assisted contracts;
3. To ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are counted as DBEs;
5. To help remove barriers to the participation of DBEs in USDOT-assisted contracts;
6. To assist in the development of firms that can compete successfully in the market place outside the DBE program; and
7. To promote the use of DBEs in all types of federally-assisted contracts and procurement activities.

It is also the policy of the Department to facilitate and encourage participation of Small Business Concerns (SBCs), as defined in Subsection 3.0, in USDOT-assisted contracts. The Department encourages consultants to take reasonable steps to eliminate obstacles to SBCs' participation and to utilize SBCs in performing contracts.

Local Public Agencies (LPA) and or Subrecipients of Federal financial assistance will administer and manage the contracts from advertising, consultant selection, negotiation, contract execution, processing payment reports and contract modifications, audits, DBE compliance (e.g., reporting and monitoring) through contract closeout.

2.0 Assurances of Non-Discrimination:

The consultant, subrecipient, or subconsultant shall not discriminate on the basis of race, color, sex or national origin in the performance of this contract. The consultant shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the consultant to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the LPA/Subrecipient with the Department's concurrence deems appropriate, which may include, but are not limited to:

1. Withholding monthly progress payments;
2. Assessing sanctions;
3. Liquidated damages;
4. Disqualifying the consultant from submitting SOQs, or any other forms of proposals, as non-responsible;
5. Cancellation, termination, or suspension of the Contract, in whole or in part.

The consultant, subrecipient, or subconsultant shall ensure that all subcontract agreements contain this non-discrimination assurance.

3.0 Definitions:

(A) Commercially Useful Function (CUF): Commercially Useful Function is defined fully in 49 CFR 26.55, which definition is incorporated herein by reference.

(B) Committed DBE: A DBE that was identified by the consultant, typically on a DBE Affidavit, to meet an assigned DBE goal as a condition of contract award and performance, and includes any substitute DBE that has subsequently been committed work to meet the assigned contract goal.

(C) Disadvantaged Business Enterprise (DBE): a for-profit small business concern which meets both of the following requirements:

- (1) Is at least 51 percent owned by one or more socially and economically disadvantaged individuals or, in the case of any publicly owned business, at least 51 percent of the stock is owned by one or more such individuals; and,
- (2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

(D) NAICS Code: The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

(E) Non-DBE: any firm that is not a DBE.

(F) Race-Conscious (RC): a measure or program focused specifically on assisting only DBEs, including women-owned DBEs.

(G) Race-Neutral (RN): a measure or program used to assist all small businesses. For the purposes of this part, race-neutral includes gender-neutrality.

(H) Small Business Concern (SBC): a business that meets all of the following conditions:

- (1) Operates as a for-profit business registered to do business in Arizona;
- (2) Operates a place of business primarily within the U.S., or makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials, or labor;
- (3) Is independently owned and operated;
- (4) Is not dominant in its field on a national basis; and
- (5) Does not have annual gross receipts that exceed the Small Business Administration size standards average annual income criteria for its primary North American Industry Classification System (NAICS) code.

(I) Socially and Economically Disadvantaged Individuals: any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is:

- (1) Any individual who is found to be a socially and economically disadvantaged individual on a case-by-case basis.
- (2) Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - (i) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;
 - (ii) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
 - (iii) "Native Americans," which includes persons who are enrolled members of federally or State recognized Indian tribe, Alaskan Natives or Native Hawaiians;
 - (iv) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia

(Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Republic of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong;

- (v) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
- (vi) "Women;"
- (vii) Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration (SBA), at such time as the SBA designation becomes effective.

4.0 Working with DBEs:

The Department works with DBEs and assists them in their efforts to participate in the highway construction program. All proposers should contact the Department's Business Engagement and Compliance Office (BECO) by phone, through email, or at the address shown below, for assistance in their efforts to use DBEs in the highway construction industry. BECO contact information is as follows:

Arizona Department of Transportation Business Engagement and Compliance Office
1801 W. Jefferson St, Suite 101, Mail Drop 154A Phoenix, AZ 85007
Phone (602) 712-7761
Email: LPAContractorCompliance@azdot.gov
Website: www.azdot.gov/beco

4.01 Mentor-Protégé Program

The Department has established a Mentor-Protégé program as an initiative to encourage and develop disadvantaged businesses in the highway construction industry. The program encourages prime consultants to provide certain types of assistance to certified DBE subconsultants. ADOT encourages consultants and certified DBE subconsultants to engage in a Mentor-Protégé agreement under certain conditions. Such an agreement must be mutually beneficial to both parties and to ADOT in fulfilling requirements of 49 CFR Part 23. For guidance regarding this program refer to the Mentor-Protégé Program Guidelines available on the BECO website.

The Mentor-Protégé program is intended to increase legitimate DBE activities and is not intended to diminish nor circumvent existing DBE rules or regulations.

5.0 Applicability:

The Department has established an overall annual goal for DBE participation on Federal-aid contracts. The Department intends for the goal to be met with a combination of race conscious efforts and race neutral efforts. Race conscious participation occurs when the consultant uses a percentage of DBEs, as defined herein, to meet the contract-specified goal. Race neutral efforts are those that are, or can be, used to assist all small businesses or increase opportunities for all small businesses. The regulation, 49 CFR 26, defines race neutral as when a DBE wins a prime contract through customary competitive procurement procedures or is awarded a subcontract on a prime contract that does not carry a DBE contract goal.

The consultant shall meet the goal specified herein with DBEs, or establish that it was unable to meet the goal despite making good faith efforts to do so. Prime consultants are encouraged to obtain DBE participation above and beyond any goals that may be set for this project.

The DBE provisions are applicable to all consultants including DBE consultants.

6.0 Certification and Registration:

6.01 DBE Certification:

Certification as a DBE shall be predicated on:

- (1) The completion and execution of an application for certification as a "Disadvantaged Business Enterprise."
- (2) The submission of documents pertaining to the firm(s) as stated in the application(s), including but not limited to a statement of social disadvantage and a personal financial statement.
- (3) The submission of any additional information which the Department or the applicable Arizona Unified Certification (UCP) agency may require to determine the firm's eligibility to participate in the DBE program.
- (4) The information obtained during the on-site visits to the offices of the firm and to active job-sites.

Applications for certification may be filed online with the Department or the applicable UCP agency at any time through the Arizona Unified Transportation Registration and Certification System (AZ UTRACS) website at <http://www.azutracs.com>.

DBE firms and firms seeking DBE certification shall cooperate fully with requests for information relevant to the certification process. Failure or refusal to provide such information is a ground for denial or removal of certification.

ADOT is a member of the AZ Unified Certification Program (AZUCP). Only DBE firms that are certified by the AZUCP are eligible for credit on ADOT projects. A list of DBE firms certified by AZUCP is available on the internet at <http://www.azutracs.com>. The list will indicate contact information and specialty for each DBE firm, and may be sorted in a variety of ways. However, ADOT does not guarantee the accuracy and/or completeness of this information, nor does ADOT represent that any licenses or registrations are appropriate for the work to be done.

The Department's certification of a DBE is not a representation of qualifications and/or abilities nor does it mean that a DBE firm is guaranteed or entitled to receive or be awarded a contract. Being certified simply means that a firm has met the criteria for DBE certification as outlined in 49 CFR Part 26. The consultant bears all risks of ensuring that DBE firms selected by the consultant are able to perform the work.

6.02 SBC Registration:

To comply with 49 CFR Part 26.39, ADOT's DBE Program incorporates contracting requirements to facilitate participation by Small Business Concerns (SBCs) in federally assisted contracts. SBCs are for-profit businesses authorized to do businesses in Arizona that meet the Small Business Administration (SBA) size standards for average annual revenue criteria for its primary North American Industry Classification System (NAICS) code

While the SBC component of the DBE program does not require utilization of goals on projects, ADOT and the LPA/Subrecipient strongly encourages consultants to utilize small businesses that are registered in AZ UTRACS on their contracts, in addition to DBEs meeting the certification requirement. The consultant may use the AZ UTRACS website to search for certified DBEs and registered SBCs that can be used on the contract. However, SBCs that are not DBEs will not be counted toward the DBE contract goal.

SBCs can register online at the AZ UTRACS website.

The Department's registration of SBCs is not a representation of qualifications and/or abilities nor does it mean that an SBC firm is guaranteed or entitled to receive or be awarded a contract. Being SBC registered simply means that a firm has met the criteria for SBC registration as outlined in 49 CFR Part 26. The consultant bears all risks of ensuring that SBC firms selected by the consultant are able to perform the work.

7.0 DBE Financial Institutions:

The Department thoroughly investigates the full extent of services offered by financial institutions owned and controlled by socially and economically disadvantaged individuals in its service area and makes reasonable efforts to use these institutions. The Department encourages prime consultants to use such institutions on USDOT assisted contracts. However, use of DBE financial institutions will not be counted toward the DBE contract goal.

The Department and the LPA/Subrecipient encourages prime consultants to research the Federal Reserve Board website at www.federalreserve.gov to identify minority-owned banks in Arizona derived from the Consolidated Reports of Condition and Income filed quarterly by banks (FFIEC 031 and 041) and from other information on the Board's National Information Center database.

8.0 Time is of the Essence:

TIME IS OF THE ESSENCE IN RESPECT TO THE DBE PROVISIONS

9.0 Computation of Time:

In computing any period of time described in this DBE special provision, such as calendar days, the day from which the period begins to run is not counted, and when the last day of the period is a Saturday, Sunday, Federal or State holiday, the period extends to the next day that is not a Saturday, Sunday, Federal or State holiday. In circumstances where the LPA/Subrecipient Procurement Office is closed for all or part of the last day, the period extends to the next day on which the LPA / Subrecipient Procurement Office is open.

10.0 Consultant and Subconsultant Requirements:

10.01 General:

The consultant shall establish a DBE program that will ensure nondiscrimination in the award and administration of contracts and subcontracts.

Agreements between the proposer and a DBE in which the DBE promises not to provide subcontracting quotations to other proposers are prohibited.

10.02 DBE Liaison:

The consultant shall designate a DBE Liaison responsible for the administration of the consultant's DBE program. The name of the designated DBE Liaison shall be included on the DBE Intended Participation Affidavit Summary.

11.0 DBE Goal:

The minimum goal for participation by DBEs on this project is as follows:

____Percent

The percentage of DBE participation shall be based on the total dollar value of the contract.

Proposers are strongly encouraged to secure and include sufficient DBE firms on their team for multiple disciplines and work categories to ensure they can meet the DBE goal on the contract and for any Contract Modifications that are executed post-award. The DBE goal requirements

extend to additional dollars added by Contract Modification to help ensure that the overall DBE goal is met on the contract. Indicating there is no DBE firm on a prime proposer's team to meet the DBE goal on Contract Modifications does not meet the criteria for Good Faith Efforts in 49 CFR 26.53, and will not be accepted by the Department as Good Faith Efforts when Contract Modifications are issued. Since proposers have been notified of the DBE goal prior to the submittal of their Statement of Qualifications (SOQ) they are required to do their due diligence to secure enough DBE participation to meet the goal or make good faith efforts on the contract and each subsequent Contract Modification. Firms will be required to locate DBEs to meet the goal on each Contract Modification even if these DBEs were not originally included as part of their team, if the LPA/Subrecipient, with BECO concurrence, determines there are qualified DBEs available to complete portions of the work of the Contract Modification.

12.0 Submission with SOQ Proposals:

12.01 DBE Assurance/Goal Declaration

In order to be awarded this contract, in addition to all other pre-award requirements, all proposers are required to certify on the DBE Assurance Project Specific form provided by the LPA/Subrecipient that:

The proposer will meet the established DBE goal or will make good faith efforts to meet the goal and that arrangements with certified DBEs have been made prior to the SOQ and/or cost proposal submission.

Failure to affirmatively make this declaration/certification in the manner outlined in the Request for Qualifications (RFQ) furnished by the LPA/Subrecipient will cause a Proposer's SOQ to be considered non-responsive.

12.02 Bidders/Proposers List and AZ UTRACS Registration Requirement:

Under Title 49 CFR of the Code of Federal Regulations, Part 26.11, DOTs are required to collect certain information from all consultants and subconsultants who seek to work on federally-assisted contracts in order to set overall and contract DBE goals. ADOT collects this information when firms register their companies on the Arizona Unified Transportation Registration and Certification System (AZ UTRACS) web portal at <http://www.azutracs.com/> a centralized database for companies that seek to do business with ADOT. This information will be maintained as confidential to the extent allowed by federal and state law.

Prime consultants and all subconsultants, including DBEs listed in the SOQ must be registered in AZ UTRACS. Proposers may verify that their firm and each subconsultant is registered using the AZ UTRACS website.

Proposers may obtain additional information at the AZ UTRACS website or by contacting the LPA/Subrecipient.

All proposers shall create a Bidders/Proposers list in the AZ UTRACS by selecting all firms, service providers, and vendors that expressed interest or submitted proposals or quotes for this contract. The Bidders/Proposers List form must be complete and must include the names for all subconsultants, service providers, and vendors that submitted proposals or quotes on this project regardless of the proposer's intentions to use the those firms on the project.

All proposers must complete and submit the Bidders/Proposers List online at AZ UTRACS prior to Cost Proposal submittal. A confirmation email will be generated by the system. This email confirmation shall be submitted with the Cost Proposal.

FAILURE TO SUBMIT THE REQUIRED BIDDERS/PROPOSERS LIST CONFIRMATION EMAIL WITH THE COST PROPOSAL BY THE STATED TIME AND IN THE MANNER HEREIN SPECIFIED AND AS OUTLINED IN THE RFQ SHALL BE CAUSE FOR THE PROPOSER'S COST PROPOSAL TO BE REJECTED.

13.0 DBE Cost Proposal Submissions:

13.01 DBE Intended Participation Affidavits:

If the proposer indicates in the Cost Proposal submittal that it has met or exceeded the DBE goal, a DBE Intended Participation Affidavit form for each DBE firm, and the DBE Intended Participation Affidavit Summary form shall be submitted to the LPA/Subrecipient Procurement Office with each Cost Proposal as follows:

- (1) The DBE Intended Participation Affidavit Form must be submitted for each individual DBE firm at all tiers, including direct expense vendors, that is being proposed to be used to meet the DBE goal on the project. A copy of this form is available from the LPA/Subrecipient.
- (2) The DBE Intended Participation Affidavit Summary Form must be completed by the consultant summarizing information about all DBEs being proposed to meet the DBE goal that are listed on each DBE Intended Participation Affidavit Form. The DBE Intended Participation Affidavit Summary Form, along with the DBE Intended Participation Affidavit form for each individual DBE firm, must be submitted together with the Cost Proposal to the LPA/Subrecipient Procurement Office. All forms must be accurate and complete in every detail and must be signed by an officer of the consultant(s). Percentages and dollar amounts must be accurate. Percentages shall be listed to two decimal places. The DBE Intended Participation Affidavit Summary must be submitted listing all the DBEs intended to be used and the creditable amounts. Copies of these forms are available from the LPA/Subrecipient.
- (3) The DBE Intended Participation Affidavits Forms and the DBE Intended Participation Affidavit Summary Form must be submitted with the original cost proposal documents. The same documents must be submitted as part of the contract modification documentation submittals reflecting any change in the contract amount associated with the contract modification.

- (4) A proposer must determine DBE credit for the contract in accordance with DBE Special Provision Subsection 17.0 Crediting DBE Participation Toward Meeting Goals. The affidavits will be reviewed by the LPA/Subrecipient.
- (5) Only those DBE firms certified by the Arizona Unified Certification Program (AZUCP) at the time of the Cost Proposal submittal will be considered for DBE credit. It shall be the proposer's responsibility to ascertain the certification status of designated DBEs.
- (6) All DBE commitment amounts must be finalized between the DBE subconsultant and the proposer prior to affidavit submittal. Proposers shall not inflate DBE awards in order to meet contract goals. Reduction of DBE commitments after affidavit submittal and prior to execution of the contract without good cause may be grounds for the proposer to be considered nonresponsive. Scheduling conflicts are not necessarily evidence of good cause as this should have been considered prior to affidavit submittal. Proposers are required to use DBEs identified in both the SOQ and Cost Proposal to meet the contract goal, so the consultant is responsible for ensuring the DBEs listed in the SOQ and submitted with the Cost Proposal are available to meet those requirements at the time of contract execution.
- (7) Cost proposals without affidavits shall be considered incomplete and contract negotiations shall not be finalized nor will the contract be executed until affidavits are submitted and approved.

14.0 Documented Good Faith Effort:

14.01 General:

If the selected proposer has indicated in its cost proposal submittal that it will be unable to meet the DBE goal, that proposer must demonstrate, through detailed and comprehensive documentation, that good faith efforts have been made to solicit, assist, and use DBE firms to meet the DBE goal prior to submission of the SOQ and cost proposal.

Failure to demonstrate good faith efforts to the satisfaction of LPA/Subrecipient with concurrence of BECO will result in denying the award and moving to the next second highest ranked proposer.

The selected proposer who cannot meet the DBE goal at the time the cost proposal is due must submit its documentation of good faith efforts to the LPA/Subrecipient with the cost proposal. Contract negotiations will not be finalized nor will the contract be executed until the required Good Faith Effort forms and required documentation are received and approved.

The documentation of good faith efforts must include copies of each DBE and non-DBE subconsultant quotes submitted to the proposer when a non-DBE subconsultant was selected over a DBE for work on the contract. A generalized assertion that the consultant received multiple quotes is not sufficient unless copies of those quotes are provided.

Proposers are encouraged to review Appendix A of 49 CFR Part 26.

Useful information related to encouraging DBE participation and documented good faith efforts can be found in the "Good Faith Effort Guide" and other documents made available on the BECO website. The information provided in the "Good Faith Effort Guide" does not replace this specification; proposers must comply with the requirements of this specification.

In order to be awarded a contract on the basis of good faith efforts, a proposer must show that it took all necessary and reasonable steps to achieve the DBE goal, which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful. The quality, quantity, and intensity of the different kinds of efforts the proposer has made will be evaluated. The efforts employed by the proposer should be those that one could reasonably expect a proposer to make if the proposer were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE goal. Mere pro forma efforts are not sufficient good faith efforts to meet the DBE contract requirements.

The proposer shall, as a minimum, seek DBEs in the same geographic area in which it generally seeks subconsultants for a given project. If the proposer cannot meet the goals using DBEs from this geographic area, the proposer, as part of its effort to meet the goals, shall expand its search to a reasonably wider geographic area.

The following is a list of types of efforts a proposer must address when submitting good faith effort documentation.

- (1) Contacting the LPA/Subrecipient and BECO prior to the submission of proposals, either by e-mail, or by telephone, to inform of the firm's difficulty in meeting the DBE goals on a given project, and requesting assistance. The proposer must document its contact with the LPA/Subrecipient and BECO, and indicate the type of contact, the date and time of the contact, the name of the person(s) contacted, and any details related to the communication. The contact must be made in sufficient time before proposal submission to allow the LPA/Subrecipient and BECO to provide effective assistance. The proposer will not be considered to have made good faith efforts if the proposer failed to contact the LPA/Subrecipient and BECO.
- (2) Conducting market research to identify small business consultants and suppliers, and soliciting, through all reasonable and available means, the interest of all certified DBEs who have the capability to perform the work of the contract. This may include attendance at pre-proposal meetings and business matchmaking meetings and events, advertising and/or providing written notices, posting of "Notices of Sources Sought" and/or "Requests for Proposals" at reasonable locations, including the consultant's website, written notices or emails to all DBEs listed in the Department's directory of transportation firms that specialize in areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project. The proposer should solicit this interest as early in the acquisition process as practicable to

allow DBEs to respond to the solicitation and submit a timely offer for the subcontract. The proposer should determine with certainty if DBEs are interested by taking appropriate steps to follow-up initial solicitations.

- (3) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goal will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example smaller tasks or quantities) to facilitate DBE participation, even when the prime consultant might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible time frames for performance and delivery schedules in a manner that encourages and facilitates DBE participation.
- (4) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation with their offer for a subcontract.
- (5) Negotiating in good faith with interested DBEs. It is the proposer's responsibility to make a portion of the work available to the DBE subconsultants and suppliers, and to select those portions of work or material needs consistent with the available DBE subconsultants and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided from the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform work.

Pro forma mailings to DBEs requesting proposals are not alone sufficient to constitute good faith negotiation.

A proposer using good business judgment would consider a number of factors in negotiating with subconsultants, including DBE subconsultants, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a proposer's failure to meet the DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime consultant to perform the work of a contract with its own organization does not relieve the proposer of the responsibility to make good faith efforts. However, prime consultants are not required to accept higher quotes from DBEs if the price difference is excessive or unreasonable. Documentation, such as copies of all other proposals or quotes, must be submitted.

Another practice considered an insufficient good faith effort is the rejection of the DBE because its quotation for the work was not the lowest received. The consultant must submit copies of each DBE and non-DBE subconsultant quote submitted to the proposer when a non-DBE subconsultant was selected over a DBE for work on the contract. The Department may contact rejected DBEs as part of its investigation. However, nothing in this paragraph shall be construed to require the proposer or prime consultant to accept unreasonable quotes in order to satisfy contract goals.

- (6) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The consultant's standing within its industry, membership in specific groups, organizations or associations and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of proposals in the consultant's efforts to meet the project goal. Consultant must submit documentation of past performance and with input from the PM, consultant's qualifications are then reviewed for acceptance and approval.
- (7) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or consultant.
- (8) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (9) Effectively using the services of available minority/women community organizations; minority/women consultants' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

In determining whether a proposer has made good faith efforts, the LPA/Subrecipient will review the documented efforts of the consultant and will review the performance of other proposers in meeting the contract goal.

A promise to use DBEs after contract award is not considered to be responsive to the contract solicitation or to constitute good faith efforts.

The LPA/Subrecipient will evaluate the submittal and make a determination, with BECO concurrence, whether in fact good faith efforts have been demonstrated consistent with the specifications and the Federal regulations, 49 CFR 26, Appendix A.

14.02 Protest for Denied Good Faith Efforts:

If the LPA/Subrecipient, with BECO concurrence, determines that the proposer failed to make adequate good faith efforts, the proposer may protest the determination by submitting an appeal in writing to the ADOT State Engineer. The decision of the ADOT State Engineer is administratively final.

The proposer whose proposal was rejected for failure to meet the goal or make GFE will be given the opportunity to meet in person with the State Engineer, at the proposer's written request included in the protest, to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. The State Engineer shall promptly consider any appeals and notify the LPA/Subrecipient and all proposers in writing on its findings and decision.

In accordance with 49 CFR 26.53(d)(5), the result of the protest decision is not subject to administrative appeal to the USDOT.

15.0 Rejection of Proposal:

If, for any reason, the proposer's GFE is rejected or contract negotiations fail, the LPA/Subrecipient will proceed with negotiating with the second highest ranked firm. The LPA/Subrecipient, will notify the second highest ranked firm, and this firm shall submit its subsequent detailed submission as set forth in the DBE Subsections 13 or 14.

16.0 Payment Reporting:

The consultant shall report on a monthly basis indicating the amounts paid to all subconsultants, of all tiers, working on the project. Reporting shall be in accordance with Prompt Pay and Payment Reporting requirements section ____ of the contract specifications.

17.0 Crediting DBE Participation Toward Meeting Goals:

17.01 General Requirements:

To count toward meeting the goal, the DBE firms must be certified at the time of Cost Proposal submission in each NAICS code applicable to the kind of work the firm will perform on the contract. NAICS for each DBE can be found on the AZ UTRACS website. General descriptions of all NAICS codes can be found at <http://www.naics.com/search/>.

Credit towards the consultant's DBE goal is given only after the DBE has been paid for the work performed.

The entire amount of a contract that is performed by the DBE's own forces, including the cost of supplies and materials purchased by the DBE for the work on the contract and equipment leased by the DBE will be credited toward DBE participation. Supplies and equipment the DBE subconsultant purchases or leases from the prime consultant or its affiliate will not be credited toward DBE participation.

The consultant bears the responsibility to determine whether the DBE possesses the proper consultant's license(s) to perform the work and, if DBE credit is requested, that the DBE subconsultant is certified for the requested type of work.

If a DBE cannot complete its work due to failure to obtain or maintain its licensing, the consultant bears the responsibility to notify the LPA/Subrecipient, immediately after the consultant becomes aware of the situation, and request approval to replace the DBE with another DBE. The consultant shall follow the DBE termination/substitution requirements described in Subsection 22.0 of these DBE provisions.

The Department's certification is not a representation of a DBE's qualifications and/or abilities. The consultant bears all risks that the DBE may not be able to perform its work for any reason.

A DBE may participate as a prime consultant, subconsultant, or as a vendor of materials or supplies. The dollar amount of work to be accomplished by DBEs, including partial amount of a lump sum or other similar item, shall be on the basis of subcontract, purchase order, hourly rate, rate per ton, etc., as agreed to between parties.

DBE credit may be obtained only for specific work done for the project, supply of equipment specifically for physical work on the project, or supply of materials to be incorporated in the work. DBE credit will not be allowed for costs such as overhead items, capital expenditures (for example, purchase of equipment), and office items.

The consultant may credit second-tier subcontracts issued to DBEs by non-DBE subconsultants. Any second-tier subcontract to a DBE used to meet the goal must meet the requirements of a first-tier DBE subcontract.

A prime consultant may credit the entire amount of that portion of a contract that is performed by the DBE's own forces. The cost of supplies and materials obtained by the DBE for the work of the contract can be included so long as that cost is reasonable. Leased equipment may also be included. No credit is permitted for supplies purchased or equipment leased from the prime consultant or its affiliate(s).

When a DBE subcontracts a part of the work of its contract to another firm, the value of the subcontract may be credited towards the DBE goal only if the DBE's subconsultant is itself a DBE and performs the work with its own forces. Work that a DBE subcontracts to a non-DBE firm does not count toward a DBE goal.

A prime consultant may credit the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consulting, or managerial services, or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract, provided the fees are reasonable and not excessive as compared with fees customarily allowed for similar services.

17.02 DBE Prime Consultant:

When a certified DBE firm proposes on a contract that contains a DBE goal, the DBE firm is responsible for meeting the DBE goal on the contract or making good faith efforts to meet the goal, just like any other proposer. In most cases, a DBE proposer on a contract will meet the DBE goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the DBE proposer or any other DBE subconsultants and DBE suppliers will count toward the DBE goal. The DBE proposer shall list itself along with any DBE subconsultants and suppliers, on the DBE Intended Participation Affidavit Individual and Summary in order to receive credit toward the DBE goal.

17.03 Effect of Loss of DBE Eligibility:

If a DBE is deemed ineligible (decertified) or suspended in accordance with 49 CFR 26.87 and 26.88, the DBE may not be considered to meet a contract goal on a new contract, but may be

considered to meet the contract goal under a subcontract that was executed before the DBE suspension or decertification is effective.

When the consultant makes a commitment to use an ineligible DBE firm or the LPA/Subrecipient, made a commitment to use an ineligible DBE prime consultant, but a subcontract or contract has not been executed before a decertification notice is issued to the DBE firm by its certifying agency, the ineligible firm does not count toward the contract goal. The consultant must meet the contract goal with an eligible DBE firm or demonstrate good faith effort. When a subcontract is executed with the DBE firm before the Department notified the firm of its ineligibility, the consultant may continue to use the firm on the contract and may continue to receive credit toward the DBE goal for the firm's work.

17.04 Notifying the Consultant of DBE Certification Status:

Each DBE contract at any tier shall require any DBE subconsultant or supplier that is either decertified or certified during the term of the contract to immediately notify the consultant and all parties to the DBE contract in writing, with the date of decertification or certification. The consultant shall require that this provision be incorporated in any contract of any tier in which a DBE is a participant.

17.05 Police Officers:

DBE credit will not be permitted for procuring DPS officers. For projects on which officers from other agencies are supplied, DBE credit will be given only for the broker fees charged, and will not include amounts paid to the officers. The broker fees must be reasonable.

17.06 Commercially Useful Function:

A prime consultant can credit expenditures to a DBE subconsultant toward DBE goals only if the DBE performs a Commercially Useful Function (CUF).

A DBE performs a CUF when it is responsible for execution of the work of a contract and carries out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself that it uses on the project. To determine whether a DBE is performing a commercially useful function, the LPA/Subrecipient will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

A DBE will not be considered to perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such

an extra participant, the LPA/Subrecipient will examine similar transactions, particularly those in which DBEs do not participate.

If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or if the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, LPA/Subrecipient will presume that the DBE is not performing a commercially useful function.

When a DBE is presumed not to be performing a commercially useful function as provided above, the DBE may present evidence to rebut this presumption. The Department will determine if the firm is performing a CUF given the type of work involved and normal industry practices.

The LPA/Subrecipient will notify the consultant, in writing, if it determines that the consultant's DBE subconsultant is not performing a CUF. The consultant will be notified within seven calendar days of the LPA/Subrecipient's decision.

Decisions on CUF may be appealed to the ADOT BECO. The appeal must be in writing and personally delivered or sent by certified mail, return receipt requested, to the ADOT BECO. The appeal must be received by ADOT BECO no later than seven calendar days after the LPA/Subrecipient's decision. LPA/Subrecipient's decision remains in place unless and until the ADOT BECO reverses or modifies LPA/Subrecipient's decision. ADOT BECO will promptly consider any appeals under this subsection and notify the consultant of the ADOT BECO findings and decisions. Decisions on CUF matters are not administratively appealable to USDOT.

The LPA/Subrecipient may conduct project site visits on the contract to confirm that DBEs are performing a CUF. The consultant shall cooperate during the site visits and the LPA/Subrecipient staff will make every effort not to disrupt work on the project.

18.0 Effect of Contract Changes:

The consultant acknowledges that uncertainties can occur during the performance of the work and if for any reason it becomes apparent that the DBE goal will not be met then the consultant shall: (1) immediately notify the LPA/Subrecipient of the potential or actual decrease in DBE compensation, and (2) make good faith efforts to obtain DBE participation to meet or exceed the project DBE goal. Good faith efforts required under the provisions of this section may vary, depending on the time available, the nature of the change, and other factors as determined by LPA/Subrecipient.

LPA/Subrecipient will approve or deny the consultant's good faith efforts with BECO concurrence.

The consultant is not required to take work committed to another subconsultant and assign it to a DBE subconsultant in order to meet the committed DBE percentage.

If the resulting change increases the scope or quantity of work being done by a DBE subconsultant, the DBE shall be given the opportunity to complete the additional work and receive additional compensation beyond their original subcontract amount.

19.0 DBE Participation Above the Goal (Race-Neutral Participation):

Additional DBE participation above the DBE participation required to meet the contract DBE goal is an important aspect of the Department's DBE program. The consultant is strongly encouraged to use additional DBEs above the DBE goal requirement in the contract to assist the Department in meeting its overall DBE goal and help the Department to meet the maximum feasible portion of its DBE goals through race neutral participation as outlined in 49 CFR Part 26.

There are fewer administrative requirements on the part of the consultant when using race neutral DBEs (DBEs not listed on the DBE Intended Participation Affidavit Summary). For example, if a DBE is not listed on the DBE Intended Participation Affidavit Summary, the DBE does not have to submit an Affidavit, and the subcontract approval process follows the same process of any other subcontract. The consultant does not have to replace the DBE with another DBE subconsultant if the DBE fails to perform. Therefore these DBEs are treated as any other subconsultant on the project.

20.0 Required Provisions for DBE Subcontracts:

All subcontracts of any tier, all supply contracts, and any other contracts in which a DBE is a participant shall include as a physical attachment, DBE Subconsultant Compliance Assurances available from the LPA/Subrecipient and all of the Uniform Terms and Conditions set forth in other sections of this contract.

Consultants executing agreements with subconsultants, DBE or non-DBE, that materially modify federal regulation and state statutes such as, prompt payment and retention requirements, through subcontract terms and conditions will be found in breach of contract which may result in termination of the contract, or any other such remedy as the LPA/Subrecipient and ADOT deem appropriate as outlined in DBE Subsection 2.0.

The LPA/Subrecipient reserves the right to conduct random reviews of DBE and non-DBE subcontract documentation to ensure compliance with federal requirements.

The consultant shall ensure that all subcontracts or agreements with DBEs to supply labor or materials require that the subcontract and all lower tier subcontracts be performed in accordance with 49 CFR Part 26 provisions.

The Consultant shall provide electronic copies of signed subcontract agreements for all DBE Subconsultants listed on the DBE Intended Participation Affidavit Summary by uploading them within 15 calendar days of an approved contract to the LPA DBE System.

21.0 Contract Performance:

Contract items of work designated by the consultant to be awarded to DBEs shall be performed by the designated DBE or a LPA/Subrecipient, with BECO concurrence, approved DBE substitute. The Consultant or a non-DBE Subconsultant shall not perform DBE contract work items without prior approval by LPA/Subrecipient, with BECO concurrence. The DBE must perform a commercially useful function; that is, the DBE must manage, perform, and supervise a distinct element of work.

The consultant is required to use DBEs identified in the SOQ to meet the contract goal, so the prime consultant is responsible for ensuring that the DBEs are available to meet scheduling, work and other requirements on the contract.

The LPA/Subrecipient will visit the consultant's office to conduct reviews to ensure compliance with CUF and other DBE requirements. The reviews may include, among other activities, interview of DBEs and their employees and the consultant and its employees. The consultant shall cooperate in the review and make its employees available. The consultant shall inform the LPA/Subrecipient in advance when each DBE will be working on the project to help facilitate reviews.

The LPA/Subrecipient reserves the right to request and inspect all records of the consultant and all records of the DBEs and non-DBE subconsultants concerning this contract. The consultant must make available a copy of all documents related to all contracts the LPA/Subrecipient upon request.

Use of every DBE listed on the DBE Intended Participation Affidavit Summary is a condition of this contract. The consultant shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed on the DBE Intended Participation Affidavit Summary unless the consultant obtains written consent from the LPA/Subrecipient with BECO concurrence. The consultant shall not be entitled to any payment for work or material that is not performed or supplied by the listed DBE unless the consultant obtains written consent from the LPA/Subrecipient with BECO concurrence.

22.0 DBE Termination/Substitution:

22.01 General Requirements:

The consultant shall make all reasonable efforts to avoid terminating or substituting a DBE listed on the DBE Intended Participation Affidavit Summary. At a minimum, the consultant shall negotiate in good faith, give timely notices and/or extend deadlines to the extent that it will not jeopardize the contract with the LPA/Subrecipient. Reasonable methods to resolve performance disputes must be applied and documentation provided to the LPA/Subrecipient before attempting to substitute or terminate a DBE.

22.02 Consultant Notice of Termination/Substitution:

All terminations, substitutions, and reductions in scope of work to be performed by DBEs listed on the DBE Intended Participation Affidavit Summary must be approved in writing by the LPA/Subrecipient, with BECO concurrence and by means of the executed contract modification. The consultant shall contact the LPA/Subrecipient within 24 hours from the first sign of any reason for potential DBE termination/substitution.

The consultant shall not terminate a DBE subconsultant listed on the DBE Intended Participation Affidavit Summary or complete the work contracted to the DBE with its own forces or with a non-DBE firm without the LPA/Subrecipient written consent and BECO concurrence. Before submitting a formal request to the LPA/Subrecipient for DBE termination/substitution, the consultant shall give written notice to the DBE subconsultant with a copy to the LPA/Subrecipient of its intent to terminate or substitute the DBE identifying the reason for the action. The DBE shall be allowed a minimum of five calendar days to respond to the consultant's notice advising the consultant, the LPA/Subrecipient of its position. Before making a determination for approval regarding the consultant's termination and substitution request, the LPA/Subrecipient, with BECO concurrence, will consider both the consultant's request and the DBE firm's response.

22.03 Consultant Request of Termination/Substitution:

The consultant shall formally request the termination or substitution of a DBE listed on the DBE Intended Participation Affidavit Summary by submitting the DBE Termination/Substitution Request Form and supporting documentation to the LPA/Subrecipient; form is available from the LPA/Subrecipient. The submission shall include the following information:

- 1) The date the consultant determined the DBE to be unwilling, unable or ineligible to perform.
- 2) A brief statement of facts describing the situation and citing specific actions or inaction by the DBE firm giving rise to consultant's assertion that the DBE firm is unwilling, unable, or ineligible to perform.
- 3) A brief statement of the good faith efforts undertaken by the consultant to enable the DBE firm to perform.
- 4) The total dollar amount currently paid for work performed by the DBE firm.
- 5) The total dollar amount remaining to be paid to the DBE firm for work completed, but for which the DBE firm has not received payment, and over which the consultant and the DBE firm have no dispute.
- 6) The remaining work that has not been completed by the DBE and the corresponding dollar amount
- 7) The projected date that the consultant requires a substitution or replacement DBE to commence work, if consent is granted to the request.

Written consent for terminating the performance of any DBE listed on the DBE Intended Participation Affidavit Summary will be granted only where the consultant can demonstrate

good cause showing that the DBE is unable, unwilling, or ineligible to perform. Such written consent to terminate any DBE shall concurrently constitute written consent to substitute or replace the terminated DBE. Termination or substitution of a DBE listed on the DBE Intended Participation Summary will not be allowed based solely on a consultant's ability to negotiate a more advantageous contract with another subconsultant. Prior to making a determination for approval regarding the consultant's termination and substitution request, the LPA/Subrecipient, with BECO concurrence, will consider both the consultant's request and the DBE firm's response.

Any requests for substitutions or terminations of DBEs shall be made on the forms provided by LPA/Subrecipient.

22.04 Good Cause:

The LPA/Subrecipient, with BECO concurrence, will make the determination of good cause by providing written consent to the consultant after evaluating the consultant's good cause to terminate or substitute a DBE firm. Good cause for this purpose includes the following in relation to the listed DBE subconsultant:

1. Fails or refuses to execute a written contract.
2. Fails or refuses to perform the work of its subcontract in a way consistent with normal industry practice standards. However, good cause does not exist if the failure or refusal of the DBE subconsultant to perform its work on the subcontract results from the bad faith or discriminatory action of the prime consultant.
3. Fails or refuses to meet the prime consultant's reasonable, nondiscriminatory insurance/bond requirements.
4. Becomes bankrupt, insolvent, or exhibits credit unworthiness.
5. Is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to federal or state law.
6. Is not a responsible consultant.
7. Voluntarily withdraws from the project and provides written notice of its withdrawal to the LPA/Subrecipient.
8. Is ineligible to receive DBE credit for the type of work required
9. A DBE owner dies or becomes disabled with the result that the firm is unable to complete its work on the contract.
10. Other documented good cause that the LPA/Subrecipient determines compels the termination or substitution of the DBE subconsultant.

If good cause is determined, the LPA/Subrecipient will notify the Consultant of the decision and necessary modifications to the contract can be made.

22.05 DBE Replacement Good Faith Effort:

If the LPA/Subrecipient, with BECO concurrence, approves the termination of a DBE, the consultant shall make good faith efforts to find another DBE subconsultant to substitute for the original DBE. The good faith efforts as identified in DBE Subsection 17.0 shall be directed at

finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal. The good faith efforts shall be documented and provided, upon request, to the LPA/Subrecipient within seven calendar days from the date of the request.

A prime consultant's inability to find a replacement DBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original DBE. The fact that the consultant has the ability and/or desire to perform the contract work with its own forces does not relieve the consultant of the obligation to make good faith efforts to find the replacement DBE, and it is not a sound basis for rejecting a perspective replacement DBE's reasonable quote.

The termination of a DBE firm shall not relieve the consultant of its obligations under this Special Provision, and the unpaid portion of the terminated DBE firm's subcontract will not be counted toward the DBE goal. If the LPA/Subrecipient has eliminated items of work subcontracted to a committed DBE, the prime consultant shall still make good faith efforts to replace the DBE with another DBE to the extent necessary to meet the goal. The LPA/Subrecipient will review the quality, thoroughness, and intensity of those efforts.

When a DBE substitution has been approved by the LPA/Subrecipient and concurred by BECO, the consultant shall submit an amended DBE Intended Participation Affidavit Individual and Intended Participation Affidavit Summary to the LPA/Subrecipient for approval with the substitute DBE's name, description of work, NAICS code, AZ UTRACS registration number, and dollar value of work. Approval from LPA/Subrecipient with BECO concurrence must be obtained prior to the execution of a contract modification and before substituted DBE can begin work.

22.06 Sanctions:

Failure by the consultant to carry out the requirements of these DBE Termination/Substitution specifications is a material breach of contract and will result in such remedies as LPA/Subrecipient deems appropriate, with ADOT concurrence, which will include, but are not limited to the assessment of liquidated damages. The LPA/Subrecipient will deduct from monies due or becoming due the consultant, the dollar amount of the wrongfully substituted/replaced DBE subcontract plus 25% of the amount remaining to be paid to the DBE as liquidated damages. These liquidated damages shall be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

23.0 Certification of Final DBE Payments:

The consultant's achievement of the goal is measured by actual payments made to the DBEs. The consultant shall submit the "Certification of Final DBE Payments" form for each DBE firm working on the contract. This form shall be signed by the consultant and the relevant DBE, and submitted to the LPA/Subrecipient no later than 30 days after the DBE completes its work.

The LPA/Subrecipient and ADOT will use this certification and other information available to determine applicable DBE credit allowed to date by the Prime Consultant and the extent to

which the DBE firms were fully paid for that work. By the act of filing the forms, the consultant acknowledges that the information is supplied in order to justify the payment of state and federal funds to the consultant.

The consultant will not be released from the obligations of the contract until the "Certification of Final DBE Payments" forms are received and deemed acceptable by the LPA/Subrecipient.

24.0 Sanctions for Not Meeting Contract DBE Goal:

If the LPA/Subrecipient determines, with BECO concurrence, that the consultant has not met the DBE goal at the end of the contract, the LPA/Subrecipient will, at its discretion, may assess liquidated damages up to two times the amount of the unattained portion of the original DBE goal, based on the circumstances of the noncompliance. Not meeting the DBE goal will also be reflected in the consultant evaluation.

The LPA/Subrecipient, with BECO concurrence, will determine whether liquidated damages will be assessed and the amount of the liquidate damages, the LPA/Subrecipient will consider whether there have been other violations on this or other contracts, whether the failure was due to circumstances beyond the control of the consultant, whether the consultant has made good faith efforts to meet the goal, and other appropriate circumstances.

In addition to any other sanctions, willful failure of the consultant, DBE or other subconsultant to comply with this contract or with the Federal DBE regulations may result in disqualification from further contracting, subcontracting, or other participation in the Department's and LPA/Subrecipient projects.

25.0 False, Fraudulent, or Dishonest Conduct:

In addition to any other remedies or actions, the Department will bring to the attention of the US Department of Transportation any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take steps such as referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General for possible initiation of suspension and debarment proceedings against the offending parties or application of "Program Fraud and Civil Penalties" rules provided in 49 CFR Part 31.

APPENDIX “C” TO EXHIBIT “C” (1 PAGE)
INSURANCE AND INDEMNIFICATION REQUIREMENTS

**THIS APPENDIX OMITTED
REFER TO SECTION IV – SAMPLE CONTRACT, ARTICLES 7 AND 8.**

APPENDIX “D” TO EXHIBIT “C” (1 PAGE)

CONSULTANT EVALUATION SCHEDULE

Consultant evaluations provide a performance evaluation process which is intended to provide an incentive for Consultants to enhance the quality, timeliness, responsiveness, and cost effectiveness of consulting services provided to the County. The performance evaluation completed by the individual departments shall be used Countywide in the performance evaluation process.

Design Consultants

During construction and other post-design activities, the County's PM will track the impact the design has on the work and conduct a final evaluation at the end of construction that takes into account the impact on construction of design errors or omissions, owner requested changes, and changed conditions, including consideration of disruption or delays in construction, the number of change orders and additional costs attributable to each, and the consultant's response to design errors and omissions. The Project Manager shall complete a DD Form 2631 in conjunction with project closeout and send a copy to the Design and Construction Division. Completed consultant evaluations will provide an additional source of past performance information in qualifications-based selections and may also be considered as one factor in the selection of Consultants.

APPENDIX “E” TO EXHIBIT “C” (5 PAGES)

CONSTRUCTION AND PROFESSIONAL SERVICES/DESIGN CONTRACTS PROMPT PAY AND PAYMENT REPORTING PROVISIONS

**** FOR USE ON LPA FEDERAL AID PROJECTS ****

(07/24/2023)

MEASUREMENTS AND PAYMENT:

(A) Partial Payments:

If satisfactory progress is being made, the contractor shall receive a payment based on the amount of work completed. Progress payments may be made by the LPA/Subrecipient Procurement Office to the contractor on the basis of an approved estimate of the work performed during a preceding period of time. The progress payments will be paid on or before 14 days after the estimate of the work is approved. The estimate of the work will be deemed received by the LPA/Subrecipient Procurement Office on submission to the person designated by the LPA/Subrecipient Procurement Office for the submission, review or approval of the estimate of the work. The LPA/Subrecipient Procurement Office by mutual agreement may make progress payments on contracts of less than 90 days and will make monthly progress payments on all other contracts. Payment to the contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under the contract may include payment for material and equipment.

An estimate of the work submitted will be deemed approved and certified for payment after seven days from the date of submission unless before that time the LPA/Subrecipient Procurement Office or Designee prepares and issues a specific written finding setting forth those items in detail in the estimate of the work that are not approved for payment under the contract. The contractor shall work with the LPA/Subrecipient or the LPA/Subrecipient Designee to finalize monthly estimate. The progress payments will be paid on or before 14 days after the estimate of the work is certified and approved in accordance with Arizona Revised Statutes Section 34-221.

The contractor shall pay to the contractor's subcontractors or material suppliers and each subcontractor shall pay to the subcontractor's subcontractor or material supplier, within seven days of receipt of each progress payment the respective amounts allowed the contractor or subcontractor on account of the work performed by the subcontractors, to the extent of each subcontractor's interest.

No contract for construction services may materially alter the rights of any contractor, subcontractor, or material supplier to receive prompt and timely payment.

A subcontractor may notify the LPA/Subrecipient Procurement Office in writing requesting that the subcontractor be notified by the Subrecipient Procurement Office in writing within five days from payment of each progress payment made to the contractor.

(B) No Retainage on Progress Payments:

- (1) This is a federally-funded project. Therefore, notwithstanding A.R.S. § 34-221, the LPA/Subrecipient Procurement Office will not withhold retainage from progress payments. Neither the contractor, nor the subcontractor of any tier, may withhold any retainage on progress payments to subcontractors or suppliers of any tier.
- (2) This provision does not prevent the LPA/Subrecipient Procurement Office from withholding retainage or reducing payments where otherwise provided in the contract. These cases may include, but are not limited to:
 - (a) Delayed work;
 - (b) Work that is not satisfactorily performed; or
 - (c) A failure to submit necessary reports, certifications, or documents to the LPA/Subrecipient Procurement Office.

(C) Subcontractor Payments:

(1) No Retainage:

- (a) This is a federally-funded project. Therefore, notwithstanding A.R.S. § 34-221, neither the contractor, nor the subcontractor of any tier, may withhold any retainage on progress payments to subcontractors or suppliers of any tier.
- (b) Pursuant to Subsection (B)(2) of this Specification, the contract does not prevent the LPA/Subrecipient Procurement Office from withholding retainage or reducing payments where otherwise provided in the contract. These cases may include, but are not limited to:
 - (i) Delayed work;
 - (ii) Work that is not satisfactorily performed; or
 - (iii) A failure to submit necessary reports, certifications, or documents to the LPA/Subrecipient Procurement Office.
- (c) When the LPA/Subrecipient Procurement Office withholds retainage or reduces payments under Subsection (B)(2) of this Specification, the contractor may withhold retainage on progress payments to subcontractors or suppliers of any tier. However, the contractor may only withhold a reasonable amount of retainage.
- (d) For the purpose of this section, a "reasonable amount" of retainage is based on the subcontractor's involvement or the supplier's involvement in the cause for the LPA/Subrecipient Procurement Office's reduction of payment. The final amount retained from all subcontractors and suppliers shall not be higher than the amount retained by the LPA/Subrecipient. However, tier subcontracts shall include provisions that comply with this section.

(2) No Set-offs Arising from Other Contracts:

If a subcontractor is performing work on multiple contracts for the same contractor or subcontractor of any tier, the contractor or subcontractor of any tier shall not withhold or reduce payment from its subcontractors on the contract because of disputes or claims on another contract.

(3) Partial Payment:

The contractor and each subcontractor of any tier shall make prompt partial payments to its subcontractors within seven days of receipt of payment from the LPA/Subrecipient Procurement Office. Notwithstanding any provision of Arizona Revised Statutes Section 34-221, the parties may not agree otherwise.

(4) Final Payment:

The contractor and each subcontractor of any tier shall make prompt final payment to each of its subcontractors. The contractor and each subcontractor of any tier shall pay all monies, including retention, due to its subcontractor within seven days of receipt of payment. Notwithstanding any provision of Arizona Revised Statutes Section 34-221, the parties may not agree otherwise.

(5) Payment Reporting:

For the purposes of this subsection "Reportable Contracts" means any subcontract, of any tier, DBE or non-DBE, by which work shall be performed on behalf of the contractor and any contract of any tier with a DBE material supplier.

The requirements of this subsection apply to all Reportable Contracts.

Payment Reporting for all Reportable Contracts shall be done through the LPA DBE System which can be accessed at AZ UTRACS on the Arizona Transportation Business Portal at www.azutracs.com. No later than fifteen calendar days after the preconstruction conference, the contractor shall log into the system and enter or verify the name, contact information, and subcontract amounts for Reportable Contracts on the project. As Reportable Contracts are approved over the course of the contract, the contractor shall enter the subcontractor information in the LPA DBE System. Reportable contracts information shall be entered into the system no later than five calendar days after approval by the LPA/Subrecipient Procurement Office.

The contractor shall report on a monthly basis indicating the amounts actually paid and the dates of each payment under any Reportable Contract on the project. The contractor shall provide information for payments made on all Reportable Contracts during the previous month by the last day of the current month. In the event that no payments were made during a given month, the contractor shall identify that by entering a dollar value of zero. If the contractor does not pay the full amount of any invoice from a subcontractor, the contractor shall note that and provide the reasons in the comment section of the Monthly Payment Audit of the LPA DBE System.

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In addition, the contractor shall require that all participants in any Reportable Contract electronically verify receipt of payment on the contract within 15 days of receipt of electronic payment notification and the contractor shall actively monitor the system to ensure that the verifications are input. The contractor shall proactively work to resolve any payment discrepancies in the system between payment amounts it reports and payment confirmation amounts reported by others.

The contractor shall ensure that all Reportable Contract payment activity is in the LPA DBE System. This includes all lower-tier Reportable Contracts.

The contractor shall maintain records for each payment explaining the amount requested by the subcontractor, and the amount actually paid pursuant to the request, which may include but are not limited to, estimates, invoices, pay requests, copies of checks or wire transfers, and lien waivers in support of the monthly payments in the system.

The contractor shall ensure that a copy of this Subsection is included in every Reportable Contract of every tier.

(a) Sanctions for Inadequate Reporting:

For each month that the contractor fails to submit timely and complete payment information the LPA/Subrecipient Procurement Office will retain \$5,000 as sanctions from the monies due to the contractor. After 90 consecutive days of non-reporting, the sanctions will increase to \$10,000 for each subsequent month which the contractor fails to report until the information is provided. These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

(6) Completion of Work:

A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented, and accepted by the LPA/Subrecipient Procurement Office.

(7) Disputes:

If there is a discrepancy between what is reported by the contractor in the LPA DBE System and what the subcontractor indicates, an alert email will automatically be sent to the contractor. The email will be sent to the email address provided by the contractor in the LPA DBE System. It is the contractor's responsibility to ensure that the email address in the system is kept current.

The contractor shall provide a verifiable explanation of the discrepancy in the LPA DBE System as early as practicable but in no case later than seven days after the date of the alert email.

The LPA/Subrecipient will determine whether the contractor has acted in good faith concerning any such explanations. The LPA/Subrecipient and ADOT BECO reserves the right to request and receive documents from the contractor and all subcontractors of any

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tier, in order to determine whether prompt payment requirements are met.

The contractor shall implement and use the dispute resolution process outlined in the subcontract or by following the LPA/Subrecipient escalation process, to resolve payment disputes.

(8) Non-compliance:

Failure to make prompt partial payment, or prompt final payment including any retention, within the time frames established above, will result in remedies, as the LPA/Subrecipient Procurement Office deems appropriate, which may include but are not limited to:

- (a) Sanctions: These sanctions will be in addition to all other retention or liquidated damages provided for elsewhere in the contract.
 - (i) The LPA/Subrecipient Procurement Office will withhold two times the disputed dollar amount not paid to each subcontractor.
 - (ii) If full payment is made within 30 days of the LPA/Subrecipient Procurement Office's payment to the contractor, the amount withheld by the LPA/Subrecipient Procurement Office will be released.
 - (iii) If full payment is made after 30 days of the LPA/Subrecipient Procurement Office's payment to the contractor, the LPA/Subrecipient Procurement Office will release 75 percent of the funds withheld. The LPA/Subrecipient Procurement Office will retain 25 percent of the monies withheld as sanctions.
- (b) Additional Remedies. If the contractor fails to make prompt payment for three consecutive months, or any four months over the course of one project, or if the contractor fails to make prompt payment on two or more projects within 24 months, the LPA/Subrecipient Procurement Office may, in addition, invoke the following remedies:
 - (i) Withhold monthly progress payments until the issue is resolved and full payment has been made to all subcontractors, subject to the sanctions described in paragraph (a) above,
 - (ii) Terminate the contract for default,
 - (iii) Disqualify the contractor from future bidding, temporarily or
 - (iv) permanently, depending on the number and severity of violations, if applicable.

In determining whether sanctions will be assessed, the extent of the sanctions, or additional remedies assessed, the LPA/Subrecipient will consider whether there have been other violations on this or other contracts, whether the failure to make prompt payment was due to circumstances beyond the contractor's control, and other circumstances. The contractor may, within 15 calendar days of receipt of the decision of the LPA/Subrecipient, escalate the decision according to the contract's escalation process.



CERTIFICATE OF LIABILITY INSURANCE

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DATE (MM/DD/YYYY)
09/18/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Willis Towers Watson Midwest, Inc. c/o 26 Century Blvd P.O. Box 305191 Nashville, TN 372305191 USA	CONTACT NAME: WTW Certificate Center PHONE (A/C, No. Ext): 1-877-945-7378 FAX (A/C, No): 1-888-467-2378 E-MAIL ADDRESS: certificates@wtwco.com																					
INSURED HDR Engineering, Inc. 1917 South 67th Street Omaha, NE 68106	<table><tr><th colspan="2">INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr><tr><td>INSURER A:</td><td>Liberty Mutual Fire Insurance Company</td><td>23035</td></tr><tr><td>INSURER B:</td><td>Ohio Casualty Insurance Company</td><td>24074</td></tr><tr><td>INSURER C:</td><td>Liberty Insurance Corporation</td><td>42404</td></tr><tr><td>INSURER D:</td><td></td><td></td></tr><tr><td>INSURER E:</td><td></td><td></td></tr><tr><td>INSURER F:</td><td></td><td></td></tr></table>	INSURER(S) AFFORDING COVERAGE		NAIC #	INSURER A:	Liberty Mutual Fire Insurance Company	23035	INSURER B:	Ohio Casualty Insurance Company	24074	INSURER C:	Liberty Insurance Corporation	42404	INSURER D:			INSURER E:			INSURER F:		
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INSURER D:																						
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INSURER F:																						

COVERAGES

CERTIFICATE NUMBER: W34715927

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Contractual Liability GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:	Y	Y	TB2-641-444950-034	06/01/2024	06/01/2025	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	AS2-641-444950-044	06/01/2024	06/01/2025	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 0	Y	Y	EUO (25) 57919363	06/01/2024	06/01/2025	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N No	N/A	WA7-64D-444950-014	06/01/2024	06/01/2025	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Certificate Holder is named as Additional Insured on General Liability, Automobile Liability and Umbrella/Excess Liability on a Primary, Non-contributory basis where required by written contract. Waiver of Subrogation applies on General Liability, Automobile Liability, Umbrella/Excess Liability and Workers Compensation where required by written contract and as permitted by law. Umbrella/Excess policy is follow form over General Liability, Auto Liability and Employers Liability.

CERTIFICATE HOLDER**CANCELLATION**

Pima County Department of Transportation Attn: Jorden Oliver 150 W. Congress St., 5th Floor Tucson, AZ 85701	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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ACORD 25 (2016/03)

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SR ID: 26447737

BATCH: 3624714



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/1/2025

9/18/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies, LLC 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000 kcasu@lockton.com	CONTACT NAME: PHONE (A/C, No. Ext): E-MAIL ADDRESS: FAX (A/C, No): INSURER(S) AFFORDING COVERAGE INSURER A: Lloyds of London INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	NAIC #
INSURED 1016040 HDR ENGINEERING, INC. 1917 SOUTH 67TH STREET OMAHA NE 68106		

COVERAGES**CERTIFICATE NUMBER:** 20957422**REVISION NUMBER:** XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX DAMAGE TO RENTED PREMISES (Ea occurrence) \$ XXXXXXXX MED EXP (Any one person) \$ XXXXXXXX PERSONAL & ADV INJURY \$ XXXXXXXX GENERAL AGGREGATE \$ XXXXXXXX PRODUCTS - COMP/OP AGG \$ XXXXXXXX \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident) \$ XXXXXXXX BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$ XXXXXXXX
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / <input type="checkbox"/> N If yes, describe under DESCRIPTION OF OPERATIONS below		N / A	NOT APPLICABLE			<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ XXXXXXXX E.L. DISEASE - EA EMPLOYEE \$ XXXXXXXX E.L. DISEASE - POLICY LIMIT \$ XXXXXXXX
A	ARCH & ENG PROFESSIONAL LIABILITY	N	N	P1001412400	6/1/2024	6/1/2025	PER CLAIM: \$2,000,000 AGGREGATE: \$2,000,000.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: REGINA QUINLAN; RACHEL SANCHEZ, TUCSON. PO2400007958 MADERA CANYON, MEDIUM WASH BRIDGE REPLACEMENT (4MADMB) AND MADERA CANYON, FLORIDA CANYON WASH BRIDGE REPLACEMENT (4MADFL)

CERTIFICATE HOLDER**CANCELLATION** See Attachment**20957422**PIMA COUNTY DEPARTMENT OF TRANSPORTATION
ATTN: JORDEN OLIVER
150 W. CONGRESS ST.
5TH FLOOR
TUCSON, AZ 85701

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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This endorsement, effective: 06/01/2024 - 06/01/2025

Forms a part of policy no.: P1001412400

Issued to: HDR Engineering, Inc.

By: Lloyd's of London

NOTICE OF CANCELLATION TO CERTIFICATE HOLDERS ENDORSEMENT

Except respect cancellation non-payment premium (10 day notice cancellation), the **Insurer** shall give 30 day notice cancellation the Certificate Holder(s) set forth herein, provided that:

The **First Named Insured** is required by contract give notice cancellation the Certificate Holder, and

Prior the **Insurer** sending notice cancellation the **First Named Insured** the **First Named Insured** shall provide the **Insurer** in writing, either directly or through the **First Named Insured** broker record, the name each person or organization requiring notice cancellation and the corresponding address such person or other employee responsible receipt of notice of cancellation on behalf of such organization.

Notice cancellation be sent in accordance the terms and conditions the policy, except that the **Insurer** may provide written notice individually or collectively the Certificate Holders by email at the current email address given by the **First Named Insured** Proof sending the notice of cancellation by email shall be sufficient proof of notice.

Any failure provide notice cancellation the Certificate Holder due inaccurate or incomplete information provided by the **First Named Insured** shall remain the sole responsibility the **First Named Insured**

The following definitions apply to this endorsement:

- 1. First Named Insured** means the Named Insured shown in Item 1. of Declarations.
- 2. Insurer** means the insurance company shown in the header on the Declarations.

All other terms and conditions of the policy remain the same

**ADDITIONAL REMARKS SCHEDULE**Page 2 of 2

AGENCY Willis Towers Watson Midwest, Inc.		NAMED INSURED HDR Engineering, Inc. 1917 South 67th Street Omaha, NE 68106	
POLICY NUMBER See Page 1		EFFECTIVE DATE: See Page 1	
CARRIER See Page 1	NAIC CODE See Page 1		

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 FORM TITLE: Certificate of Liability Insurance

RE: PO2400007958 Madera Canyon, Medium Wash Bridge Replacement (4MADMB) and Madera Canyon, Florida Canyon Wash Bridge Replacement (4MADFL)

Project: Solicitation No. RFQu-24000075 for Madera Canyon Bridge Replacements

Additional Insureds: COUNTY, ADOT, and FHWA, their departments, districts, boards, commissions, officers, officials, agents, and employees

Waiver of Subrogation: COUNTY, its departments, districts, boards, commissions, officers, officials, agents, and employees

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED LOCATION(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Location(s):

All locations owned by or rented to the Named Insured

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under Section I – Coverage **A**, and for all medical expenses caused by accidents under Section I – Coverage **C**, which can be attributed only to operations at a single designated "location" shown in the Schedule above:
1. A separate Designated Location General Aggregate Limit applies to each designated "location", and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Location General Aggregate Limit is the most we will pay for the sum of all damages under Coverage **A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under Coverage **C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under Coverage **A** for damages or under Coverage **C** for medical expenses shall reduce the Designated Location General Aggregate Limit for that designated "location". Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Location General Aggregate Limit for any other designated "location" shown in the Schedule above.
 4. The limits shown in the Declarations for Each Occurrence, Damage To Premises Rented To You and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Location General Aggregate Limit.

- B.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under Section **I** – Coverage **A**, and for all medical expenses caused by accidents under Section **I** – Coverage **C**, which cannot be attributed only to operations at a single designated "location" shown in the Schedule above:
1. Any payments made under Coverage **A** for damages or under Coverage **C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Location General Aggregate Limit.
- C.** When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Location General Aggregate Limit.
- D.** For the purposes of this endorsement, the **Definitions** Section is amended by the addition of the following definition:
- "Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.
- E.** The provisions of Section **III** – Limits Of Insurance not otherwise modified by this endorsement shall continue to apply as stipulated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Construction Project(s):

All construction projects not located at premises owned, leased or rented by a Named Insured

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under Section I – Coverage **A**, and for all medical expenses caused by accidents under Section I – Coverage **C**, which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under Coverage **A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under Coverage **C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under Coverage **A** for damages or under Coverage **C** for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule above.
 4. The limits shown in the Declarations for Each Occurrence, Damage To Premises Rented To You and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.

- B.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under Section I – Coverage **A**, and for all medical expenses caused by accidents under Section I – Coverage **C**, which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
- 1.** Any payments made under Coverage **A** for damages or under Coverage **C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-completed Operations Aggregate Limit, whichever is applicable; and
 - 2.** Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C.** When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.
- D.** If the applicable designated construction project has been abandoned, delayed, or abandoned and then restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.
- E.** The provisions of Section III – Limits Of Insurance not otherwise modified by this endorsement shall continue to apply as stipulated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

SCHEDULE

Name Of Additional Insured Person(s)
Or Organization(s):

Location(s) Of Covered Operations

Any person or organization with whom you have agreed through written contract, agreement or permit to provide additional insured coverage

All locations as required by a written contract or agreement entered into prior to an "occurrence" or offense

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

SCHEDULE

Name Of Additional Insured Person(s)
Or Organization(s):

Any person or organization to whom or to which you are required to provide additional insured status in a written contract, agreement or permit except where such contract or agreement is prohibited.

Location And Description Of Completed Operations

Any location where you have agreed, through written, contract, agreement, or permit, to provide additional insured coverage for completed operations

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**PRIMARY AND NONCONTRIBUTORY –
OTHER INSURANCE CONDITION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

The following is added to Section IV – Conditions 4. Other Insurance and supersedes any provision to the contrary:

Primary And Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured under your policy provided that:

- (1) The additional insured is a Named Insured under such other insurance; and
- (2) You have agreed prior to a loss, that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.
- (3) This insurance is excess over any other insurance available to the additional insured for which it is also covered as an additional insured by attachment of an endorsement to another policy providing coverage for the same "occurrence", claim or "suit".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
ELECTRONIC DATA LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART DESIGNATED SITES
POLLUTION LIABILITY LIMITED COVERAGE PART DESIGNATED SITES
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART
UNDERGROUND STORAGE TANK POLICY DESIGNATED TANKS

SCHEDULE

Name Of Person(s) Or Organization(s):

As required by written contract or agreement.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV – Conditions**:

We waive any right of recovery against the person(s) or organization(s) shown in the Schedule above because of payments we make under this Coverage Part. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person(s) or organization(s) prior to loss. This endorsement applies only to the person(s) or organization(s) shown in the Schedule above.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

SCHEDULE

Name Of Person(s) Or Organization(s):
As required by written contract
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph **A.1.** of Section **II** – Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph **D.2.** of Section **I** – Covered Autos Coverages of the Auto Dealers Coverage Form.

Policy Number: AS2-641-444950-044
Issued by: Liberty Mutual Fire Insurance Company

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED - NONCONTRIBUTING

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIERS COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" under the Who Is An Insured Provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage form.

Schedule

Name of Person(s) or Organizations(s):

Any person or organization where the Named Insured has agreed by written contract to include such person or organization

Regarding Designated Contract or Project:

Any

Each person or organization shown in the Schedule of this endorsement is an "insured" for Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured Provision contained in Section II of the CoverageForm.

The following is added to the **Other Insurance Condition:**

If you have agreed in a written agreement that this policy will be primary and without right of contribution from any insurance in force for an Additional Insured for liability arising out of your operations, and the agreement was executed prior to the "bodily injury" or "property damage", then this insurance will be primary and we will not seek contribution from such insurance.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

SCHEDULE

Name(s) Of Person(s) Or Organization(s):

Any person or organization for whom you perform work under a written contract of the contract requires you to obtain this agreement from us but only if the contract is executed prior to the injury or damage occurring.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The **Transfer Of Rights Of Recovery Against Others To Us** condition does not apply to the person(s) or organization(s) shown in the Schedule, but only to the extent that subrogation is waived prior to the "accident" or the "loss" under a contract with that person or organization.

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Where required by contract or written agreement prior to loss.

Issued by:Liberty Insurance Corporation

For attachment to Policy No WA7-64D-444950-014
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Effective Date 06/01/2024

Premium

Issued to:HDR Engineering, Inc.

Policy Number TB2-641-444950-034
Issued by Liberty Mutual Fire Insurance Company

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION OR MATERIAL REDUCTION IN COVERAGE TO THIRD PARTIES

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE PART
MOTOR CARRIER COVERAGE PART
GARAGE COVERAGE PART
TRUCKERS COVERAGE PART
EXCESS AUTOMOBILE LIABILITY INDEMNITY COVERAGE PART
SELF-INSURED TRUCKER EXCESS LIABILITY COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
EXCESS COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
COMMERCIAL LIABILITY – UMBRELLA COVERAGE FORM

Schedule		
Name of Other Person(s) / Organization(s):	Email Address or mailing address:	Number Days Notice:
As required by written contract or written agreement	As required by written contract or written agreement	30

- A. If we cancel this policy for any reason other than nonpayment of premium, or make a material reduction in coverage, we will notify the persons or organizations shown in the Schedule above. We will send notice to the email or mailing address listed above at least 10 days, or the number of days listed above, if any, before the cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B. This advance notification of a pending cancellation or material reduction of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

All other terms and conditions of this policy remain unchanged.

Policy Number AS2-641-444950-044
Issued by Liberty Mutual Fire Insurance Company

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION OR MATERIAL REDUCTION IN COVERAGE TO THIRD PARTIES

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE PART
MOTOR CARRIER COVERAGE PART
GARAGE COVERAGE PART
TRUCKERS COVERAGE PART
EXCESS AUTOMOBILE LIABILITY INDEMNITY COVERAGE PART
SELF-INSURED TRUCKER EXCESS LIABILITY COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
EXCESS COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
COMMERCIAL LIABILITY – UMBRELLA COVERAGE FORM

Schedule		
Name of Other Person(s) / Organization(s):	Email Address or mailing address:	Number Days Notice:
As required by written contract or written agreement		30

- A. If we cancel this policy for any reason other than nonpayment of premium, or make a material reduction in coverage, we will notify the persons or organizations shown in the Schedule above. We will send notice to the email or mailing address listed above at least 10 days, or the number of days listed above, if any, before the cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B. This advance notification of a pending cancellation or material reduction of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

All other terms and conditions of this policy remain unchanged.

NOTICE OF CANCELLATION TO THIRD PARTIES

- A.** If we cancel this policy for any reason other than nonpayment of premium, we will notify the persons or organizations shown in the Schedule below. We will send notice to the email or mailing address listed below at least 10 days, or the number of days listed below, if any, before cancellation becomes effective. In no event does the notice to the third party exceed the notice to the first named insured.
- B.** This advance notification of a pending cancellation of coverage is intended as a courtesy only. Our failure to provide such advance notification will not extend the policy cancellation date nor negate cancellation of the policy.

Schedule

Name of Other Person(s) / Organization(s):	Email Address or mailing address:	Number Days Notice:
As required by written contract or agreement		30

All other terms and conditions of this policy remain unchanged.

Issued by Liberty Insurance Corporation

For attachment to Policy No. WA7-64D-444950-014 Effective Date 06/01/2024

Premium \$

Issued to HDR Engineering, Inc.

Endorsement

No.

Additional Insured for Commercial General Liability and Comprehensive Automobile Liability Endorsement Form attached.



PROCUREMENT DEPARTMENT

DESIGN & CONSTRUCTION DIVISION | 150 W. CONGRESS ST., 5TH FLOOR | TUCSON, AZ 85701

PHONE: 520-724-8161 | FAX: 520-724-3646

Insurance carrier verifies Pima County is named as Additional Insured to the Comprehensive Commercial General Liability policy AND the Comprehensive Automobile Liability policy referenced below, the County being added by ENDORSEMENT to the policies.

HDR Engineering, Inc.

Insured Firm

TB2-641-444950-034; AS2-641-444950-044

Policy Number

Liberty Mutual Fire Insurance Company

Insurance Carrier

Authorized Carrier Signature

Christopher Lorsung

Printed Name

9/18/2024

Date of Signature

NOTE: This document must be included with Insurance Certificates at time of signing contract or renewing contract.