



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

Award  Contract  Grant

Requested Board Meeting Date: 8/7/18

\* = Mandatory, information must be provided

or Procurement Director Award

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

Dibble & Associates Consulting Engineers, Inc., dba Dibble Engineering (Headquarters: Phoenix, AZ)

**\*Project Title/Description:**

Design Services: Connection Of The Fairgrounds WRF To The Conveyance System (3FGS17)

**\*Purpose:**

Award: Contract No. CT-PW-19-037. This award of contract is recommended to the highest qualified consultant in the amount of \$710,675.03 for a contract term from 08/07/18 to 12/31/21 for Design Services: Connection Of The Fairgrounds WRF To The Conveyance System (3FGS17). Administering Department: Public Works

**\*Procurement Method:**

Solicitation for Qualifications No. 286720 was conducted in accordance with A.R.S. § 34-603 and Pima County Board of Supervisors Policy D 29.1. Three (3) responsive statements of qualifications were received and evaluated by a three (3) member committee using qualifications and experience-based selection criteria. Based upon the evaluation of the respondents' written representations of their qualifications and necessary due diligence, a short list of three (3) 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 and Contract

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

The Fairgrounds Connection Project will provide additional sewer service capacity to the Pima County Fairgrounds area. This will help support future development and provide centralized wastewater reclamation in lieu of treatment at the existing Fairgrounds Wastewater Reclamation Facility.

**\*Public Benefit:**

Completion of the Fairgrounds Connection sewer project will result in additional sewer capacity and allow for additional economic development in the vicinity of the Pima County Fairgrounds.

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

Successful completion of this project and receipt of Arizona Department of Environmental Quality discharge permits within budget and schedule.

**\*Retroactive:**

No

**Contract / Award Information**

Document Type: CT Department Code: PW Contract Number (i.e., 15-123): 19-037

Effective Date: 08/07/18 Termination Date: 12/31/21 Prior Contract Number (Synergen/CMS): \_\_\_\_\_

Expense Amount: \$\* 710,675.03  Revenue Amount: \$ \_\_\_\_\_

\*Funding Source(s) required: Regional Wastewater Reclamation Department Obligations

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? NA

Were insurance or indemnity clauses modified?  Yes  No

If Yes, attach Risk's approval.

Vendor is using a Social Security Number?  Yes  No

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

**Amendment / Revised Award Information**

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

Amendment No.: \_\_\_\_\_ AMS Version No.: \_\_\_\_\_

Effective Date: \_\_\_\_\_ New Termination Date: \_\_\_\_\_

Prior Contract No. (Synergen/CMS): \_\_\_\_\_

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

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

\*Funding Source(s) required:

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

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

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

Effective Date: \_\_\_\_\_ Termination Date: \_\_\_\_\_ Amendment Number: \_\_\_\_\_

Match Amount: \$ \_\_\_\_\_  Revenue Amount: \$ \_\_\_\_\_

\*All Funding Source(s) required:

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

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

\*Funding Source: \_\_\_\_\_

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

Contact: Keith E. Rogers Keith E. Rogers 07/18/18 07/18/2018

Department: Procurement Public Works, Acting Procurement Director Telephone: 724-3542

Department Director Signature/Date: Nancy Cole Nancy Cole, Public Works 7/19/18

Deputy County Administrator Signature/Date: [Signature] 7/20/18

County Administrator Signature/Date: [Signature] 7/20/18  
(Required for Board Agenda/Addendum Items)



# PIMA COUNTY

JULY 16, 2018

## NOTICE OF RECOMMENDATION FOR AWARD

The Pima County Procurement Department - Design & Construction Division hereby issues formal notice to respondents to **Solicitation No. 286720 – Design Services: Connection Of The Fairgrounds WRF To The Conveyance System (3FGS17)**; that the following listed respondent will be recommended for award as indicated below. The award action is scheduled to be performed by the Pima County Board of Supervisors on or after the regularly scheduled meeting **August 7, 2018**.

### RECOMMENDED:

Dibble & Associates Consulting Engineers, Inc., dba Dibble Engineering

### OTHER FINAL-LISTED TEAMS:

Michael Baker International, Inc.

Stantec Consulting Services, Inc.

**NOTE: Information regarding this solicitation will be disclosed in accordance with A.R.S. § 34-603(H).**

/s/ <Keith E. Rogers

Keith E. Rogers, CPPB  
Procurement Officer

Date: July 16, 2018

This notice is in compliance with Pima County Procurement Code.

6.

<b>PIMA COUNTY PUBLIC WORKS DEPARTMENT</b>		
<b>PROJECT:</b>	<b>DESIGN SERVICES: CONNECTION OF THE FAIRGROUNDS WRF TO THE CONVEYANCE SYSTEM (3FGS17)</b>	<b>CONTRACT</b> <hr/> <b>NO. CT-PW-19-037</b> <hr/> <b>AMENDMENT NO. _____</b> This number must appear on all invoices, correspondence and documents pertaining to this contract.
<b>CONSULTANT:</b>	<b>DIBBLE &amp; ASSOCIATES CONSULTING ENGINEERS, INC., dba DIBBLE ENGINEERING 7878 N. 16<sup>TH</sup> STREET, SUITE 300 PHOENIX, AZ 85020</b>	
<b>AMOUNT:</b>	<b>\$710,675.03</b>	
<b>FUNDING:</b>	<b>REGIONAL WASTEWATER RECLAMATION DEPARTMENT OBLIGATIONS</b>	

**CONSULTANT SERVICES CONTRACT**

THIS CONTRACT is entered into between Pima County, a body politic and corporate of the State of Arizona, hereafter called COUNTY, and Dibble & Associates Consulting Engineers, Inc., dba Dibble Engineering, hereinafter called CONSULTANT, and collectively referred to as the Parties.

W I T N E S S E T H

WHEREAS, COUNTY requires the services of a CONSULTANT registered in the State of Arizona and qualified to provide Design Services for the Connection of the Fairgrounds WRF to the Conveyance System 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. 286720, 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 August 7, 2018, and terminates on December 31, 2021, 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 Services for the COUNTY as described in **APPENDIX ‘A’ – SCOPE OF SERVICES** (27 pages) and **APPENDIX ‘C’ – GENERAL CONDITIONS** (44 pages), attachments to this contract, and to complete such services within the term and value of this contract as it may be modified in accordance with **Article 5**. Amendments and changes to the Scope must be approved by the Board of Supervisors or the Procurement Director, as required by the Pima County Procurement Code, before the work under the amendment commences.

## **ARTICLE 3 - DEFINITIONS**

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

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

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

**Direct Labor Costs.** Direct Labor Costs are the total number of allowable hours worked on the Project by each individual multiplied by the Labor Rate, identified in APPENDIX ‘B’ – COMPENSATION SCHEDULE.

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

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

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

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

**Indirect Costs.** Indirect costs are at the overhead rate identified in APPENDIX ‘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 **APPENDIX 'B' – COMPENSATION SCHEDULE** (63 pages). CONSULTANT may invoice monthly for the actual costs incurred plus a pro-rata portion of the fee amount for each task. CONSULTANT will calculate actual costs based on actual hours spent, to which the agreed overhead rate may be applied, plus Other Direct Costs. Actual Costs may then be represented as percentage of the "not to exceed" cost amount associated with that task on the CONSULTANT's invoice for billing purposes. Calculations and supporting data will be made available to COUNTY at any time, upon request. The cumulative payment for the actual costs of any task may not be more than the "not to exceed" cost amount associated with that task. Upon completion of 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 Seven Hundred Ten Thousand, Six Hundred Seventy-Five Dollars and Three Cents (\$710,675.03).

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 APPENDIX '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 APPENDIX '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 APPENDIX 'B' – COMPENSATION SCHEDULE will only be adjusted by written amendment to the Contract. The Parties may add additional required professional classifications or disciplines to APPENDIX '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.

## **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 APPENDIX 'A' - SCOPE OF SERVICES and APPENDIX '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 APPENDIX 'A' - SCOPE OF SERVICES and APPENDIX 'B' – COMPENSATION SCHEDULE as follows:

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

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

#### **ARTICLE 7 – INSURANCE**

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

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

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

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



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

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

**7.2 Additional Insurance Requirements:**

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

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

**7.3 Notice of Cancellation:**

For each insurance policy required by the insurance provisions of this Contract, the CONSULTANT must provide to COUNTY, within two (2) business days of receipt, a notice if a policy is suspended, voided, or cancelled for any reason. Such notice will be mailed, emailed, hand-delivered or sent by facsimile transmission to Pima County Procurement Department, 130 West Congress Street, Tucson AZ 85701, and Fax 520-791-6508.

**7.4 Verification of Coverage:**

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

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

**7.5 Approval and Modifications:**

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

**ARTICLE 8 – INDEMNIFICATION**

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

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

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

**ARTICLE 9 – COMPLIANCE WITH LAWS**

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

**ARTICLE 10 – STATUS OF CONSULTANT**

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

**ARTICLE 11 – CONSULTANT'S PERFORMANCE**

CONSULTANT will perform the work in accordance with the terms of the contract and with the degree of care and skill required of any similarly situated Arizona registrant. CONSULTANT will employ suitably trained and skilled professional personnel to perform all required services under this Contract. Prior to

changing any key personnel, especially those key personnel COUNTY relied upon in making this contract, CONSULTANT will obtain the approval of COUNTY.

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

#### **ARTICLE 12 – NON-WAIVER**

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

#### **ARTICLE 13 – SUBCONSULTANT**

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

#### **ARTICLE 14 – NON-ASSIGNMENT**

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

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

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

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

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

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

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

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

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

- A. Upon a failure by CONSULTANT to cure a default under this Contract within ten (10) days of receipt of notice from COUNTY of the default, COUNTY may, in its sole discretion, terminate this Contract for default by written notice to CONSULTANT. In this event, COUNTY may take over the work and complete it by contract or otherwise. In such event, CONSULTANT will be liable for any damage to the COUNTY resulting from CONSULTANT's default, including any increased costs incurred by COUNTY in completing the work.
  
- B. The occurrence of any of the following, without limitation to the named events, constitutes an event of default:
  - 1. Abandonment of or failure by CONSULTANT to observe, perform or comply with any material term, covenant, agreement or condition of this Contract, or to prosecute the work or any separable part thereof with the diligence that will insure completion within the time specified in this contract, including any extension, or a failure to complete the work (or the separable part of the work) within the specified time;
  - 2. Persistent or repeated refusal or failure to supply adequate staff, resources or direction to perform the work on schedule or at an acceptable level of quality;
  - 3. Refusal or failure to remedy defective or deficient work within a reasonable time;
  - 4. Loss of professional registration or business or other required license or authority, or any curtailment or cessation for any reason of business or business operations that would substantially impair or preclude CONSULTANT's performance of this Contract;
  - 5. Disregard of laws, ordinances, or the instructions of COUNTY or its representatives, or any otherwise substantial violation of any provision of the contract;
  - 6. Performance of work hereunder by personnel that are not qualified or permitted under state law or local law to perform such services;
  - 7. Commission of any act of fraud, misrepresentation, willful misconduct, or intentional breach of any provision of this Contract; or
  - 8. If a voluntary or involuntary action for bankruptcy is commenced with respect to CONSULTANT, or CONSULTANT becomes insolvent, makes a general assignment for the benefit of creditors, or has a receiver or liquidator appointed in respect of its assets.
  
- C. In the event of a termination for default:
  - 1. All finished and unfinished drawings, specifications, documents, data, studies, surveys, drawings, photographs, reports and other information in whatever form, including electronic, acquired or

prepared by CONSULTANT for this project become COUNTY's property and will be delivered to COUNTY not later than five (5) business days after the effective date of the termination;

2. COUNTY may withhold payments to CONSULTANT arising under this or any other Contract for the purpose of set-off until such time as the exact amount of damage due COUNTY from CONSULTANT is determined; and
  3. Subject to the immediately preceding subparagraph 2, COUNTY's liability to CONSULTANT will not exceed the Contract value of work satisfactorily performed prior to the date of termination for which COUNTY has not previously made payment.
- D. COUNTY will not terminate the Contract for default or charge CONSULTANT with damages under this Article, if -
1. Excepting item 8. in paragraph B above, the event of default or delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of CONSULTANT. Examples of such causes include —
    - I. Acts of God or of the public enemy,
    - II. Acts of the COUNTY in either its sovereign or contractual capacity,
    - III. Acts of another Contractor in the performance of a contract with the COUNTY,
    - IV. Fires,
    - V. Floods,
    - VI. Epidemics
    - VII. Quarantine restrictions,
    - VIII. Strikes,
    - IX. Freight embargoes,
    - X. Unusually severe weather, or
    - XI. Delays of subcontractors at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both CONSULTANT and the subcontractor(s); and
  2. CONSULTANT, within seven (7) days from the beginning of any event of default or delay (unless extended by COUNTY), notifies COUNTY in writing of the cause(s) therefor. In this circumstance, COUNTY will ascertain the facts and the extent of the resulting delay. If, in the reasonable judgment of COUNTY, the findings warrant such action, COUNTY may extend the time for completing the work.
- E. For the purposes of paragraph A above, "receipt of notice" includes receipt by hand by CONSULTANT's project manager, by facsimile transmission with notice of receipt, or under the Notices clause of this Contract.
- F. If, after termination of the Contract for default, COUNTY determines that the CONSULTANT was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if COUNTY had terminated the Contract for convenience.
- G. The rights and remedies of COUNTY in this Article are cumulative and in addition to any other rights and remedies provided by law or under this contract.

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

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

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

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

**ARTICLE 21 – NOTICES**

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

**COUNTY:**

Nancy Cole, RA  
Project Management Office, Public Works  
201 N Stone Ave, 2<sup>nd</sup> Floor  
Tucson, AZ 85701  
Tel: (520) 724-6312

**CONSULTANT:**

Keith Faucett, PE, Project Manager  
Dibble Engineering  
177 N. Church Avenue, Suite 711  
Tucson, AZ 85701  
Tel: (520) 495-4065

**ARTICLE 22 – OTHER DOCUMENTS**

The Parties in entering into this Contract have relied upon information provided in Solicitation for Qualifications No. 286720, and on representations and information in the CONSULTANT'S response to said SFQ. These documents are hereby incorporated into and made a part of this Contract as if set forth in full herein, to the extent not inconsistent with the provisions of this Contract. CONSULTANT will perform services in accordance with the terms of the Contract and at a level of care consistent with prevailing industry standards. In the event any provision of this contract is inconsistent with those of any other document, the contract provisions will prevail.

**ARTICLE 23 – REMEDIES**

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

**ARTICLE 24 – SEVERABILITY**

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

**ARTICLE 25 – BOOKS AND RECORDS**

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

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

**ARTICLE 26 – DELAYS**

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



**ARTICLE 27 – DISPUTES**

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

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

**ARTICLE 28 – OWNERSHIP OF DOCUMENTS**

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

**ARTICLE 29 – PUBLIC INFORMATION**

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

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

Notwithstanding the above provisions, in the event records marked CONFIDENTIAL are requested for public release pursuant to A.R.S. § 39-121 et seq., County will release records marked CONFIDENTIAL ten (10) business days after the date of notice to the CONSULTANT of the request for release, unless CONSULTANT has, within the ten (10) day period, secured a protective order, injunctive relief or other appropriate order from a court of competent jurisdiction, enjoining the release of the records. For the purposes of this paragraph, the day of the request for release is not counted in the time calculation. COUNTY will notify CONSULTANT of any request for such release on the same day of the request for public release or as soon thereafter as practicable.

County is not, under any circumstances, responsible for securing a protective order or other relief enjoining the release of records marked CONFIDENTIAL, nor is County in any way financially responsible for any costs associated with securing such an order.

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

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

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

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

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

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

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

**ARTICLE 31-ISRAEL BOYCOTT CERTIFICATION**

CONSULTANT hereby certifies that it is not currently engaged in, and will not for the duration of this Contract engage in, a boycott of Israel as defined by A.R.S. § 35-393.01. Violation of this certification by CONSULTANT may result in action by the County up to and including termination of this Contract.

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**ARTICLE 32 - ENTIRE AGREEMENT**

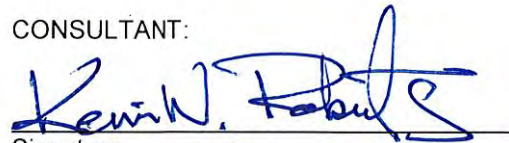
This document constitutes the entire agreement between the Parties pertaining to the subject matter hereof, and all prior or contemporaneous agreements and understandings, oral or written, are hereby superseded and merged herein. This Contract may be modified, amended, altered or extended only by a written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

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

PIMA COUNTY:

CONSULTANT:

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

  
Signature


\_\_\_\_\_  
Date

KEVIN W. ROBERTS  
PRINCIPAL / VICE-PRESIDENT  
\_\_\_\_\_  
Name and Title (Please Print)

ATTEST:

7-20-2018  
\_\_\_\_\_  
Date

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

APPROVED AS TO FORM:  


\_\_\_\_\_  
Deputy County Attorney

**CHRISTOPHER STRAUB**

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

7-19-2018  
\_\_\_\_\_  
Date

## **APPENDIX “A” - SCOPE OF SERVICES (27 pages)**

### **DESIGN SERVICES: CONNECTION OF THE FAIRGROUNDS WRF TO THE CONVEYANCE SYSTEM (3FGS17)**

#### **SECTION 1 - SUMMARY**

The Pima County (PC) Regional Wastewater Reclamation Department (RWRD) will connect the existing Fairgrounds Wastewater Reclamation Facility (WRF) to the gravity sewer system at South Rita Road and Interstate 10 to convey sewage from the existing and future development within the Pima County Southeast Regional Park (SERP), which includes the Pima County Fairgrounds. Due to concerns that the existing lagoon facility located at the northwest corner of the Fairgrounds facility may not be able to adequately handle flows from future developments, a Fairgrounds WRF Alignment Feasibility Analysis (Study) was initiated by RWRD in early 2010.

#### **PHASE 1 – FEASIBILITY STUDY AND ALIGNMENT REPORT (completed)**

The Study investigated different options for conveying the wastewater generated at the Fairgrounds facility into the larger metropolitan conveyance system and was accepted by RWRD in August 2010. The recommended alignment to the gravity system located at Rita Road and Interstate 10 is the preferred alignment and will consist of approximately 16,400 lineal feet of force main sewer.

While the Study concluded that it is possible to convey the Fairgrounds wastewater flows through a gravity sewer line into the metropolitan conveyance system, doing so would require a base Average Dry Weather Flow (ADWF) of 120,000 gallons per day (gpd), with a Peak Dry Weather Flow (PDWF) of 300,000 gpd.

RWRD has reviewed the Feasibility Study and Alignment Report and selected the alignment Alternate 1, which will tie the new sewer into manhole 3289-11.

#### **PHASE 2 - DESIGN**

Design work will take the selected option and develop construction plans and specifications to be used for the Construction Manager at Risk (CMAR) project. The construction plans and specifications shall be approved by RWRD and permitted by the Arizona Department of Environmental Quality (ADEQ).

- CONSULTANT will design a 12-inch gravity sewer or 4-inch force main and lift station to convey wastewater from a location upstream of the existing Fairgrounds WRF metering manhole to manhole 3289-11, located in Rita Road, north of the I-10 Freeway. Consultant will evaluate three conveyance (3) alternatives, including gravity sewer and force main, to assist the County in determining the final design approach for the project.
  - This project has a short schedule and is of the utmost importance to PCRWRD. The CONSULTANT will work within the developed schedule to meet the needs of PCRWRD. CONSULTANT will work with the CMAR to develop multiple design packages to accommodate an expedited construction process, as described in this scope of work.
  - PCRWRD intends to use the Construction Manager at Risk (CMAR) alternative delivery method for this project. PCRWRD will contract separately for the project design services (with the CONSULTANT) and the pre-construction and construction management services (with the CMAR). The CONSULTANT shall coordinate with the selected CMAR to evaluate costs, provide estimates and value analysis, schedule assistance, and in concert with the CMAR ensure constructability within budget prior to the CMAR establishing a single, or multiple GMPs. The CMAR coordination will be conducted through monthly meetings with appropriate CONSULTANT staff attending, and the CONSULTANT shall provide for those meeting expenses within the overall Project contract.
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## **TASK 1 – INITIAL PROJECT MANAGEMENT DURING DESIGN**

This task includes management functions for all activities of the project. Consultant shall provide a Project Manager (CPM) who will be in charge of all activities of the project. The CPM will allocate the Consultant's resources and establish all internal staff responsibilities. The Project Management Office (PMO) will assign a Project Manager (PM) who will serve as the Consultant's primary contact.

The CPM will develop an Internal Project Management Plan (PMP) to guide CPM's Work on the Project. Consultant's PMP will be coordinated with the PM's overall PMP. The project management plan will include, as a minimum, the following:

- Project execution information with critical success factors.
- Team members and responsibility matrix.
- Internal project controls to monitor project status, budget, resources, and schedule on an ongoing basis.
- QA/QC Plan.
- Project documentation.

## **TASK 1.1.0 – MEETINGS, PROGRESS REPORTS AND SCHEDULING**

### **Subtask 1.1.1 - Kick-off Meeting**

Consultant shall schedule and facilitate a kickoff meeting with the Consultant project team and selected RWRD staff to review the scope of work and discuss the overall goals of the project. The kick-off meeting shall identify key Consultant and RWRD personnel. The Kick-off Meeting shall be scheduled within fifteen (15) calendar days after the Notice to Proceed is issued.

### **Deliverable - 1.1.1**

- Consultant shall prepare a project schedule, meeting agenda and minutes of the kick-off Meeting for distribution to the attendees within five (5) working days of the meeting. Consultant shall provide a contact list (name, role, phone number and e-mail address) of the Consultant project team and RWRD staff involved with the project.

### **Subtask 1.1.2 – CMAR Meetings**

The CMAR coordination and/or other as-needed coordination will be conducted through monthly meetings with appropriate design staff attending, and the Consultant shall provide for those meeting expenses within the overall project contract.

### **Subtask 1.1.3 - Progress Meetings and Progress Reports**

Consultant shall schedule and facilitate seven (7) progress meetings on a monthly basis to review work progress, solicit comments, request information and discuss expectations for remaining work. Consultant will prepare progress reports for each monthly meeting detailing work accomplishments for the preceding month(s) and expectations for the upcoming months.

### **Deliverable - 1.1.3**

- Consultant shall prepare an updated project schedule, meeting agenda and minutes of the progress meeting for distribution to the attendees within five (5) working days of the meeting. Consultant shall prepare a progress report to be delivered at the progress meeting.

### **Subtask 1.1.4 - Scheduling**

Consultant shall provide RWRD with a project schedule developed in MS Project 2010 (or compatible) of all planned project tasks, activities, deliverables and completion dates. The project schedule shall include critical milestones for each task and identify the critical path. During Phase 2 Design, the

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Consultant shall turn over scheduling to the CMAR as soon as practical, but no later than at the 30%submittal milestone. For scheduling purposes, the review period allotted for RWRD is two weeks.

#### **Deliverable - 1.1.4**

- Consultant shall submit a project schedule at the kick-off meeting and an updated project schedule at the progress meeting(s).

#### **Subtask 1.1.5 – Project Communication**

Project communication shall be conducted by email or written correspondence to maintain a clear record of decision. The PM shall receive all email correspondence and shall be copied where a third party is being contacted by the Consultant. Hard copies of official and other signed documents may be delivered directly to the PM or may be mailed. Telephone correspondence is acceptable only when followed immediately by an email detailing the discussion.

#### **Subtask 1.1.6 – Quality Assurance/Quality Control**

Consultant will perform internal Quality Assurance and Quality Control (QA/QC) measures for all submittals to RWRD. Consultant shall identify the QA/QC staff that will provide guidance on project methodology, criteria, review of project deliverables, and perform checks of engineering calculations. At a minimum, QA/QC staff shall consist of a senior level engineer experienced in sewer planning, design and construction methods. Other QA/QC staff, not involved in the day-to-day project activities, can be used on an as-needed basis.

Consultant has total responsibility for the accuracy, timeliness and completeness of the work and documents furnished. The Consultant PM will review the submittals to determine if quality control procedures are being applied and if they are adequate and appropriate for the work presented. Deliverables shall be accompanied by a QA/QC review stamp, with a signature and date space for the document author and the QA/QC responsible party. Additional QA/QC documentation may be in the form of copies of appropriate deliverables lists, tables, checklists, etc. which show columns for checking, revision, re-checking, and quality control reviews, as appropriate. Submittals to RWRD, not accompanied by the QA/QC Stamp, which verifies the use of quality control procedures, shall be returned to the Consultant. Documentation of the application of quality control procedures will be a requisite element of each review submittal.

All design work will adhere to the RWRD Public Formatting Standards 2016, RWRD Engineering Design Standards 2016, the RWRD Standard Specifications and Details for Construction 2016 and the Engineering Directives.

## **TASK 2 – EXISTING UTILITIES**

Consultant will be responsible for researching or contacting all utilities identified by Bluestake to determine the location of existing public and private utilities and provide, as accurately as possible, utility locations in the proposed alignment plans. The limits of the area to be designated is from the upstream connection to the Fairgrounds sewer and the downstream tie-in manhole 3289-11 at the Shell Station off of Rita Road. 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) commonly referred to as a Subsurface Utility Engineering (SUE) survey. The Design Report will include copies of the communications conducted with utilities, including letters of clearance.

For Phase 2 (Design), the quality “D” and “C” data developed in Phase 1 (Feasibility Study and Alignment Report) will be used and level “B” and “A” data will be added as part of the Design Report. CMAR will be responsible for performing level “B” and “A” data. Consultant will coordinate with CMAR during design to identify utilities to be potholed.

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- **Quality level “D”:** Information derived from existing records or oral recollections.
- **Quality level “C”:** Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.
- **Quality Level “B”:** CMAR will provide Quality Level B mapping of existing traceable (metallic or non-metallic buried with trace wire) subsurface utilities utilizing a variety of geophysical locating equipment to detect, verify and designate the location of subsurface utilities from above ground. Consultant will provide utility mapping that includes the location and identification of surface evidence (manholes, valves, boxes, risers, etc.) of both traceable and untraceable utilities.
- **Quality Level “A”:** CMAR will provide vacuum excavation of test holes (potholes) on existing subsurface utilities at locations where potential conflicts with the proposed augmentation may occur. The Quality Level A information obtained from potholes at these locations includes the type of utility, depth, horizontal and vertical location tied to project survey control, size and material composition of the utility exposed. Consultant will include information obtained during pothole investigation in the design documents.

### **TASK 3 – FIELD SURVEY**

#### **3.1 Control Markers**

Consultant will perform a field survey and mapping of the proposed project alignment. Surveying and mapping shall be sufficient to establish all needed horizontal and vertical control monuments. Survey shall be in accordance with the requirements as set forth in the Pima County Roadway Design Manual. Consultant shall be responsible to ensure the survey marks are available throughout the project and shall replace any disturbed survey control marks.

The Consultant will utilize the existing control network where available. Benchmarks will be established along the survey control line, and where applicable, the horizontal control monument will be used to avoid duplication.

Consultant will provide aerial mapping for this project. Aerial imagery will be removed or turned off prior to completion of the plans.

#### **Deliverables - 3.1**

- Narrative Report on Prelim Survey and Visual Inspection
- Photographic Record of Route (CD-2 copies)

#### **3.2 Real Property Research**

Consultant will use the previous work performed by RWRD and RBF from previous engineering studies to determine the width, length and location of any existing rights-of-way or easements, whether public or private, if this information is pertinent to or required to complete any of the work necessary to the satisfactory completion of the task. RWRD has obtained the necessary easements for the selected alignment, these easements shall be included with Consultant’s design.

##### **Subtask 3.2.1 – Easement and Right-of-Way Acquisition**

Consultant shall verify previous research and documentation completed by RWRD and the prior consultant who performed the previous analysis needed by Pima County Real Property Department to acquire the easement(s) and/or right(s)-of-way necessary for the successful construction of this project. This shall include all permanent and temporary easements and right-of-way. RWRD has secured the necessary easements for the project construction and the Consultant shall provide up to five (5)

easements if additional are needed. Funds to acquire easements and right(s)-of-way shall not be part of this contract but shall be funded separately by Owner. Property acquisition, if needed, will be performed by County. Title reports, if necessary, will be obtained by Pima County.

### **Subtask 3.2.2 – Document Preparation**

Consultant shall prepare the following documents:

- **Document Preparation**
  - Up to five (5) written legal descriptions and plot plans of the easements required for the project on eight and one-half inches by eleven inches (8 1/2" x 11") sheets, stamped by a Land Surveyor registered in the State of Arizona. The plot plans shall show property lines and pipeline location with respect to the entrance, exit, centerline, and limits of easement all in a manner approved by Pima County Real Property (PCRP). All easement descriptions shall be tied to section or quarter section corners by distance and bearing.
  - Rights-of-way strip maps showing Docket, Book, and Page recording information, property identification (Assessor's number and parcel or lot number), stationing, and existing structures, at a scale of one inch equals one hundred feet (1" = 100'), and in a manner approved by PCRP.

### **Subtask 3.2.3 – Coordination**

Consultant shall coordinate with PM for the purpose of arranging meetings with the property owners whose property will be affected by the proposed alignment of the preliminary design, to ascertain their acceptance or rejection of the proposed alignment. The DP shall attend these meetings and provide up to five (5) legal descriptions and sketches of the proposed alignment for each specific parcel, along with a complete set of the preliminary "plan & profile" for the overall project. Upon completion of all meetings, the Consultant shall submit a written report to PM relating the response of the individual property owners to the proposed alignment, along with a recommendation to either proceed with the final design or seek an alternative alignment. Owner shall review the recommendations and inform The Consultant of its decision within seven (7) days of the submitted written report.

### **Deliverables - 3.2**

- Legal Descriptions and plot plans
- Right-of-way strip maps at 1"=100' scale
- Written Report of Property Owner's Response and Recommendations

## **TASK 4 – GEOTECHNICAL AND CORROSION INVESTIGATION/DESIGN**

**Objective:** Obtain geotechnical data on soils analysis for preparation of geotechnical and corrosion reports with recommendations for jacking/boring, shoring, bracing, excavation, dewatering, backfill, compaction, and soil resistivity data for use in the design of the project and its appurtenances in accordance with Attachment B – "Soils Analysis and Corrosion Control Design Services."

### **Activities:**

#### **Subtask 4.1 – Geotechnical Investigation**

Consultant will undertake a geotechnical soils analysis of the soils, including soil borings along the proposed project route. The soils analysis report shall show all boring site locations, and provide information as to the findings of the borings. The soils analysis report shall be completed before proceeding to final design. The geotechnical report shall include recommendations for jack and bore or micro-tunnel crossings to aid in the design and construction in the installation of underground pipe using either the jack and bore or micro-tunnel techniques of pipeline installation. Soils investigative studies shall be performed in accordance with the requirements as stated in Attachment B – "Soils Analysis and Corrosion Control Design Services."

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#### **Subtask 4.2 – Corrosion Control Design**

Consultant will include in the design as part of the plans and specifications, materials that are corrosion resistant such as polymers, fiberglass, epoxy coatings or stainless steel. Steel casings at jack and bore locations will include filling of the annular space as means of protection in the event the steel casing itself fails due to corrosion.

#### **Subtask 4.3 – Odor Control and Mitigation Evaluation**

- Consultant will coordinate with the County to identify locations in need of odor control measures. Odor control and mitigation recommendations and options will be presented in a technical memorandum provided to the County. Separate corrosion control design is not anticipated at the proposed lift station.

#### **Deliverables - 4.0**

- Soils Analysis Report
- Corrosion Control Report (as part of the Design Report)
- Odor Control and Mitigation Requirements Technical Memorandum.

### **TASK 5 – ENVIRONMENTAL SURVEY AND EVALUATION**

**Objective:** Perform a native plant clearance survey and report along the selected alignment. Also, perform a biological evaluation of threatened and endangered species. Pima County will coordinate with City of Tucson to request jurisdiction along the project alignment.

#### **Activities:**

##### **Subtask 5.1 – NPPO Survey/Report**

Consultant shall perform a native plants clearance survey (NPPO) and prepare native plan inventory plans along the selected alignment. The plans will inventory protected native plant species that will be impacted by the proposed work and calculate mitigation requirements per Pima County. A copy of the plans will be submitted to Owner for review and approval. This subtask assumes one NPPO submittal to Pima County per Pima County requirements. This subtask also assumes that work passing through State land has already received approvals regarding impacts to native plants and no inventory or report for native plant impacts will be prepared for submittal to the State. Preparation of mitigation planting and irrigation plans is not included in this task.

##### **Subtask 5.2 – Biological Evaluation Report**

Consultant shall perform a biological evaluation of threatened and endangered species that will document compliance with the Endangered Species Act (ESA). A list of species with the potential to occur within the project area will be obtained from on-line sources including the Information for Planning and Consultation (IPaC) Report maintained by the US Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department - Heritage Data Management System report. This information will be used to identify federally listed species for consideration in the phase 1 screening analysis. The Project Area is within the range of the Pima pineapple cactus, a federally-listed endangered plant, and a survey will be conducted for this plant per USFWS-accepted survey methods (*Pima Pineapple Cactus Recommended Survey Protocol 3 Tier Survey Methods*; Roller, 1996, unpublished report). Consultant will include the methods and findings within the BE. If any PPC are located within the Project Area that cannot be avoided by the project activities, Consultant would coordinate with the client to determine if any further consultation is required. If no federal permit or authorization is required, then actions would have to adhere to Pima County's native plan requirements assuming Pima County is granted jurisdiction over the entire right of way.

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### **Subtask 5.3 – Regulated Riparian Habitat (RRH) Evaluation**

Consultant shall provide an analysis of the project's impact relative to the Pima County Floodplain and Erosion Hazard Management Ordinance No. 2010-FC5. This analysis will evaluate the amount (and classifications) of regulated riparian habitat affected and information necessary to determine on-site mitigation, avoidance, or in-lieu fee decisions. This task includes calculations for determining the in-lieu mitigation fee for impacts but does not include the preparation of mitigation planting and irrigation plans.

### **Subtask 5.4 – Plans**

Consultant will provide plans and specifications to indicate required mitigation for endangered plants identified in the report. Plans shall meet the requirements of the Pima County NPPO. Consultant shall photograph pre-disturbance conditions within the RRH impact area.

### **Deliverables - 5.4**

- Native plants survey plans
- Riparian Assessment Plans
- Biological evaluation report
- Mitigation requirement totals for NPPP impacts.
- Riparian Habitat compliance cost estimates (in-lieu fee calculations) and photo documentation of pre-project conditions.

## **TASK 6 – WASH CROSSING AND PROXIMITY ANALYSIS REPORT**

**Objective:** Establish design criteria for crossing of washes and/or paralleling washes with the project pipeline. Pima County will assume jurisdictional authority from City of Tucson along the project alignment.

### **Activities:**

#### **Subtask 6.1 – Analysis and Report**

Consultant will provide an analysis and report on the design requirements that are applicable to the crossings closely paralleling of washes by the alignment of the sewer to be designed and constructed. The report shall establish technical design criteria for each of the wash crossing or paralleling situations. Design criteria will be presented in a manner to be easily used to facilitate the design of the project where it crosses or parallels washes. Information for this report shall be in accordance with the requirements as stated in Attachment C – “Wash Crossings and Proximity Requirements.”

#### **Deliverable - 6.1**

- Analysis & Report for Wash Crossing/Paralleling Criteria

## **TASK 7 - PERMITTING**

**Objective:** The project's Feasibility Assessment identified the potential required permits for the design and construction of the project. This task will complete all necessary applications.

### **Activities:**

#### **Subtask 7.1 – Permitting Applications**

Consultant shall determine all permits necessary for the construction of the project and prepare the requisite applications. Consultant shall obtain written approval for all necessary permits applicable for design or ensure CMAR is aware of their permits requirements for construction, including, but not limited to, the Arizona Pollutant Discharge Elimination System (AZPDES), the Environmental Protection Agency (EPA), National Environmental Policy Act (NEPA), Arizona Department of Environmental Quality (ADEQ), COE Section 401/404 (non-notification) permits, Pima County Department of

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Environmental Quality (PDEQ), Pima County Regional Flood Control District (PCRFCDD), Arizona Department of Transportation (ADOT) and Owner. Consultant will coordinate with CMAR in CMAR's preparation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities and on-going operational and maintenance activities. Design, construction and operation shall comply with Pima County's Stormwater AZPDES Permit as issued by ADEQ.

Permitting fees are not anticipated to be required during design, except for ADEQ. ADEQ permit fees are the responsibility of PCRWRD. Payment for permits required during construction shall be by the CMAR. Consultant shall ensure that a note to this effect is contained in the Plans or Specifications. Consultant shall complete an amendment to the Aquifer Protection General Permit 2.05 CMOM NOI (Form E301) as required to extend the PCRWRD sewer service area to include the Southeast Regional Park.

### **Deliverables - 7.1**

- Completion of the design and construction documents together with processing the necessary permits (ADEQ fees to be paid by RWRD).
- Coordinate with CMAR preparation of Construction Arizona Pollution Discharge Elimination System (AZPDES)
- US Corps of Engineer's 401 and 404 Permits (non-notifying permit)
- Coordinate with CMAR preparation of Stormwater Pollution Prevention Plan (SWPPP)
- Amendment to Aquifer Protection General Permit 2.05 CMOM NOI - Form E301 (NOI)
- Arizona Department of Transportation (ADOT) Encroachment Permit (Engineering design approval)
- Pima County Flood Control Use Permit, if necessary

## **TASK 8 – PRELIMINARY AND FINAL DESIGN REPORT**

### **Subtask 8.1.1 - Preliminary Design Report**

Consultant shall prepare and submit a Preliminary Design Report, which documents how the following information was developed and presents the results. The Preliminary Design Report shall include, as appendices or attachments, all calculations and documentation produced during the performance of this task. The following information shall be addressed in the Preliminary Design Report, submitted as Technical Memoranda, where appropriate and appended.

The Preliminary Design Report should include:

- Recommendation results from Task 17, Alternatives Evaluation
  - Lift Station sizing and placement, if needed
  - Force Main Pipe and fitting sizing, if needed
  - Connection to existing gravity system
  - Connection or diversion structures sizing, layout and geometry
  - Preliminary depth of sewer and grade
  - Utility conflicts and resolutions
  - Pipe and fitting material evaluation and recommendation
  - Any design alternatives or proposed deviations from Department or Regulatory standards requiring variances or special approvals
  - Required geotechnical information and location for soil borings
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- Required governmental agency reviews
- Temporary and permanent easement locations
- Maintain flow velocity at horizontal alignment changes
- Odor control facilities and associated water and electrical connections
- Any other pertinent design information for the project
- Document acquisition
- Preliminary design schedule
- Preliminary design of the force main or gravity sewer to include alignment location
- Preliminary survey & visual inspection
- Photography documenting existing conditions at the start of design
- Examination and assessment of easements and Right of Way issues
- Identification of utility conflicts along the alignment
- Identification of other potential design or construction conflicts

Consultant shall assume one review cycle for all items in this phase and a two (2) week review period for acceptance by RWRD.

**Deliverable - 8.1.1:**

- Consultant shall submit six (6) printed copies with one (1) digital copy of the 60% Draft Design Report with Technical Memoranda appended to RWRD for review and comment.

**Subtask 8.1.2 - Final Design Report**

Upon acceptance of the 60% Draft Design Report, the Consultant shall prepare the Final Design Report. The Final Design Report shall include calculations, references used to determine the project pipe size, slope, alignment, corrosion protection measures to be taken, and all other information pertinent to the successful construction of the project. The Final Design Report shall comply with ADEQ requirements including but not limited to the Notice of Intent to Discharge (NOI) requirements. The Final Design Report shall list all government agencies required for review and approval of construction plans and specifications necessary for the successful construction of the project. Consultant should assume two review cycles for all items in this phase and a three week review period. The Final Design Report shall be formatted per the following outline:

- Executive Summary: Brief summary of the scope of work, summary of effects of completed project on wastewater facilities, a table of design criteria, a review of the constraints and stipulations imposed on the project by regulatory agencies, a summary of other agency improvements, and a summary of the major findings of the design process.
  - Introduction: Explanation of scope of work and discussion of technical, economic, governmental, and political implications.
  - Alignment: Discussion of selected alignment.
  - Land Survey Requirements: A design survey shall be performed and results summarized including surveying, mapping, basis of bearing, and datum source used. Results of the design survey, including appropriate mapping of the survey control traverse and vertical datum "monumentation", and copies of the pages of the field survey books shall be appended to the Final Design Report.
  - Soils Analysis: Summary of field Geotechnical investigation with the geotechnical report included as an appendix to the Final Design Report.
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- Corrosion Control: *The use of metallic components should be minimized, but where metallic components are unavoidable due to regulatory requirements, corrosion control will be provided for those metallic components. Designs for corrosion control will be included in the plans and technical information on test stations or corrosion prevention equipment will be included as an appendix to the Final Design Report.*
- Sewer Design Criteria: Discussion of pipe material evaluation and recommendation for use. Section shall include sufficient engineering data and calculations for the justification of the selected pipe material, including strength and size. Detailed calculations shall be included in an appendix and referenced in this section. CMAR will provide cost evaluation of recommended materials to assist County in final material selection.
- GMP Review: Consultant will summarize GMP review efforts as described in Task 16.
- Appended Material: Include Appendices to the Final Design Report.
- Agencies/Utilities Coordination and Review: Consultant shall coordinate the applicable Construction Documents with the requirements and schedules of all involved agencies, such as the Arizona Department of Transportation (ADOT), Pima County Department of Transportation (PCDOT) and Regional Flood Control District (PCRFCD), Pima County Environmental Quality Department (PCDEQ), City of Tucson, and utilities that may be affected by the sewer alignment and construction and/or easements. Owner shall be kept informed of the coordination activities either informally or formally at the monthly project status meetings or in project status reports. Consultant shall ensure that all Agencies/Utilities have a reasonable opportunity to review and comment on the plans and specifications and respond to their comments and suggestions. Should an Agency or Utility raise issues to which the DP is not sure how to respond, they shall bring these issues directly to the Project Manager immediately so as not to delay the design process.

**Deliverable - 8.1.2:**

- The Consultant shall submit six (6) printed copies with one (1) digital copy of the Draft Final Design Report to RWRD for review and comment.

**TASK 9 – FINAL DESIGN**

**Subtask 9.1.1 - General Design and Documentation Requirements**

A submittal log shall be developed and kept up to date at all times. The submittal log shall be a record of review comments and appropriate responses between the consultant and the reviewing agencies.

Consultant shall coordinate with the requirements and schedules of all involved agencies and utilities that may be affected by the construction of the new sewer. RWRD shall be kept informed of the coordination activities at the monthly progress meetings or in progress reports. Consultant shall ensure that all agencies and utilities have a reasonable opportunity to review and comment on the construction plans and specifications and the Consultant shall respond to their comments and suggestions. Should an agency or utility raise issues to which the Consultant is not sure how to respond, Consultant shall bring these issues directly to the PM so as not to delay the design of the project.

**Construction Plans**

Construction Plans shall be presented as follows:

- The sheets shall be thirty-six (36) inches wide by twenty-four (24) inches long.
  - They shall have the standard RWRD Title Block along the right margin.
  - They shall contain both plan & profile views for all phases of the design. The plan & profile shall be at a scale of one inch equals 40 feet (1" = 40') horizontal and one inch equals four feet (1" = 4') vertical.
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- The plan view shall include the following planimetric (cultural) details:
  - Paved and unpaved roadways, curbing, and sidewalks.
  - Drainage patterns and structures.
  - Utilities, both underground and overhead.
  - Fences, walls, and buildings.
  - Buried irrigation facilities and pipelines.
  - Easement limits and property lines.
  - The general location of any proposed easement(s).
  - Landscaping, vegetation types and significant plants, which must be protected during construction, or replaced following construction.
  - Contours shall be shown at five foot (5') intervals.
  - Rim and invert elevations of all existing manholes pertinent to the design.
  - The notes on the plans shall clearly state that all areas disturbed during construction shall be restored in compliance with the Pima County Grading Policy and prevailing NPPO.
- The profile view shall show all underground utilities that are affected, or may be affected by the new sewer.
- The final construction plans shall comply with ADEQ requirements including but not limited to the Notice of Intent to Discharge (NOI) requirements.
- The construction plans and specifications shall be prepared to meet recognized standards of the industry.

**Subtask 9.1.2 - Construction Specifications**

The Consultant shall prepare the Construction Specifications complementary to the construction plans and in conformance with the information developed and presented in the Final Design Report. Specifications will consist of supplements to *PCRWRD Standard Specifications and Details for Construction, 2016*. The Consultant shall assemble, print, seal, sign, and bind the final construction specifications in a project manual. A table of contents for the Construction Specifications shall identify the title, page, and number of each section. RWRD will provide the Consultant with the "General and Supplementary Conditions" for inclusion in the project manual. At the completion of the design of this project, the Consultant shall deliver to RWRD a copy of the Construction Specifications on a compact disc (CD), read only (CD-R), in Microsoft Word format (current version, or as agreed to by RWRD).

**Subtask 9.1.3 - Design Submittal, 30% Construction Plans and Specifications**

The Consultant will prepare and submit 30% construction plans and specifications to RWRD for review and comment. Sewer design will adhere to the recommendations presented in the Final Design Report. Construction plans shall be prepared in accordance with RWRD standards and comply with ADEQ requirements. This phase includes:

- Coordination with CMAR to Develop a preliminary construction schedule and cost estimate.
  - Survey of the selected route by a Registered Land Surveyor.
  - Design of the sewer to include sewer sizing, alignment, and manhole locations.
  - Preliminary layout of lift station, if required.
  - Proposed plan for resolution of any potential conflicts.
  - In coordination with RWRD, provide preliminary flow management plan for any structures at tie-in locations.
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- Utility Information & Coordination (Subsurface Utility Engineering Analysis, Quality Level B performed during This Phase).
- Provide soil testing, as required.
- File applications for federal, state, and local permits.
- Section 401 Permit, will be determined by Consultant.
- Section 404 (Non-Notification), will be determined by Consultant.
- Cultural Resource Survey and Clearance shall be coordinated with RWRD. Construction plans will be submitted to Pima County Cultural Resources for their review, comment and approval.
- Biological (NPPO and T&E) Survey(s) and Clearance(s) shall be coordinated with RWRD.
- Finalize right-of-way and easement requirements once the alignment has been finalized.
- Send legal descriptions of easement(s) to Pima County Real Property Department. Legal descriptions will adhere to Pima County Department of Transportation Design Manual for requirements. An overall ROW plan should be included, to which all individual acquisitions will be keyed.
- Initiate contact with all affected agencies and utilities to establish requirements for plan review and comment.

The Consultant shall assume one review cycle for all items in this phase and a two (2) week review period. The Consultant shall not proceed to the 60% design until RWRD has approved the 30% design.

### **Deliverable 9.1.3**

- 30% set of construction plans and specifications, six (6) printed copies with one (1) digital copy to RWRD, and one (1) printed copy to each appropriate utility company and or agency.

### **Subtask 9.1.4 - Design Submittal, 60% Construction Plans and Specifications**

The Consultant will prepare and submit 60% construction plans and specifications to RWRD for review and comment. Construction plans and specifications shall include revisions reflecting comments made by RWRD during the 30% review. The 60% drawings will be sent to the appropriate agencies, and utilities for review. Written confirmation of receipt will be obtained from agencies and utilities to document delivery of the documents and agreement of the expected turnaround time. This phase includes:

- Plan and profile of proposed sewer
  - Preliminary details necessary for construction of the sewer, including diversion structures, tie-in manhole and the jack-and-bore crossing of the I-10 Freeway.
  - In coordination with RWRD, develop preliminary flow management plan, if necessary.
  - Utility Information & Coordination (Subsurface Utility Engineering Analysis, Quality Level A performed during This Phase).
  - Design for resolution of any conflicts.
  - Completion of Cultural Resource Clearance.
  - Completion of Biological (NPPO and T&E) Survey(s) and Clearance(s).
  - Complete applications for all applicable federal, state, and local permits.
  - Section 401 Permit, will be determined by Consultant.
  - Section 404 (Non-Notification), will be determined by Consultant.
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- Provide affected agencies with plans for review and comments.
- Completion of Phase 1 or environmental reports for the portions of the alignment not provided by RWRD.

The Consultant shall assume one review cycle for all items in this phase and a two week review period. The Consultant shall not to proceed to the 95% design until RWRD has approved the 60% design.

**Deliverable 9.1.4**

- 60% set of construction plans and specifications, six (6) printed copies with one (1) digital copy to RWRD, and one (1) printed copy to each appropriate utility company and or agency.

**Subtask 9.1.5 - Design Submittal, 95% Construction Plans and Specifications**

Consultant shall prepare and submit 95% construction plans and specifications to RWRD for review and comment. Construction plans and specifications shall include revisions reflecting comments made by RWRD during the 60% review. The 95% deliverables will be suitable for permitting. Consultant shall transmit drawings to the appropriate utility companies and agencies for their review and approval, if required. This phase includes:

- In coordination with RWRD, complete the design of the sewer to include plans, details and specifications ready to be sealed and signed
- In coordination with RWRD and CMAR, finalize the Flow Management pumping plan, if needed

Consultant shall assume one (1) review cycle for all items in this phase and a two (2) week review period. Consultant shall not to proceed to the final design until RWRD has approved the 95% design. Upon approval of the 95% design, Consultant can begin preparing the final design package for submittal to RWRD.

**Deliverable 9.1.5**

- 95% set of construction plans and specifications, six (6) printed copies with one (1) digital copy to RWRD, and one (1) printed copy to each appropriate utility company and or agency.

**Subtask 9.1.6 - Final Design Submittal**

Consultant shall prepare and submit the final Construction Plans and Specifications for review and approval by RWRD. Construction Plans shall be on bond or other reproducible media. The Specifications shall be on a Compact Disk (CD) in Microsoft Word format, current version, or as agreed to by RWRD.

Consultant shall deliver to RWRD a copy of the Construction Plans on a CD or digital versatile disc (DVD) in AutoCAD.DWG format or as agreed to by RWRD. The CD/DVD shall include Construction Plans for the project and all X-references, fonts, wblocks, shapefiles and other information required to produce a plot of the Construction Plans from the CD/DVD.

At the Consultant's option, Consultant may use a modified title block with the Consultant's logo deleted. However, the title block should be an x-reference suitable for plotting and sufficient to convey all data (sheet number, scale, etc.) normally found on a Professional Engineering plan. Additionally, an electronic PDF version of the signed and sealed construction plans and specifications shall also be transmitted via disk to RWRD.

Consultant's delivery of the Final Design CD/DVD (electronic drawings) to RWRD shall constitute a grant to RWRD of an irrevocable, nonexclusive license to copy, use, display, disclose, or modify the electronic drawings for any reasonable purpose for this project. Consultant agrees that the rights granted to RWRD include the ability to provide a copy of the plans to any subsequent Consultant retained to maintain, modify or expand the project in any way. RWRD agrees that any modifications to

the plans by or for RWRD after final completion and acceptance of this project shall be at RWRD's sole risk and responsibility unless such modifications are performed by the Consultant.

#### **Deliverable 9.1.6**

- Consultant shall submit a Final set of Construction Plans and Specifications (six (6) printed copies with one (1) digital copy to RWRD and one (1) printed copy to each appropriate utility company and or agency (excluding ADEQ) if required.

### **TASK 10 – ENGINEERING SERVICES DURING CONSTRUCTION** **INTERNAL PROJECT MANAGEMENT DURING CONSTRUCTION**

**Objective:** To manage the office support during construction. This task includes management functions for Consultant's construction-phase activities of the project described herein. Consultant's Project Manager will allocate the Consultant's resources and establish internal staff responsibilities.

#### **Subtask 10.1.1- Meetings, Progress Reports and Invoices**

Consultant shall attend CMAR progress meetings on a bi-weekly basis commencing with the issuance of the CMAR "Notice to Proceed" through completion of the construction of the project.

- Preconstruction Meeting: Consultant shall attend a preconstruction meeting with the CMAR team and other stakeholders to confirm that the scope of work identifies, and everyone agrees on, key tasks, goals, and meets the intent of the project. Formal lines of communication and procedures will be established at this meeting.
- Bi-weekly Meetings: Consultant shall attend up to twelve (12) CMAR progress meetings on a bi-weekly basis. CMAR will provide a progress report and monthly invoice to be discussed at the scheduled meeting in attendance by both Consultant and CMAR or either or neither at the option of Owner.
- Progress Reports: Consultant shall prepare a bullet point progress report with each monthly invoice covering the Consultant's preceding month's activities. The progress report shall include a summary, of the work that was performed during the period.

#### **Deliverable – 10.1.1**

- Monthly Status Reports/Invoices

### **TASK 11 – PUBLIC INVOLVEMENT**

Consultant shall include as a part of the Construction Documents the requirement that occupant and operators of all private and public property likely to be impacted by construction of the project be notified of the project. This notification shall be done before and during construction of the project and shall include written notification to each property identified.

Consultant will participate, as requested, in up to four (4) stakeholder meetings regarding the project. Consultant shall coordinate with PM to establish the agenda for any stakeholder meeting. Consultant shall attend these meetings and provide sketches of the proposed alignment, along with a complete set of the preliminary "plan & profile" for the overall project. Upon completion of all meetings, Consultant shall submit a written report to PM relating the response of the stakeholders to the project, along with any recommendations developed from the stakeholder involvement. Owner shall review the recommendations and inform the Consultant of its decision within seven (7) days of the submitted written report. Public meetings are not anticipated for this project.

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## **TASK 12 – CONSTRUCTION ACTIVITIES**

### **Subtask 12.1.1: Submittal Review**

During construction of this project the Consultant shall, in a timely manner, review and approve or reject, in concert with the PMO PM, all submittals from the CMAR. As a part of this effort, the Consultant shall keep records needed to properly document and record the submittal process. The review process, submittals to disposition, shall take no more than five (5) working days.

### **Subtask 12.1.2: Request for Information**

Consultant shall work with the PMO PM to respond to requests for information (RFI) needed to clarify the design documents. Responses shall take no more than five (5) working days.

### **Subtask 12.1.3: Change Order Proposals**

Consultant will review change order proposals from Owner and CMAR for conformance with the design. Consultant will provide a technical review of the change order, however the cost approval will be made by the PM.

### **Subtask 12.1.4: Construction Inspections**

Consultant shall provide engineering services for construction observations and special inspections, in particular, for items relating to electrical, alarms systems, controls, and structural or mechanical engineering. RWRD will perform all other construction inspections.

## **TASK 13 – MULTIPLE GMP PACKAGES (ADDITIONAL SERVICES)**

Consultant may be required to provide two (2) separate design packages to the CMAR for separate GMP development on portions of the design. The appropriate division of any multiple design package will be in coordination with the CMAR and PM. Use of the Multiple GMP packages task must be approved in writing by Owner prior to any work under this task. One GMP package would be for materials procurement and the second GMP would be for construction.

## **TASK 14 – BID DOCUMENTS AND SERVICES (ADDITIONAL SERVICES)**

The Final Design and Construction phase may require Consultant to prepare final plans in a biddable format if Owner and CMAR cannot agree upon a GMP. If the CMAR and Owner are unable to negotiate an acceptable GMP, Consultant shall complete all final design services and shall produce biddable plans and specifications for construction (the “Biddable Documents”) of the project.

If required, Owner shall supply the Consultant with standard contractual documents. Consultant is to review these documents and modify those sections that are project specific as well as provide Owner with any comments they may have concerning these documents. Consultant shall be knowledgeable concerning these documents before proceeding with the preparation of the other specified construction documents.

If required, Consultant shall provide bidding services to assist Owner with the procurement of a contractor. These shall include, but not be limited to, answering clarifications, reviewing substitution requests, preparing addenda, and reviewing bid submittal packages.

Use of the Bid Documents and Services task must be approved in writing by Owner prior to any work under this task.

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## **TASK 15 – RECORD DRAWINGS (AS-BUILTS)**

CMAR will provide Consultant red-lined drawings noting the as-built conditions, stamped by a Land Surveyor registered in the State of Arizona. CMAR is responsible to procure Land Surveyor for construction services needed for this as-built effort. As-built drawings will be sealed by the Consultant for conformance with design, as applicable. Consultant shall provide Owner complete as-built drawings in hardcopy and electronic form (CAD) to be sealed by PM as record documents.

Consultant's delivery of the as-built CD-R (electronic drawings in AutoCad format) to Owner shall constitute a grant to Owner of an irrevocable, nonexclusive license to copy, use, display, disclose, or modify the electronic drawings for any reasonable purpose for this Project. Consultant agrees that the rights granted to Owner include the ability to provide a copy of the plans to any subsequent Consultant retained to maintain, modify or expand the project in any way. Owner agrees that, as between Owner and Consultant only, any modifications to the plans by or for Owner after final completion and acceptance of this project shall be at Owner's sole risk and responsibility unless such modifications are performed by Consultant.

## **TASK 16 – GMP & CONSTRUCTION SCHEDULE COORDINATION**

### **Subtask 16.1: GMP Review**

Consultant shall review the CMAR's GMP and schedule at the 30%, 60%, 95% and Final Submittal Stages. The review shall be performed as a verification of the GMP before the final GMP is accepted by RWRD.

### **Deliverables - 16.1**

- Review comments, based on Consultant's opinion of probable construction cost by Consultant, on the CMAR cost estimate for the 30 percent Design Phase.
- Review comments, based on Consultant's opinion of probable construction cost by Consultant, on the CMAR cost estimate for the 60 percent Design Phase.
- Review comments based on Consultant's opinion of probable construction cost by Consultant on the CMAR cost estimate for the 95 percent Design Phase.
- Review comments, based on Consultant's opinion of probable construction cost by Consultant, on the CMAR GMP Final Estimate.

### **Subtask 16.2: GMP Reconciliation (Additional Services)**

The CMAR shall be responsible for developing the cost estimate and bid schedule that creates the GMP. Upon review and comparison of the CMAR GMP and Consultant Opinion of probable cost, a reconciliation meeting will take place to reach agreement on the GMP amount after the 30 percent, 60 percent, 95 percent and Final Design Phases, as required by the City. Consultant and/or CMAR will revise the opinion of probable construction cost or GMP, as necessary.

## **TASK 17 – INCREASED CAPACITY DESIGN**

The design should be a system that will accommodate current low flows, current peak flows, and future capacity expansions, in a highly variable flow environment. For long-term flow conditions, initial analyses indicate that 120,000 GPD is required for achieving scour velocities in a 12-inch gravity line. The County has indicated a desire to discontinue use of the lagoon system, but to keep them in service as a back-up system to conveyance.

Consultant will evaluate three (3) options for final recommendation in the Preliminary and Final Design Report as defined in Task 8. The final recommendation can include anyone of the options listed below, or a combination thereof:

17.1.1 Variable Capacity Pump Station and Force Main: Develop a design concept for a pumping facility that can manage current flows and scale up to full growth where the 12" gravity sewer can begin operation. The design might consider phased expansions, VFD pumps, multi-chamber wet wells, and dual force mains so the system can operate in an acceptable flow range under every scenario. This may require pump motors with VFD's, or two to three pump motors with different performance capabilities that can handle the variable, but growing demand. Evaluation needs to address operation and maintenance costs and considerations to maintain the force main system and wet well system including odor control, pigging, and flushing up to flow volume where 12-inch sewer is operational. Include the consideration that the ponds could be maintained for emergency operations.

17.1.2 Gravity Only Solution: Develop a design concept for a gravity system to convey the current low flow and peak flow conditions plus future capacity. Include in the analysis the operation and maintenance costs to maintain this system for current low flow and peak flow conditions – which may include need for odor control. The analysis will also study the hydraulic design to understand how the flows will ultimately reach the existing conveyance system, including provisions to periodically flush the system due to low flows. The analysis will also explore increasing the gravity sewer slopes to increase sewage velocities. Evaluate the operational needs to keep the gravity line functioning under all flow scenarios, and identify what long term usage levels will be necessary to reduce needs for additional maintenance. Flushing the system may require hauling water or constructing a water storage tank as there is no municipal water onsite; the fairgrounds is currently served via a well system. Determine operational activities under the individual flow scenarios and flow triggers to switch between low and peak flow conditions. Analyze level of effort for operations and maintenance activities up to operating capacity of 12-inch sewer.

17.1.3 Gravity Conveyance System with existing WRF: Develop a design concept for a gravity system for high flow while retaining the lagoons in service for low flow operating periods. Use the gravity system during the peak flows (until mid-term flows meet minimums to allow for switch over to gravity long-term and retirement of lagoon system. Determine operational milestones based on flow for the dual use of the gravity system and the lagoon system, and for final switch over to gravity sewer only. Identify critical operational activities under each scenario.

Consultant will coordinate with County, CMAR, and other stakeholders to determine success factors desired in recommended option. The recommended option should provide RWRD with flexibility to manage significantly varying flows for short, mid, and long-term operation of the system while maintaining ADEQ compliance. The system should be designed to support the economic development goals of Pima County at the fairgrounds by the fair commission as well as in the surrounding area. The evaluation should include a matrix of success factors for design, installation, maintenance, odor, lifecycle costs, pros/cons and other engineering elements as determined. Four different flow conditions will be considered in the evaluation: current low flow, current peak flow during the fair, near future flow for growth and future growth. Each option considered should include the cost and operation and maintenance concerns related to these four flow conditions.

#### **Deliverables - 17.1**

- Alternatives evaluation memorandum and associated scoring matrix

### **TASK 18 – CONSTRUCTION INSPECTION (OPTIONAL/TO BE NEGOTIATED AT LATER DATE)**

#### **Subtask 18.1.1: Inspections**

Consultant will perform all inspection/field-related activities associated with the- construction project. These efforts will be supported by the office staff as needed for administration and documentation of all inspection records. Consultant will provide the services of qualified and experienced construction inspectors for the daily inspection services as required. These inspectors are fully qualified to review the work, and will be fully supported by an Arizona-Registered Professional Engineer (PE) in the Consultant's office. The monitoring of construction activities by the construction inspectors will be on a daily basis while construction work is on-going at the site. Owner will rely on the CMAR to properly

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coordinate with inspection field staff regarding their schedule of work, in order to properly staff the project but avoid unnecessary trips to the site. Inspection/Field Services and Construction Documentation activities include the following:

- Monitor Construction Activities.
- Document On-site Inspections and Testing.
- Review Contractor's Testing Procedures and Testing Frequency.
- Perform Sewer Collection System Testing per RWRD and ADEQ Requirements.
- Maintain Digital Photographic Record.
- Evaluate Construction Status with Respect to Approved Construction Schedule.
- Review and Evaluate Construction Status for Pay Requests.
- Identify and Develop Resolutions for Unsatisfactory Work.
- Evaluate and Assist in Resolution of Issues.
- Log Occurrences of Damage, Incidents, and/or Interruptions, and Resolution.
- Evaluate Conditions Involving Requests for Change Orders.
- Create and Maintain Project Punch List.
- Maintain Record Drawings for As-Builts.
- Review Contractor's as-builts for incorporation into final as-built drawings including surveyed elevations provided by the Contractor's Registered Land Surveyor.

**Subtask 18.1.2: Discharge Authorization (DA)**

Consultant shall fill out the application for the DA to be submitted to ADEQ as well as the selected consultant if they conduct the construction inspection services. RWRD will be responsible for any fees (if any) required.

**SECTION 2- PROJECT TIMELINE**

The proposed timeline to complete the Design is:

Kickoff Meeting/NTP	Within 15 calendar days after contract approval by the Board of Supervisors
Increased Capacity Analysis	Within 30-60 calendar days after NTP.
Preliminary Design Report	Within 60-90 calendar days after NTP.
30% Design	Within 60-90 calendar days after NTP.
60% Design	Within 120-150 calendar days after NTP.
95% Design	Within 180-210 calendar days after NTP.
Final Design Report	Within 180-210 calendar days after NTP.
Final Design	Within 210-240 calendar days after NTP.

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### **SECTION 3 – INVOICING**

Invoices shall be submitted monthly to the PMO PM, prior to the Monthly Progress Meeting, with appropriate supporting data and documentation and in a format as prescribed by RWRD. Acceptance of the invoice at this meeting is not mandatory. The PM may delay approval for up to five (5) work days to review the Progress Report and invoice. The invoice shall tabulate the costs associated with each individual task. Any invoice which lists a requested payment for any individual task beyond the current approved task budget will be rejected. All Task (deliverables) and Subcontracted Service costs shall be appropriately documented. The PM shall review and check the invoice to determine if it is complete and acceptable. If the invoice is determined to be complete and acceptable, the PM will approve it and forward to RWRD for processing and payment.

### **SECTION 4 – RWRD RESPONSIBILITIES**

RWRD responsibilities include, but are not limited to, the following:

- A PM will be assigned to represent PMO.
- The PM, along with the Consultant's PM, will coordinate the Consultant's contract, deliverables and invoices. The PM shall be the only person responsible for the approval of all invoices.
- The PM will supply the Consultant with printed copies of all relevant reports, studies, and plans to accomplish the project scope of work including any Phase 1 or environmental reports for parcels 118-23-287C and 119-02-028D within the alignment. The PM shall also supply the Consultant with electronic copies of documents when available.
- Through the coordination and communication with other County departments, the PM will assist the Consultant by coordinating the selection of RWRD staff for team assignments and schedule the use of RWRD facilities if required.
- RWRD will provide relevant materials prepared by other RWRD contractors as required.
- RWRD will provide conference room space for scheduled meetings.
- RWRD will provide the Consultant with access to sewer flow and manhole data available on the RWRD version of mapguide.
- RWRD will pay all agency review fees due to ADEQ for review/approval of the design plans.

### **SECTION 5 – ASSUMPTIONS AND EXCLUSIONS**

- Review meetings will be scheduled within the County's two-week review period at each submittal.
- Design delays resulting from coordination with the Army Corps of Engineers.
- Design schedule assumes permanent easements and rights-of-way for new sewer have been previously obtained and recorded by Pima County. New permanent easements are not anticipated for this project.
- Third Party cost model and Engineer's Opinion of Probably Construction Cost are excluded.
- Coordination with CMAR and CMAR constructability reviews during preliminary design are essential to maintaining the project schedule.
- Wastewater equalization basin design to attenuate future projected Fairgrounds Peak Wet Weather Flow as described in the Feasibility Analysis Report and Technical Memoranda prepared by RBF during 2010 is excluded.
- Downstream capacity restrictions are not part of this project. Future augmentation will be evaluated and provided by the County.
- Decommissioning of the Fairgrounds WRF and lagoon system is not part of this project. It is the County's desire to eventually discontinue use of the lagoon system.

***End of Appendix "A"***

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## **ATTACHMENT “A” TO APPENDIX “A” (4 pages)**

### **LAND SURVEY REQUIREMENTS**

The CONSULTANT shall employ a Registered Land Surveyor (RLS) to survey and map the alignment of the sewer(s) to be evaluated, designed, and/or constructed. The RLS shall be registered in Arizona. The surveying and mapping shall be sufficient to establish all needed horizontal and vertical control monuments.

Detailed surveying and mapping requirements are described as follows:

1. Do all surveying necessary to define the alignment of the proposed sewer and to determine the location of all needed permanent sewer easements, temporary construction easements, or rights-of-way.
2. All survey monuments (property pins, section corners, witness corners, bench marks (B.M.s), etc.) shown shall be described as either found in the field or office computed. These survey monuments shall also be referenced out, included in the field notes, and shown on the Balanced Traverse Map (see paragraph 15b below). A note shall be added to the Construction Plans that they are to be replaced if destroyed or disturbed during construction.
3. A description of all monuments (steel pin, O.I.P., L.C.P., brass monument in concrete, etc.) shall be incorporated into the Technical Design Report. In addition, this information shall be included in the field notes and shown on the Balanced Traverse Map (see paragraph 15b below).
4. The basis of bearing used, along with its origin, shall be indicated in the Technical Design Report and on the Construction Plans and shown on the Balanced Traverse Map (see paragraph 15b below).
5. A copy of the original field book(s) showing all unadjusted field work, such as field angles, distances, level circuits, reference ties, etc., shall be turned over to PCRWRD upon completion of all design related survey work.
6. All monuments set by the RLS shall be tagged or stamped.
7. Submit the name and phone number of the Project field-survey supervisor. Prior to the start of the field survey, arrange a meeting with the field-survey supervisor and the PCRWRD Project Manager to discuss the field work and PCRWRD survey standards.
8. Panel Points, as required for aerial photography and for aerial photography-topography, shall be set by the RLS. The RLS shall remove the panels of such Panel Points, but not the underlying survey monument(s), as soon as possible after their purpose has been served.
9. Although no requirements will be specified in terms of repetition of field angles or distance measuring, modern-day methods and equipment normally provide for closures of better than 1:20,000. Anything less than this is not acceptable.
10. It is recommended that planimetric (cultural features) be taken jointly with cross sectioning and the station/offset method be used.
11. The centerline of the sewer shall be referenced to a survey control line by station and offset. The survey control line shall also be tied into the main horizontal control traverse. For future PCRWRD use, a coordinate listing in State Plane Coordinates, 1983 datum, shall be provided for each corner point on the Balanced Traverse Map (see paragraph 15b below), each point of intersection of the centerlines of sewer segments, centers of manhole structures, and for section and quarter corner ties to the survey. This coordinate listing shall be developed in compliance with A.R.S. §33-131 through §33-138, inclusive.
12. Acceptance of final plans is contingent upon the approval of the original field survey data by PCRWRD.

### 13. Suggested Note Keeping Check List

- a. Cover Sheet
  - i. Title
  - ii. Work Description
  - iii. Crew Personnel
  - iv. Index
  - v. Legend
  - vi. Overall Sketch
- b. Horizontal Control
  - i. Angle Sheets
  - ii. Distance Sheets
- c. Vertical Control
  - i. Level Runs
  - ii. Starting B.M., Temporary B.M.
- d. Culture, Profile, Topography
- e. Cross-Sections
- f. Section Corner Recovery Sheets
  - i. Recovered
  - ii. Rehabilitated
  - iii. Restored
- g. Referenced Material
  - i. Maps
  - ii. Photographs
  - iii. References
  - iv. Field Notes

### 14. Review Procedure:

- a. The following review procedure will be used for preliminary survey work:
  - i. Office review of data provided for completeness.
  - ii. Office review of data provided for accuracy.
  - iii. Field inspection of control points, B.M.s, references, and registrant's tag or stamp.
- b. The following review procedure will be used for design survey work:
  - i. Office review of plans and field data (culture, cross-sections, etc.) for completeness.
  - ii. Office review of plans and field data for accuracy.
  - iii. Field inspection of control points, B.M.s, references, and registrant's tag or stamp.

### 15. Horizontal Control

- a. All control traverses shall be geometrically closed and the error of angular and horizontal closure for the unadjusted traverse shall be shown in the field notes and on the map called

for in paragraph 15b, below. All horizontal closures shall be made using unadjusted angles and distances and shall have a precision ratio of 1:20,000 or better.

- b. The balanced traverse shall be shown on the standard PCRWRD twenty-four inches by thirty-six inches (24" x 36") sheets and shall show the adjusted bearings, interior angles, and distances. This map shall be known as the Balanced Traverse Map. The adjusted angles and distances shown are to be referenced to the field book by page number. Chained distances are to be so noted.
- c. All horizontal control traverse points are to be referenced outside the construction zone by distance and angle, to a minimum of two (2) durable points. These durable points are to be tagged or marked "Ref" with the L. S. Registration number. A sketch of the location of said references is to be submitted for each control point along with the survey notes. These sketches, collectively, shall be known as the Reference Point Map. Each sketch shall show horizontal dimensions accurate to the nearest one hundredth foot (.01') and angular ties sufficient to reestablish said point accurately to two hundredths foot (.02').
- d. The horizontal control traverse(s) must be tied to at least two (2) section or quarter-section corners. All section and quarter-section lines intersecting the Project survey lines are to be tied by bearing, angle, and distance to the adjacent section and quarter-section corners. This information is to be shown on the Balanced Traverse Map.
- e. The following requirements for section corner and quarter-section corner selection shall be met:
  - i. Submit data on why corner was accepted with copies of research material other than strictly Pima County Department of Transportation (PCDOT) references.
  - ii. Sketch of field procedure showing measurements, angles, and associated found corners if corner is established or reset.
  - iii. Submit a completed corner references tie sheet, similar to the standard form used by the PCDOT Survey Section, of all section and quarter-section corners involved with the Project. (NOTE: PCDOT standard forms and examples will be provided upon request.)

#### 16. Vertical Control

- a. A control listing of all the B.M.s shall be provided and shall be shown on the standard PCRWRD twenty-four inches by thirty-six inches (24" x 36") sheets. This listing shall be known as the Vertical Control Map and shall include the following information:
  - i. Source, location, elevation, and detailed description of B.M.s.
  - ii. Reference ties to the B.M. by both station and offset to the control line and to any other visible semi-permanent object.
  - iii. Complete level circuit, accurate to two (2) decimal places. Any adjusted elevations are to be referenced to the field book by page number. All level circuits must close within the accuracy specified by the formula:
$$.05D^5$$
Where D is the level circuit distance in miles, and the constant (.05) includes appropriate units to give the answer in feet.
- b. The datum which all elevations are to be referenced shall be approved by PCRWRD prior to being used. This datum shall be shown on the Vertical Control Map. Should a vertical datum other than the PCDOT Vertical Datum (presently: NAVD 88) be submitted for approval, the submittal shall state why the proposed vertical datum is superior and shall provide an equation to an established PCDOT Vertical Datum B.M.
- c. The RLS shall establish permanent B.M.s at approximately one thousand feet (1,000') intervals around the Project perimeter, if needed. These B.M.s shall be constructed in a

durable manner and shall be safe from harm or disturbance during the course of construction. Wood materials and bridged nails in utility poles are not acceptable.

- d. All B.M.s shall be shown in the plan view of the “plan & profile” design sheets along with their elevations and a brief description of where they are located.

**End of Attachment “A” To Appendix “A”**



## ATTACHMENT “B” TO APPENDIX “A” (1 page)

### SOILS ANALYSIS AND CORROSION CONTROL DESIGN SERVICES

#### A. Introduction

The CONSULTANT shall employ the services of an Engineer(s) knowledgeable in the areas of soils analysis and corrosion control. The Engineer shall provide those soils analyses deemed necessary to provide a proper and complete design of the facilities identified in **Appendix “A”**. Further, the Engineer shall provide the design and specifications necessary to protect the sewers from the effects of corrosive environments.

#### B. Soils Analyses

The Soils Engineer shall sufficiently investigate the soils into and upon which the proposed sewers are to be constructed so as to be reasonably assured that the integrity and alignment of the sewers remain as designed for the life of the facilities. Soil borings and samples shall be taken at a maximum spacing of seven hundred fifty feet (750'), or at such spacing deemed necessary to provide adequate information for design. For sanitary sewer designs, the samples shall be obtained at least five feet (5') below the design depth of the sewer.

For evaluation of boring or tunneling as a construction alternative, the Engineer shall increase the number, and depth, if warranted, of test borings and samples necessary for an appropriate evaluation of the soil conditions. Geotechnical data will be gathered to aid the Contractor in selecting an adequate construction method.

At least one soil boring and an associated penetration resistance test shall be made at each wash where a pile supported sewer or grade control structure will be required. Both the boring and the penetration resistance test shall be extended to an elevation that is equal to or lower than the pile tip elevation.

The location of soil borings shall be shown on the Construction Plans and the results of the soils tests and copies of the boring logs shall be appended to the back of the Construction Specifications or drafted onto the Construction Plans. The investigations shall be sufficient to:

1. Determine through bank stability analyses, shoring and other trench protection construction requirements. Soil information will be provided with recommendations, however final trench protection design is the responsibility of the Contractor.
2. Identify and mitigate the effects of collapsing soils.

#### C. Corrosion Control

Corrosion control measures that might be applicable to include in the design include material selection, protective wrapping of sewer pipe, protective coatings of pipe or pile exterior surfaces, exterior waterproof coatings of certain underground structures, and like measures. Active cathodic protection is not acceptable to PCRWRD.

#### D. Reporting Requirements

The results of the above noted tests and analyses shall be discussed and the conclusions and design recommendations shall be stated in the Technical Design Report. The laboratory results, test reports, and other supporting documentation shall be appended to the Technical Design Report. Also, as required above, the soils test results and soils boring logs shall appear in the Construction Documents, either appended to the Construction Specifications or drafted into the Construction Plans.

**End of Attachment “B” To Appendix “A”**

## ATTACHMENT "C" TO APPENDIX "A" (1 page)

### WASH CROSSING AND PROXIMITY REQUIREMENTS

The CONSULTANT shall provide the following design information applicable to the crossing or closely paralleling of washes by the alignment of the sewers to be designed and constructed. The CONSULTANT's design shall be sufficient to establish, as necessary, any needed technical design criteria for the wash crossings or paralleling situations and to convert those criteria to design information to be placed within the Construction Documents. All wash crossing designs shall be in compliance with RWRD design standards. Pile driving is not anticipated as a requirement for this project. The wash crossing or proximity requirements to be addressed in the Technical Design Report are as follows:

1. Preparation of a Wash Crossing and Proximity Analysis to determine the need for pipe protection or pipe supports for the sanitary sewer and to provide the CONSULTANT's recommendations regarding those needs. Wash flood flow information, lateral migration, scour, and estimated bed degradation or aggradation to be expected over the life of the sewer crossing (100 years) shall be obtained for each crossing, from Pima County Flood Control District (PCFCD). In addition to the information available from the City of Tucson and PCFCD and the related design calculations, the CONSULTANT may be required to develop further calculations and prepare further analyses to adequately predict future storm flows, lateral migrations, scour, and bed degradations or aggradations and to identify pipe protection or support needs.
2. A clear definition of the nature of the pipe protection or pipe support for each wash crossing or situation when a paralleling sewer might be at risk. Such pipe protection or support could be in the form of soil cement bank protection, a series of pile supports, grade control structures, or one of these protective measures in conjunction with the use of ductile iron pipe, if determined to be appropriate by the CONSULTANT in agreement with PCRWRD. For major wash crossings, the noted pipe protection shall have a one hundred (100) year life expectancy.
3. Formalized sketches of the wash crossings or paralleling situations within the limits of possible lateral migrations shall be shown. The sketches shall indicate the horizontal and vertical alignment of the sewer, the height and depth of recommended support and protective structures, the hundred-year (100-year) floodwater elevations, the maximum probable lateral migration limits of the wash, and estimated wash bed degradation or aggradation elevations along the proposed alignment of the sanitary sewer.
4. Presentation of a complete set of applicable design calculations for all sewer protection and support facilities within an appropriate appendix to the report.

The wash crossing or proximity requirements to be addressed in the Construction Documents are as follows:

1. Whenever the top of the wash bank, or the lateral migration limit of the wash, is within fifty feet (50') of the sewer line, measured at a right angle to the sewer, or within fifty feet (50') of a manhole, said wash bottom shall be plotted in the profile view and the wash bottom, the 100-year flood prone limit, and the maximum probable lateral migration limits shall be shown on the plan view of the drawings.
2. Whenever the proposed sewer crosses the wash, the profile and the plan views shall show the vertical and horizontal zone of scour and the effects of long-term degradation or aggradation shall be postulated.
3. Appropriate detail sheets shall be used to depict the design of the protective structures prepared by the CONSULTANT according to the design criteria presented and approved in the Technical Design Report.

**End of Attachment "C" To Appendix "A"**

## ATTACHMENT “D” TO APPENDIX “A” (2 pages)

### GLOSSARY OF TERMS

Architects/Engineer(s) (A/E) - means professional services firm(s) contractually responsible for primarily the design of Projects, as well as other tasks as defined, whose work may be contracted by PCRWRD and managed by the CONSULTANT.

Certificate of Substantial Completion - means the certificate that is prepared by a Contractor or a Project Vendor and submitted to the CONSULTANT that states that the work or a portion of the work has been completed by such Contractor or Project Vendor as required by their contract.

Construction Documents - The Project specifications and Construction Drawings (plans, elevations, details, etc.) prepared and approved for construction by the Design Engineer and PCRWRD.

Construction Drawings - Completed drawings that visually represent the scope, extent and character of the Work to be furnished and performed by the CONSULTANT during the construction phase(s) and have been prepared and approved for construction by the Design Engineer and PCRWRD.

Construction Manager at Risk (CMAR) - means a Project delivery method in which: (a) There is a separate contract for design services and a separate contract for construction services; (b) The contract for construction services may be entered into at the same time as the contract for design services or at a later time; (c) Design and construction of the Project may be in sequential phases or concurrent phases; (d) Finance services, maintenance services, operations services, preconstruction services and other related services may be included.

Contractors - mean any person or entity that enters into a contract to construct, demolish or alter structures, utilities or facilities with PCRWRD, or any permitted successor. This includes, but is not limited to, any form of contract such as design/bid/build, design/build, CMAR and Job Order Contract (JOC).

Critical Path Schedule - The sequence of critical, time sensitive activities from the start of the Work to the Substantial Completion of the Project, for which any delay in the completion of these activities will extend the Substantial Completion date.

Day - Work day unless otherwise specifically noted in the Solicitation or Contract Documents.

Design Engineer - means the qualified, licensed person, firm or corporation who furnishes design and/or construction administration services required for the Project.

Guaranteed Maximum Price (GMP) - The sum of the maximum Cost of the Work including the CMAR's or Design Builder's Construction Fee, General Conditions Costs, all taxes, bonds, insurance and Contingency.

Project - The overall Work identified to be completed in the execution of this Contract.

Subcontractor - A person, firm or corporation having a contract with the Contractor to furnish services required as its independent professional associate or contractor with respect to the Project, or any individual or firm having a direct contract with the Contractor or any other individual or firm having a contract with the aforesaid contractors at any tier, who undertakes to perform a part of the design phase services or construction phase Work at the site for which the Contractor is responsible.

Substantial Completion - When the Work, or an agreed upon portion of the Work, is sufficiently complete so that County can occupy and use the Project or a portion thereof for its intended purposes. This may include, but is not limited to: (i) all systems in place, functional, and displayed to PCRWRD or its representative; (ii) all materials and equipment installed; (iii) all systems reviewed and accepted by PCRWRD;

(iv) landscaping and site work; and (v) final cleaning. The conditions of Substantial Completion that do not apply to a specific GMP will be listed in the Notice to Proceed Letter pursuant to the Construction Phase contract.

Value Engineering - means analyzing the essential functions of structures or systems for the purpose of achieving the lowest life-cycle cost consistent with required performance, reliability, quality, and safety.

Work - means the work performed by the CONSULTANT or, in the context of the Contract, any deliverables to PCRWRD.

**End of Attachment "D" To Appendix "A"**

# APPENDIX "B" - COMPENSATION SCHEDULE (63 pages)



PIMA COUNTY: CONNECTION OF THE FAIRGROUNDS WRF TO THE CONVEYANCE SYSTEM (3FGS17)

STAFF HOURS AND FEE PROPOSAL

## Dibble Engineering Staff Hours and Fee By Task

Task	Principal Engineer	Project Manager	Senior Engineer	Senior Designer	Assistant Engineer	Admin Assistant	Total Task Hours	Total Task Labor Cost	Total Task Overhead 1.8506	Total Task Profit - 10%	Total Task Fee
Contract Direct Rate	\$ 62.66	\$ 55.45	\$ 44.33	\$ 32.26	\$ 29.88	\$ 26.90					
<b>Task 1: Initial Project Management During Design: Meetings, Progress Reports and Scheduling</b>	<b>102</b>	<b>110</b>	<b>54</b>	<b>4</b>	<b>76</b>	<b>56</b>	<b>402</b>	<b>\$ 18,790.96</b>	<b>\$ 34,774.55</b>	<b>\$ 5,356.55</b>	<b>\$ 58,922.06</b>
Kick-off Meeting	2	6	2		8		18	\$ 785.72	\$ 1,454.05	\$ 223.98	\$ 2,463.75
CMAR Meetings	2	14	14	4	20	4	58	\$ 2,356.48	\$ 4,360.90	\$ 671.74	\$ 7,389.12
Progress Meetings and Progress Reports	2	14	14		24	4	58	\$ 2,346.96	\$ 4,343.28	\$ 669.02	\$ 7,359.27
Scheduling		16					16	\$ 887.20	\$ 1,641.85	\$ 252.91	\$ 2,781.96
Project Communication		60	24		24	40	148	\$ 6,184.04	\$ 11,444.18	\$ 1,762.82	\$ 19,391.05
Quality Assurance / Quality Control	96					8	104	\$ 6,230.56	\$ 11,530.27	\$ 1,776.08	\$ 19,536.92
<b>Task 2: Existing Utilities</b>		<b>12</b>	<b>32</b>	<b>16</b>	<b>80</b>	<b>4</b>	<b>144</b>	<b>\$ 5,098.12</b>	<b>\$ 9,434.58</b>	<b>\$ 1,453.27</b>	<b>\$ 15,985.97</b>
Existing Utility Coordination & Research		12	32	16	80	4	144	\$ 5,098.12	\$ 9,434.58	\$ 1,453.27	\$ 15,985.97
<b>Task 3: Field Survey</b>	<b>2</b>	<b>6</b>	<b>16</b>		<b>32</b>		<b>56</b>	<b>\$ 2,123.46</b>	<b>\$ 3,929.68</b>	<b>\$ 605.31</b>	<b>\$ 6,658.45</b>
Control Markers	2	2	4		16		24	\$ 891.62	\$ 1,650.03	\$ 254.17	\$ 2,795.82
Real Property Research: Easements & R/W Acquisition		2	4		8		14	\$ 527.26	\$ 975.75	\$ 150.30	\$ 1,653.31
Real Property Research: Document Preparation		2	8		8		18	\$ 704.58	\$ 1,303.90	\$ 200.85	\$ 2,209.32
<b>Task 4: Geotechnical and Corrosion Investigation / Design</b>	<b>1</b>	<b>8</b>	<b>10</b>		<b>16</b>		<b>35</b>	<b>\$ 1,427.64</b>	<b>\$ 2,641.99</b>	<b>\$ 406.96</b>	<b>\$ 4,476.59</b>
Geotechnical Investigation		4	4		8		16	\$ 638.16	\$ 1,180.98	\$ 181.91	\$ 2,001.05
Corrosion Control Design		2	2		4		8	\$ 319.08	\$ 590.49	\$ 90.96	\$ 1,000.53
Odor Control and Mitigation Requirements Technical Memorandum	1	2	4		4		11	\$ 470.40	\$ 870.52	\$ 134.09	\$ 1,475.01
<b>Task 5: Environmental Survey and Evaluation</b>		<b>8</b>	<b>8</b>		<b>8</b>		<b>24</b>	<b>\$ 1,037.28</b>	<b>\$ 1,919.59</b>	<b>\$ 295.69</b>	<b>\$ 3,252.56</b>
NPPO Survey / Report		2	2		2		6	\$ 259.32	\$ 479.90	\$ 73.92	\$ 813.14
Biological Evaluation Report		2	2		2		6	\$ 259.32	\$ 479.90	\$ 73.92	\$ 813.14
Regulated Riparian Habitat (RRH) Evaluation		2	2		2		6	\$ 259.32	\$ 479.90	\$ 73.92	\$ 813.14
NPPO & RRH Plans		2	2		2		6	\$ 259.32	\$ 479.90	\$ 73.92	\$ 813.14
<b>Task 6: Wash Crossing and Proximity Analysis Report</b>	<b>2</b>	<b>4</b>	<b>6</b>		<b>6</b>		<b>18</b>	<b>\$ 792.38</b>	<b>\$ 1,466.38</b>	<b>\$ 225.88</b>	<b>\$ 2,484.63</b>
Analysis & Report for Wash Crossing/Paralleling Criteria	2	4	6		6		18	\$ 792.38	\$ 1,466.38	\$ 225.88	\$ 2,484.63
<b>Task 7: Permitting Applications</b>		<b>20</b>	<b>48</b>	<b>6</b>	<b>52</b>		<b>126</b>	<b>\$ 4,984.16</b>	<b>\$ 9,223.69</b>	<b>\$ 1,420.78</b>	<b>\$ 15,628.63</b>
Arizona Department of Env. Quality - Construction Authorization		4	8		8		20	\$ 815.48	\$ 1,509.13	\$ 232.46	\$ 2,557.07
Construction Arizona Pollution Discharge Elimination System (AZPDES)		2	4		4		10	\$ 407.74	\$ 754.56	\$ 116.23	\$ 1,278.53
US Corps of Engineers 401 and 404 Permits (Dibble)		2	4				6	\$ 288.22	\$ 533.38	\$ 82.16	\$ 903.76
Stormwater Pollution Prevention Plan (SWPPP)		2	4	4	8		18	\$ 656.30	\$ 1,214.55	\$ 187.08	\$ 2,057.93
Aquifer Protection General Permit 2.05 CMOM NOI - Form E301 (NOI)		4	8	2	8		22	\$ 880.00	\$ 1,628.53	\$ 250.85	\$ 2,759.38
Arizona Department of Transportation (ADOT) Encroachment Permit		2	12		16		30	\$ 1,120.94	\$ 2,074.41	\$ 319.54	\$ 3,514.89
Flood Control Use Permit		4	8		8		20	\$ 815.48	\$ 1,509.13	\$ 232.46	\$ 2,557.07
<b>Task 8: Preliminary and Final Design Report</b>	<b>4</b>	<b>28</b>	<b>48</b>	<b>12</b>	<b>120</b>	<b>8</b>	<b>220</b>	<b>\$ 8,119.00</b>	<b>\$ 15,025.02</b>	<b>\$ 2,314.40</b>	<b>\$ 25,458.42</b>
60% Draft Design Report	2	16	32	8	80	4	142	\$ 5,187.16	\$ 9,599.36	\$ 1,478.65	\$ 16,265.17
Final Design Report	2	12	16	4	40	4	78	\$ 2,931.84	\$ 5,425.66	\$ 835.75	\$ 9,193.25
<b>Task 9: Final Design</b>	<b>10</b>	<b>72</b>	<b>200</b>	<b>288</b>	<b>300</b>	<b>22</b>	<b>892</b>	<b>\$ 32,331.68</b>	<b>\$ 59,833.01</b>	<b>\$ 9,216.47</b>	<b>\$ 101,381.16</b>
General Design and Documentation		8	12		16	2	38	\$ 1,507.44	\$ 2,789.67	\$ 429.71	\$ 4,726.82
Construction Specifications		2	8	16		24	54	\$ 2,102.92	\$ 3,891.66	\$ 599.46	\$ 6,594.04
Design Submittal, 30% Construction Plans and Specifications		2	20	60	100	80	266	\$ 9,618.12	\$ 17,799.29	\$ 2,741.74	\$ 30,159.15
Design Submittal, 60% Construction Plans and Specifications		2	16	40	60	80	202	\$ 7,219.32	\$ 13,360.07	\$ 2,057.94	\$ 22,637.33
Design Submittal, 95% Construction Plans and Specifications		2	8	40	80	60	194	\$ 6,823.32	\$ 12,627.24	\$ 1,945.06	\$ 21,395.61
Final Design Submittal		2	12	32	48	40	138	\$ 5,060.56	\$ 9,365.07	\$ 1,442.56	\$ 15,868.20
<b>Task 10: Engineering Services During Construction Internal Project Management During Construction</b>	<b>2</b>	<b>40</b>	<b>24</b>		<b>24</b>		<b>90</b>	<b>\$ 4,124.36</b>	<b>\$ 7,632.54</b>	<b>\$ 1,175.69</b>	<b>\$ 12,932.59</b>
Meetings, Progress Reports and Invoices	2	40	24		24		90	\$ 4,124.36	\$ 7,632.54	\$ 1,175.69	\$ 12,932.59
<b>Task 11: Public Involvement</b>	<b>2</b>	<b>16</b>	<b>8</b>	<b>12</b>	<b>24</b>	<b>4</b>	<b>66</b>	<b>\$ 2,579.00</b>	<b>\$ 4,772.70</b>	<b>\$ 735.17</b>	<b>\$ 8,086.87</b>
Public Involvement	2	16	8	12	24	4	66	\$ 2,579.00	\$ 4,772.70	\$ 735.17	\$ 8,086.87
<b>Task 12: Construction Activities</b>	<b>24</b>	<b>60</b>	<b>104</b>		<b>128</b>	<b>12</b>	<b>328</b>	<b>\$ 13,588.60</b>	<b>\$ 25,147.06</b>	<b>\$ 3,873.57</b>	<b>\$ 42,609.23</b>
Submittal Review		20	40		80	8	148	\$ 5,487.80	\$ 10,155.72	\$ 1,564.35	\$ 17,207.87
Request for Information		16	24		40	4	84	\$ 3,253.92	\$ 6,021.70	\$ 927.56	\$ 10,203.19
Change Order Proposals		12	16		8		36	\$ 1,613.72	\$ 2,986.35	\$ 460.01	\$ 5,060.08
Construction Inspections	24	12	24				60	\$ 3,233.16	\$ 5,983.29	\$ 921.64	\$ 10,138.09
<b>Task 13: Multiple GMP Packages (Additional Services)</b>	<b>4</b>	<b>8</b>	<b>16</b>	<b>32</b>	<b>40</b>	<b>4</b>	<b>104</b>	<b>\$ 3,738.64</b>	<b>\$ 6,918.73</b>	<b>\$ 1,065.74</b>	<b>\$ 11,723.10</b>
Coordinate Two GMP Packages	4	8	16	32	40	4	104	\$ 3,738.64	\$ 6,918.73	\$ 1,065.74	\$ 11,723.10
<b>Task 14: Bid Documents and Services (Additional Services)</b>	<b>4</b>	<b>16</b>	<b>32</b>	<b>40</b>	<b>60</b>	<b>4</b>	<b>156</b>	<b>\$ 5,747.20</b>	<b>\$ 10,635.77</b>	<b>\$ 1,638.30</b>	<b>\$ 18,021.27</b>
Provide Bid Documents and Services	4	16	32	40	60	4	156	\$ 5,747.20	\$ 10,635.77	\$ 1,638.30	\$ 18,021.27
<b>Task 15: Record Drawings (As-Builts)</b>	<b>4</b>	<b>8</b>	<b>16</b>	<b>60</b>	<b>40</b>	<b>2</b>	<b>130</b>	<b>\$ 4,588.12</b>	<b>\$ 8,490.77</b>	<b>\$ 1,307.89</b>	<b>\$ 14,386.78</b>
Record Drawings (As-Builts)	4	8	16	60	40	2	130	\$ 4,588.12	\$ 8,490.77	\$ 1,307.89	\$ 14,386.78
<b>Task 16: GMP &amp; Construction Schedule Coordination</b>	<b>8</b>	<b>24</b>	<b>32</b>	<b>60</b>	<b>60</b>	<b>4</b>	<b>188</b>	<b>\$ 7,086.64</b>	<b>\$ 13,114.54</b>	<b>\$ 2,020.12</b>	<b>\$ 22,221.29</b>
GMP Review	4	8	16	60	40	2	130	\$ 4,588.12	\$ 8,490.77	\$ 1,307.89	\$ 14,386.78
GMP Reconciliation (Additional Services)	4	16	16		20	2	58	\$ 2,498.52	\$ 4,623.76	\$ 712.23	\$ 7,834.51
<b>Task 17: Increased Capacity Design</b>	<b>2</b>	<b>16</b>	<b>32</b>	<b>16</b>	<b>80</b>	<b>4</b>	<b>150</b>	<b>\$ 5,445.24</b>	<b>\$ 10,076.96</b>	<b>\$ 1,552.22</b>	<b>\$ 17,074.42</b>
Increased Capacity Design	2	16	32	16	80	4	150	\$ 5,445.24	\$ 10,076.96	\$ 1,552.22	\$ 17,074.42
<b>Task 18: Construction Inspection (Optional)</b>											
<b>TOTAL</b>	<b>171</b>	<b>456</b>	<b>686</b>	<b>546</b>	<b>1146</b>	<b>124</b>	<b>3129</b>	<b>\$ 121,602.48</b>	<b>\$ 225,037.55</b>	<b>\$ 34,664.00</b>	<b>\$ 381,304.03</b>

STAFF HOURS AND FEE PROPOSAL

Fee Summary	
Dibble Engineering Labor	\$ 121,602.48
Overhead - 1.8506	\$ 225,037.55
Profit - 10%	\$ 34,664.00
<b>TOTAL FEE (DIBBLE ENGINEERING)</b>	<b>\$ 381,304.03</b>

Subconsultants	Total
WestLand Resources (Design)	\$ 185,978.00
WestLand Resources (Post-Design)	\$ 30,190.00
WestLand Resources (Additional Services)	\$ 12,970.00
ATEK Engineering Consultants (Geotechnical Services)	\$ 18,251.00
CMG Drainage Engineering, Inc (Design)	\$ 30,138.00
CMG Drainage Engineering, Inc (Post-Design)	\$ 3,390.00
Kaneen Communications (Public Outreach)	\$ 8,230.00
Aerotech Mapping (Aerial Mapping)	\$ 12,760.00
Canfield Engineering & Integration, LLC (CEI) (Electrical Eng) (Design)	\$ 14,313.70
Canfield Engineering & Integration, LLC (CEI) (Electrical Eng) (Post-Design)	\$ 8,150.30
<b>Subtotal, Subconsultants</b>	<b>\$ 324,371.00</b>

	Total
Plotting & Reproductions	\$ 5,000
<b>Subtotal, Direct Costs</b>	<b>\$ 5,000</b>

	Fee
Subtotal, Dibble Engineering	\$ 381,304.03
Subtotal, Subconsultants	\$ 324,371.00
Subtotal, Direct Costs	\$ 5,000.00
<b>TOTAL FEE, NOT TO EXCEED</b>	<b>\$ 710,675.03</b>



July 12, 2018

Mr. Keith Faucett, P.E.  
DIBBLE ENGINEERING  
177 N. Church Ave., Suite 711  
Tucson, Arizona 85701

**Re: DESIGN SERVICES: CONNECTION OF THE FAIRGROUNDS WRF TO THE  
CONVEYANCE SYSTEM (3FGS17)  
WESTLAND PROPOSAL NO. 2018PQ00014-REVISION 1**

Dear Mr. Faucett:

WestLand Resources, Inc. (WestLand), is pleased to provide Dibble Engineering (Dibble) a proposal for the engineering, survey, environmental, and landscape architectural services related to the scope of work for the above-mentioned project. It is understood that Dibble is the prime engineer on this project being designed for Pima County (PC) Regional Wastewater Reclamation Department (RWRD).

The basis of the project is for RWRD to connect the existing Fairgrounds Wastewater Reclamation Facility (WRF) to the existing gravity sewer system at South Rita Road and Interstate 10, to convey sewage from the existing and future development within the Pima County Southeast Regional Park (SERP), which includes the Pima County Fairgrounds. The design is based on the fact that the existing lagoon facility, located at the northwest corner of the Fairgrounds facility, will not be able to adequately handle existing flows as well as flows from future developments. As part of this project, an analysis will be completed to determine the best option for conveying the existing and future flows. Options include a sewer pump station and force main, a gravity main, or a combination for both. Within our scope work we have included the design of a sewer pump station that will meet current RWRD standards.

There are tasks included in the scope which apply to construction services or potential additional services. WestLand has provided costs for each of these task at this time.

WestLand will provide the work for the following tasks based on the scope of work entitled Appendix "A"-Scope of Services. Listed are the tasks to be completed by WestLand, and a summary table of the cost for each task. Attached are the budget boilers and summary sheets for each discipline, as well as the Appendix "A"-Scope of Services, that the costs are based on.

## **TASK 1. INITIAL PROJECT MANAGEMENT DURING DESIGN**

WestLand proposes to provide the services listed in Task 1 with a not-to-exceed (NTE) budget of \$23,485. Below is the cost shown by each subtask:

### **Task 1.1.0. Meetings, Progress Reports, and Scheduling**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$7,900.

#### **Subtask 1.1.1. Kick-off Meeting**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$930.

#### **Subtask 1.1.2. CMAR Meetings**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$2,450.

#### **Subtask 1.1.3. Progress Meetings and Progress Reports**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$2,240.

#### **Subtask 1.1.4. Scheduling**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$1,445.

#### **Subtask 1.1.6. Quality Assurance/Quality Control**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$8,520.

## **TASK 2. EXISTING UTILITIES**

WestLand will provide survey services to mark pot hole locations in the field and shoot in those locations once they have been completed by the CMAR. The CMAR will be expected to coordinate with WestLand on schedule and methods for subsurface measurements.

WestLand proposes to provide the services listed in Task 2 with a not-to-exceed (NTE) budget of \$19,950.

## **TASK 3. FIELD SURVEY**

WestLand proposes to provide the services listed in Task 3 with a not-to-exceed (NTE) budget of \$36,010. Below is the cost shown by each task and subtask:

### **Task 3.1. Control Markers**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$29,300.

### **Task 3.2. Real Property Research**

#### **Subtask 3.2.1. Easement and Right-of-Way Acquisition**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$4,600.



**Subtask 3.2.2. Document Preparation**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$2,110.

**TASK 4. GEOTECHNICAL AND CORROSION INVESTIGATION/DESIGN**

**Subtask 4.3. Odor Control and Mitigation Evaluation**

WestLand proposes to provide the services listed in Task 4 with a not-to-exceed (NTE) budget of \$6,650.

**TASK 5. ENVIRONMENTAL SURVEY AND EVALUATION**

**Subtask 5.1. NPPO Survey/Report**

WestLand proposes to provide the services listed in Task 5 with a not-to-exceed (NTE) budget of \$14,716.

**Subtask 5.2. Biological Evaluation Report**

WestLand proposes to provide the services listed in Task 5 with a not-to-exceed (NTE) budget of \$4,448.

**Subtask 5.3. Regulated Riparian Habitat (RRH) Evaluation**

WestLand proposes to provide the services listed in Task 5 with a not-to-exceed (NTE) budget of \$7,996.

**TASK 7. PERMITTING**

**Subtask 7.1. Permitting Applications**

WestLand proposes to provide the services listed in Task 7 with a not-to-exceed (NTE) budget of \$3,725.

**TASK 8. PRELIMINARY AND FINAL DESIGN REPORT**

WestLand proposes to provide the services listed in Task 8 with a not-to-exceed (NTE) budget of \$8,400. Below is the cost shown by each subtask:

**Subtask 8.1.1. 60% Draft Design Report**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$4,545.

**Subtask 8.1.2. Final Design Report**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$3,855.

**TASK 9. FINAL DESIGN**

WestLand proposes to provide the services listed in Task 9 with a not-to-exceed (NTE) budget of \$38,848. Below is the cost shown by each subtask:

**Subtask 9.1.2. Construction Specifications**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$4,004.

**Subtask 9.1.3. Design Submittal, 30% Construction Plans and Specifications**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$9,052.

**Subtask 9.1.4. Design Submittal, 60% Construction Plans and Specifications**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$11,657.

**Subtask 9.1.5. Design Submittal, 95% Construction Plans and Specifications**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$7,752.

**Subtask 9.1.6. Final Design Submittal**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$6,383.

**TASK 10. ENGINEERING SERVICES DURING CONSTRUCTION. INTERNAL PROJECT MANAGEMENT DURING CONSTRUCTION.**

**Subtask 10.1.1. Meetings, Progress Reports, and Invoices**

WestLand proposes to provide the services listed in Task 10 with a not-to-exceed (NTE) budget of \$5,940.

**TASK 11. PUBLIC INVOLVEMENT**

WestLand proposes to provide the services listed in Task 11 with a not-to-exceed (NTE) budget of \$4,620.

**TASK 12. CONSTRUCTION ACTIVITIES**

WestLand proposes to provide the services listed in Task 12 with a not-to-exceed (NTE) budget of \$16,920. Below is the cost shown by each subtask:

**Subtask 12.1.1. Submittal Review**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$7,240.

**Subtask 12.1.2. Request for Information**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$7,240.

**Subtask 12.1.3. Change Order Proposals**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$2,440.

**TASK 13. MULTIPLE GMP PACKAGES (ADDITIONAL SERVICES)**

WestLand proposes to provide the services listed in Task 13 with a not-to-exceed (NTE) budget of \$6,860.

**TASK 14. BID DOCUMENTS AND SERVICES (ADDITIONAL SERVICES)**

WestLand proposes to provide the services listed in Task 14 with a not-to-exceed (NTE) budget of \$6,110.

**TASK 15. RECORD DRAWINGS (AS-BUILTS)**

WestLand proposes to provide the services listed in Task 15 with a not-to-exceed (NTE) budget of \$7,330.

**TASK 16. GMP & CONSTRUCTION SCHEDULE COORDINATION**

**Subtask 16.1. GMP Review**

WestLand proposes to provide the services listed in Task 16 with a not-to-exceed (NTE) budget of \$7,200.

**TASK 17. INCREASED CAPACITY DESIGN**

WestLand proposes to provide the services listed in Task 17 with a not-to-exceed (NTE) budget of \$9,930. Below is the cost shown by each subtask:

**Subtask 17.1.1. Variable Capacity Pump Station and Force Main**

WestLand proposes to provide the services listed with a not-to-exceed (NTE) budget of \$9,930.

**Table 1. Summary of Estimated Fees**

<b>Task</b>	<b>Fee</b>	<b>Billing</b>
Task 1. Initial Project Management During Design	\$23,485	NTE
Task 2. Utilities	\$19,950	NTE
Task 3. Survey	\$36,010	NTE
Task 4. Geotechnical and Corrosion Investigation/Design	\$6,650	NTE
Task 5. Environmental	\$27,160	NTE
Task 7. Permitting	\$3,725	NTE
Task 8. Preliminary and Final Design Report	\$8,400	NTE
Task 9. Final Design	\$38,848	NTE
Task 10. Engineering Services During Construction	\$5,940	NTE
Task 11. Public Involvement	\$4,620	NTE
Task 12. Construction Activities	\$16,920	NTE
Task 13. Multiple GMP Packages (Additional Services)	\$6,860	NTE
Task 14. Bid Documents and Services (Additional Services)	\$6,110	NTE
Task 15. Record Drawings (As-Builts)	\$7,330	NTE
Task 16. GMP & Construction Schedule Coordination	\$7,200	NTE
Task 17. Increased Capacity Design	\$9,930	NTE
<b>Total</b>	<b>\$229,138</b>	

Mr. Keith Faucett  
July 12, 2018  
Page 6

If you find the scope of services and costs described herein to be acceptable, please sign and return the attached agreement to our office. Upon receipt, we will sign and return one fully executed copy to you for your file.

Respectfully,  
WestLand Resources, Inc.



Craig Cannizzaro, P.E.  
Senior Project Manager

CXC:rlw

Attachment (s): PCRWRD Appendix "A" Scope of Services  
Project Budget Boilers

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 1 Initial Project Management During Design  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 1 Initial Project Management During Design
- 2 1.1.1 Kick-off meeting
- 3 1.1.2 CMAR Meetings
- 4 1.1.3 Progress Meetings and Progress Reports
- 5 1.1.4 Scheduling
- 6 1.1.6 QA/QC
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task						
				1	2	3	4	5	6	7
Senior Project Manager	\$175.00	44	\$7,700	12	2	14	7	1	8	
Engineer III	\$145.00	73	\$10,585	40	4		7	6	16	
Engineer in Training II	\$100.00	0	\$0							
Design Manager	\$160.00	12	\$1,920						12	
Senior Designer II	\$130.00	0	\$0							
Senior Construction Inspector III	\$145.00	8	\$1,160						8	
Senior Engineering Technician	\$100.00	4	\$400					4		
Senior Principal Consultant	\$215.00	8	\$1,720						8	
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
<b>TOTAL COST - LABOR</b>		149	\$23,485	\$7,900	\$930	\$2,450	\$2,240	\$1,445	\$8,520	\$0

Direct Expenses

Item	\$/Unit	Unit								
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Subcontract

Sub 1			\$0							
Sub 2			\$0							
Sub 3			\$0							
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$23,485	\$7,900	\$930	\$2,450	\$2,240	\$1,445	\$8,520	\$0

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 4 Geotechnical and Corrosion Investigation/Design  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 4.3 Odor Control ad Mitigation Evaluation
- 2
- 3
- 4
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	8	\$1,400	8							
Engineer III	\$145.00	18	\$2,610	18							
Engineer in Training II	\$100.00	16	\$1,600	16							
Design Manager	\$160.00	0	\$0								
Senior Designer II	\$130.00	8	\$1,040	8							
Senior Construction Inspector III	\$145.00	0	\$0								
Senior Engineering Technician	\$100.00	0	\$0								
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		50	\$6,650	\$6,650	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Direct Expenses</b>											
Item	\$/Unit	Unit									
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$6,650	\$6,650	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 8 Preliminary and final Design Report  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 8.1.1 60% Draft Design Report
- 2 8.1.2 Final Design Report
- 3
- 4
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task								
				1	2	3	4	5	6	7		
Senior Project Manager	\$175.00	4	\$700	2	2							Craig
Engineer III	\$145.00	14	\$2,030	8	6							Troy/Lauren
Engineer in Training II	\$100.00	28	\$2,800	16	12							Isaac/Clinton
Design Manager	\$160.00	0	\$0									Garrick
Senior Designer II	\$130.00	12	\$1,560	6	6							Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0									Mark Ostermann
Senior Engineering Technician	\$100.00	12	\$1,200	6	6							Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
<b>TOTAL COST - LABOR</b>		<b>70</b>	<b>\$8,290</b>	<b>\$4,490</b>	<b>\$3,800</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	

Direct Expenses

Personnel	\$/Unit	Unit										
Printer/Copier - Black & White 8.5 x 11	\$0.06	copy	\$6	50	50							
Printer/Copier - Black & White 11 x 17	\$0.13	copy	\$0									
Printer/Copier - Colored 8.5 x 11	\$0.81	copy	\$0									
Printer/Copier - Colored 11 x 17	\$1.62	copy	\$32	10	10							
Printer/Copier - Photo Quality (photo paper) 8.5 x 11	\$3.90	copy	\$0									
Printer/Copier - Photo Quality (photo paper) 11 x 17	\$7.79	copy	\$0									
Plotter - Black & White 24 x 36	\$0.60	sheet	\$0									
Plotter - Line Color 24 x 36	\$12.00	sheet	\$72	3	3							
Direct Expense Subtotal			\$110	\$55	\$55	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15					\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			<b>\$110</b>	<b>\$55</b>	<b>\$55</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

Subcontract

Sub 1		\$0										
Sub 2		\$0										
Sub 3		\$0										
Subcontract Subtotal		\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

<b>TOTAL COSTS</b>		<b>\$8,400</b>		<b>\$4,545</b>	<b>\$3,855</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
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Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 9 Final Design  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 9.1.2 Construction Specifications
- 2 9.1.3 Design Submittal, 30% Construction Plans and Specs
- 3 9.1.4 Design Submittal, 60% Construction Plans and Specs
- 4 9.1.5 Design Submittal, 95% Construction Plans and Specs
- 5 9.1.6 Final Design Submittal
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	30	\$5,250	2	6	8	8	6			Craig
Engineer III	\$145.00	65	\$9,425	10	14	21	12	8			Troy/Lauren
Engineer in Training II	\$100.00	44	\$4,400	16	6	8	8	6			Isaac/Clinton
Design Manager	\$160.00	24	\$3,840		6	6	6	6			Garrick
Senior Designer II	\$130.00	112	\$14,560		32	40	20	20			Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0								Mark Ostermann
Senior Engineering Technician	\$100.00	6	\$600	6							Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		281	\$38,075	\$4,000	\$8,800	\$11,405	\$7,500	\$6,370	\$0	\$0	

Direct Expenses

Item	\$/Unit	Unit									
Printer/Copier - Black & White 8.5 x 11	\$0.06	copy	\$4	60							
Printer/Copier - Black & White 11 x 17	\$0.13	copy	\$0								
Printer/Copier - Colored 8.5 x 11	\$0.81	copy	\$0								
Printer/Copier - Colored 11 x 17	\$1.62	copy	\$0								
Printer/Copier - Photo Quality (photo paper) 8.5 x 11	\$3.90	copy	\$0								
Printer/Copier - Photo Quality (photo paper) 11 x 17	\$7.79	copy	\$0								
Plotter - Black & White 24 x 36	\$0.60	sheet	\$13					21			
Plotter - Line Color 24 x 36	\$12.00	sheet	\$756		21	21	21				
Direct Expense Subtotal			\$773	\$4	\$252	\$252	\$252	\$13	\$0	\$0	
G & A Fee	0.15										
<b>TOTAL COST - DIRECT EXPENSES</b>			\$773	\$4	\$252	\$252	\$252	\$13	\$0	\$0	

Subcontract

Sub 1		\$0									
Sub 2		\$0									
Sub 3		\$0									
Subcontract Subtotal		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - SUBCONTRACT</b>		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

<b>TOTAL COSTS</b>		\$38,848	\$4,004	\$9,052	\$11,657	\$7,752	\$6,383	\$0	\$0	
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Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 10 Engineering Services During Construction; Internal PM During Construction  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 10.1.1 Meetings, Progress Reports, and Invoices  
 2  
 3  
 4  
 5  
 6  
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Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	24	\$4,200	24							Craig
Engineer III	\$145.00	12	\$1,740	12							Troy/Lauren
Engineer in Training II	\$100.00	0	\$0								Isaac/Clinton
Design Manager	\$160.00	0	\$0								Garrick
Senior Designer II	\$130.00	0	\$0								Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0								Mark Ostermann
Senior Engineering Technician	\$100.00	0	\$0								Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		36	\$5,940	\$5,940	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Direct Expenses</b>											
Item	\$/Unit	Unit									
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$5,940	\$5,940	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 11 Public Involvement  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 11 Meetings  
 2  
 3  
 4  
 5  
 6  
 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task								
				1	2	3	4	5	6	7		
Senior Project Manager	\$175.00	12	\$2,100	12								Craig
Engineer III	\$145.00	12	\$1,740	12								Troy/Lauren
Engineer in Training II	\$100.00	0	\$0									Isaac/Clinton
Design Manager	\$160.00	0	\$0									Garrick
Senior Designer II	\$130.00	6	\$780	6								Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0									Mark Ostermann
Senior Engineering Technician	\$100.00	0	\$0									Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
<b>TOTAL COST - LABOR</b>		30	\$4,620	\$4,620	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Direct Expenses												
Item	\$/Unit	Unit										
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Subcontract												
Sub 1			\$0									
Sub 2			\$0									
Sub 3			\$0									
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COSTS</b>			\$4,620	\$4,620	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 12 Construction Activities  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 12.1.1 Submittal Review
- 2 12.1.2 Request for Information
- 3 12.1.3 Change Order Proposals
- 4
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	12	\$2,100	4	4	4					Craig
Engineer III	\$145.00	36	\$5,220	12	12	12					Troy/Lauren
Engineer in Training II	\$100.00	48	\$4,800	24	24						Isaac/Clinton
Design Manager	\$160.00	0	\$0								Garrick
Senior Designer II	\$130.00	0	\$0								Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0								Mark Ostermann
Senior Engineering Technician	\$100.00	48	\$4,800	24	24						Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		144	\$16,920	\$7,240	\$7,240	\$2,440	\$0	\$0	\$0	\$0	
<b>Direct Expenses</b>											
Item	\$/Unit	Unit									
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$16,920	\$7,240	\$7,240	\$2,440	\$0	\$0	\$0	\$0	\$0

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 13 Multiple GMP Packages (Additional Services)  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 13 Multiple GMP Packages (Additional Services)  
 2  
 3  
 4  
 5  
 6  
 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task								
				1	2	3	4	5	6	7		
Senior Project Manager	\$175.00	6	\$1,050	6								Craig
Engineer III	\$145.00	18	\$2,610	18								Troy/Lauren
Engineer in Training II	\$100.00	20	\$2,000	20								Isaac/Clinton
Design Manager	\$160.00	0	\$0									Garrick
Senior Designer II	\$130.00	0	\$0									Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0									Mark Ostermann
Senior Engineering Technician	\$100.00	12	\$1,200	12								Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
<b>TOTAL COST - LABOR</b>		56	\$6,860	\$6,860	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Direct Expenses												
Item	\$/Unit	Unit										
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Subcontract												
Sub 1			\$0									
Sub 2			\$0									
Sub 3			\$0									
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COSTS</b>			\$6,860	\$6,860	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 14 Bid Documents and Services (Additional Services)  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 14 Bid Documents and Services (Additional Services)  
 2  
 3  
 4  
 5  
 6  
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Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	6	\$1,050	6							Craig
Engineer III	\$145.00	12	\$1,740	12							Troy/Lauren
Engineer in Training II	\$100.00	16	\$1,600	16							Isaac/Clinton
Design Manager	\$160.00	0	\$0								Garrick
Senior Designer II	\$130.00	4	\$520	4							Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0								Mark Ostermann
Senior Engineering Technician	\$100.00	12	\$1,200	12							Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		50	\$6,110	\$6,110	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Direct Expenses</b>											
Item	\$/Unit	Unit									
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$6,110	\$6,110	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 15 Record Drawings (as-builts)  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 15 Record Drawings (as-builts)  
 2  
 3  
 4  
 5  
 6  
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Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	4	\$700	4							Craig
Engineer III	\$145.00	14	\$2,030	14							Troy/Lauren
Engineer in Training II	\$100.00	0	\$0								Isaac/Clinton
Design Manager	\$160.00	6	\$960	6							Garrick
Senior Designer II	\$130.00	28	\$3,640	28							Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0								Mark Ostermann
Senior Engineering Technician	\$100.00	0	\$0								Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		52	\$7,330	\$7,330	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Direct Expenses</b>											
Item	\$/Unit	Unit									
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$7,330	\$7,330	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 16 GMP & Construction Schedule Coordination  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 16.1 GMP Review  
 2  
 3  
 4  
 5  
 6  
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Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task								
				1	2	3	4	5	6	7		
Senior Project Manager	\$175.00	8	\$1,400	8								Craig
Engineer III	\$145.00	24	\$3,480	24								Troy/Lauren
Engineer in Training II	\$100.00	0	\$0									Isaac/Clinton
Design Manager	\$160.00	0	\$0									Garrick
Senior Designer II	\$130.00	0	\$0									Mark Stucky
Senior Construction Inspector III	\$145.00	16	\$2,320	16								Mark Ostermann
Senior Engineering Technician	\$100.00	0	\$0									Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
<b>TOTAL COST - LABOR</b>		<b>48</b>	<b>\$7,200</b>	<b>\$7,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
Direct Expenses												
Item	\$/Unit	Unit										
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Subcontract												
Sub 1			\$0									
Sub 2			\$0									
Sub 3			\$0									
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL COSTS</b>			<b>\$7,200</b>	<b>\$7,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	

Project Name: PCRWRD Connection of the Fairgrounds WRF to the Conveyance System  
 Task: 17 Increased Capacity Design  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID  
 1 17.1.1 Variable Capacity Pump Station and Force Main  
 2  
 3  
 4  
 5  
 6  
 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task								
				1	2	3	4	5	6	7		
Senior Project Manager	\$175.00	16	\$2,800	16								Craig
Engineer III	\$145.00	30	\$4,350	30								Troy/Lauren
Engineer in Training II	\$100.00	20	\$2,000	20								Isaac/Clinton
Design Manager	\$160.00	0	\$0									Garrick
Senior Designer II	\$130.00	6	\$780	6								Mark Stucky
Senior Construction Inspector III	\$145.00	0	\$0									Mark Ostermann
Senior Engineering Technician	\$100.00	0	\$0									Dina/Rachel
Senior Principal Consultant	\$215.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
<b>TOTAL COST - LABOR</b>		72	\$9,930	\$9,930	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Direct Expenses												
Item	\$/Unit	Unit										
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Subcontract												
Sub 1			\$0									
Sub 2			\$0									
Sub 3			\$0									
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>TOTAL COSTS</b>			\$9,930	\$9,930	\$0	\$0	\$0	\$0	\$0	\$0	\$0	



## TASK SUMMARY

	Task Name	Task Manager	Labor	Direct Expenses	Subcontractors	Task Total
Task 1:	1	0	23,485	0	0	23,485
Task 2:	4	0	6,650	0	0	6,650
Task 3:	8	0	8,290	110	0	8,400
Task 4:	9	0	38,075	773	0	38,848
Task 5:	10	0	5,940	0	0	5,940
Task 6:	11	0	4,620	0	0	4,620
Task 7:	12	0	16,920	0	0	16,920
Task 8:	13	0	6,860	0	0	6,860
Task 9:	14	0	6,110	0	0	6,110
Task 10:	15	0	7,330	0	0	7,330
Task 11:	16	0	7,200	0	0	7,200
Task 12:	17	0	9,930	0	0	9,930
Task 13:	18	0	0	0	0	0
Task 14:	0	0	0	0	0	0
Task 15:	0	0	0	0	0	0
<b>PROJEC T</b>			<b>141,410</b>	<b>883</b>	<b>0</b>	<b>142,293</b>

Project Name: Pima Cty Fairgrounds  
 Task: Task 5.2 BE and PPC survey  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Assumes PPC survey will be done concurrent with NPPO - added a few hours in case plants are found and additional documentation is needed

Sub Task ID

- 1 BE site visit
- 2 BE lit search and screening analysis
- 3 PPC concurrent with NPPO survey
- 4
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Senior Project Manager	\$175.00	3	\$525	1	2						
Biologist II	\$85.00	26	\$2,210	6	16	4					
Geospatial Analyst II	\$85.00	8	\$680	3	4	1					
Senior Geospatial Analyst II	\$130.00	1	\$130		1						
Senior Document Production Specialist I	\$85.00	4	\$340		4						
Senior Principal Consultant	\$215.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		<b>42</b>	<b>\$3,885</b>	<b>\$940</b>	<b>\$2,520</b>	<b>\$425</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Direct Expenses</b>											
<b>Item</b>	<b>\$/Unit</b>	<b>Unit</b>									
Printer/Copier - Black & White 8.5 x 11	\$0.06	copy	\$12		200						
Printer/Copier - Black & White 11 x 17	\$0.13	copy	\$0								
Printer/Copier - Colored 8.5 x 11	\$0.81	copy	\$3		4						
Printer/Copier - Colored 11 x 17	\$1.62	copy	\$13	4	4						
SPOT Tracker	\$10.00	day	\$10	1							
<b>Direct Expense Subtotal</b>			<b>\$38</b>	<b>\$16</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>G &amp; A Fee</b>	<b>0.15</b>										
<b>TOTAL COST - DIRECT EXPENSES</b>			<b>\$38</b>	<b>\$16</b>	<b>\$22</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
<b>Subcontract Subtotal</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>G &amp; A Fee</b>	<b>0.15</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL COST - SUBCONTRACT</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL COSTS</b>			<b>\$3,923</b>	<b>\$956</b>	<b>\$2,542</b>	<b>\$425</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

Project Name: Pima Cty Fairgrounds  
 Task: Task 7.1 Permtting - if needed  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 PJD site visit and submittal to the Corps
- 2 Compliance Document assumes project meets the criteria for a no notification
- 3
- 4
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task						
				1	2	3	4	5	6	7
Senior Project Manager	\$175.00	4	\$700	2	2					
Biologist II	\$85.00	16	\$1,360	8	8					
Geospatial Analyst II	\$85.00	10	\$850	6	4					
Senior Geospatial Analyst II	\$130.00	2	\$260	1	1					
Senior Document Production Specialist I	\$85.00	4	\$340		4					
Senior Principal Consultant	\$215.00	1	\$215	0.5	0.5					
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
<b>TOTAL COST - LABOR</b>		37	\$3,725	\$1,778	\$1,948	\$0	\$0	\$0	\$0	\$0
<b>Direct Expenses</b>										
Item	\$/Unit	Unit								
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>										
Sub 1			\$0							
Sub 2			\$0							
Sub 3			\$0							
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$3,725	\$1,778	\$1,948	\$0	\$0	\$0	\$0	\$0

Project Name:Pima Cty Fairgrounds  
 Task: Coordination and PM  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task								
				1	2	3	4	5	6	7		
Senior Project Manager	\$175.00	3	\$525	3								Kim
Biologist II	\$85.00	0	\$0									Bio (G-8)
Geospatial Analyst II	\$85.00	0	\$0									graphics - jr
Senior Geospatial Analyst II	\$130.00	0	\$0									graphics - sr review
Senior Document Production Specialist I	\$85.00	0	\$0									Admin
Senior Principal Consultant	\$215.00	0	\$0									Brian
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
	\$0.00	0	\$0									
<b>TOTAL COST - LABOR</b>		<b>3</b>	<b>\$525</b>	<b>\$525</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	

Direct Expenses

Personnel	S/Unit	Unit								
ASM Blanket Permit-Digital curatoin	\$90.00	gigabyte	\$0							
ASM Blanket Permit-Paper Site Record Submission	\$25.00	site	\$0							
ASM Blanket Permit-Reg.Fee										
199.99 acres or less	\$150.00	lump sum	\$0							
200 to 499 acres	\$300.00	lump sum	\$0							
500 to 999 acres	\$650.00	lump sum	\$0							
1,000 to 1,999 acres	\$1,200.00	lump sum	\$0							
2,000 acres or more	\$1,750.00	lump sum	\$0							
ASM Rec. Search for Archaeologist	\$75.00	sq. mile	\$0							
ASM Rec. Search Limited No. of Sites	\$5.00	specific site	\$0							
ASM Rec. Search Maps/Shape files	\$15.00	map	\$0							
ASM Requisition Consult for Human Remains	\$300.00	case	\$0							
ASM Repository Digital Curatoin Fee	\$60.00	gigabyte	\$0							
ASM Repository Per Box Fee	\$1,000.00	box	\$0							
ASM Repository Registration fee	\$3,000.00	lump sum	\$0							
Backhoe	\$85.00	hour	\$0							
Camping Per Diem	\$20.00	day	\$0							
Dust permit	\$800.00	lump sum (new rate-7HD)	\$0							
Electrofisher Combo	\$220.00	day	\$0							
Enviro RTK GPS	\$175.00	day	\$0							
Enviro Total Station-Surveying Equipment	\$60.00	day	\$0							
Fed Ex (average)	\$24.00	package	\$0							
Film & Develop	\$18.00	roll	\$0							
Flood plain permit	\$100.00	lump sum (new rate-7HD)	\$0							
Flow Meter (FSCS-KIT1)	\$150.00	day	\$0							
Flow Meter (FSCS-KIT1)	\$600.00	week	\$0							
Fuel			\$0							
GIS Website Hosting Services	\$245.00	site/month	\$0							
GPS Garmin	\$75.00	day	\$0							
GPS Garmin w/ Camera/ Smart Phone/ Tablet	\$15.00	day	\$0							
GPS Triable	\$125.00	day	\$0							
Lodging (out of town)	\$85.00	day	\$0							
Mileage	\$0.75	mile	\$0							
Mini-mobile	\$500.00	month	\$0							
Oakton PCD 650 Water Quality Mstrng Meter	\$50.00	day	\$0							
Oakton PCTester35 HHeld-Water Qty Mstrng Meter	\$10.00	day	\$0							
Perdiem - Standard AZ	\$54.00	day	\$0							
Perdiem - Travel Day AZ	\$40.50	day	\$0							
Perdiem - Standard NM	\$46.00	day	\$0							
Perdiem - Travel Day NM	\$34.50	day	\$0							
Perdiem - Backpacking	\$20.00	day	\$0							
Portable toilet	\$125.00	month	\$0							
Printer/Copier - Black & White 8.5 x 11	\$0.06	copy	\$0							
Printer/Copier - Black & White 11 x 17	\$0.13	copy	\$0							
Printer/Copier - Colored 8.5 x 11	\$0.81	copy	\$0							
Printer/Copier - Colored 11 x 17	\$1.62	copy	\$0							
Printer/Copier - Photo Quality (photo paper) 8.5 x 11	\$3.90	copy	\$0							
Printer/Copier - Photo Quality (photo paper) 11 x 17	\$7.79	copy	\$0							
Plotter - Black & White 24 x 36	\$0.60	sheet	\$0							
Plotter - Line Color 24 x 36	\$12.00	sheet	\$0							
Plotter - Full Color 24 x 36	\$24.00	sheet	\$0							
Plotter - Photo Quality 24 x 36	\$36.00	sheet	\$0							
Plotter - Full Color 36 x 48	\$48.00	sheet	\$0							
Satellite Phone	\$75.00	day	\$0							
SPOT Tracker	\$10.00	day	\$0							
Tortoise Camera - If used per Day	\$95.00	day	\$0							
Tortoise Camera - If used per 5-Day Week	\$60.00	day	\$0							
Vehicle Rental	\$82.00	day	\$0							
Vehicle Rental-Premium SUV (Suburban or Expedition XL)	\$136.00	day	\$0							
Vehicle Rental (Large 4WD-Specialty)	\$105.00	day	\$0							
Water Truck	\$65.00	hour	\$0							
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Subcontract

Sub 1		\$0								
Sub 2		\$0								
Sub 3		\$0								
Subcontract Subtotal		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			<b>\$525</b>	<b>\$525</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## TASK SUMMARY

	Task Name	Task Manager	Labor	Direct Expenses	Subcontractors	Task Total
Task 1:	Task 5.2 BE and PPC survey	0	3,885	38	0	3,923
Task 2:	Task 7.1 Permtting - if needed	0	3,725	0	0	3,725
Task 3:	Coordination and PM	0	525	0	0	525
Task 4:	0	0	0	0	0	0
Task 5:	0	0	0	0	0	0
Task 6:	0	0	0	0	0	0
Task 7:	0	0	0	0	0	0
Task 8:	0	0	0	0	0	0
Task 9:	0	0	0	0	0	0
Task 10:	0	0	0	0	0	0
Task 11:	0	0	0	0	0	0
Task 12:	0	0	0	0	0	0
Task 13:	0	0	0	0	0	0
Task 14:	0	0	0	0	0	0
Task 15:	0	0	0	0	0	0
<b>PROJEC T</b>			<b>8,135</b>	<b>38</b>	<b>0</b>	<b>8,173</b>

Project Name: Pima County Fairgrounds Lift Station  
 Task: 5.1 NPPP  
 Client: Pima County WW  
 Project Manager: CXC  
 Task Manager: RWS  
 Code: Nov 2017

Sub Task ID

- 1 Meetings and Coordination
- 2 Field Prep, Equip. and maps
- 3 Field inventory
- 4 Plan Preperation and calculations
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task							
				1	2	3	4	5	6	7	
Biologist I	\$75.00	35	\$2,625			35					
Environmental Specialist I	\$75.00	35	\$2,625			35					
Designer II	\$85.00	51	\$4,335	2	4		45				
Landscape Architect III	\$145.00	6	\$870	2		2	2				
Senior Project Manager	\$175.00	17	\$2,975	8	1	2	6				
Senior Geospatial Analyst II	\$130.00	3	\$390		3						
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
	\$0.00	0	\$0								
<b>TOTAL COST - LABOR</b>		147	\$13,820	\$1,860	\$905	\$5,890	\$5,165	\$0	\$0	\$0	\$0
<b>Direct Expenses</b>											
Item	\$/Unit	Unit									
GPS Garmin w/ Camera/ Smart Phone/ Tablet	\$15.00	day	\$60			4					
GPS Trimble	\$125.00	day	\$500			4					
Plotter - Black & White 24 x 36	\$0.60	sheet	\$48				80				
Plotter - Line Color 24 x 36	\$12.00	sheet	\$240			20					
SPOT Tracker	\$10.00	day	\$40			4					
Direct Expense Subtotal			\$896	\$0	\$8	\$840	\$48	\$0	\$0	\$0	\$0
G & A Fee	0.15										
<b>TOTAL COST - DIRECT EXPENSES</b>			\$896	\$0	\$8	\$840	\$48	\$0	\$0	\$0	\$0
<b>Subcontract</b>											
Sub 1			\$0								
Sub 2			\$0								
Sub 3			\$0								
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$14,716	\$1,860	\$913	\$6,730	\$5,213	\$0	\$0	\$0	\$0

Project Name: Pima County Fairgrounds Lift Station  
 Task: 5.3 Riparian Assessment  
 Client: Pima County WW  
 Project Manager: CXC  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 Meetings and Coordination
- 2 Field prep, equip., maps
- 3 Field Assessment
- 4 Plan Preparation, calculations
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task						
				1	2	3	4	5	6	7
Biologist I	\$75.00	20	\$1,500			20				
Environmental Specialist I	\$75.00	2	\$150	1		1				
Designer II	\$85.00	41	\$3,485		5	4	32			
Landscape Architect III	\$145.00	2	\$290	2						
Senior Project Manager	\$175.00	12	\$2,100	5	2		5			
Senior Geospatial Analyst II	\$130.00	0	\$0							
	\$0.00	2	\$0		2					
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
<b>TOTAL COST - LABOR</b>		79	\$7,525	\$1,240	\$775	\$1,915	\$3,595	\$0	\$0	\$0
<b>Direct Expenses</b>										
Item	\$/Unit	Unit								
GPS Garmin w/ Camera/ Smart Phone/ Tablet	\$15.00	day	\$30			2				
Printer/Copier - Black & White 11 x 17	\$0.13	copy	\$1		5					
Plotter - Line Color 24 x 36	\$12.00	sheet	\$420			10	25			
SPOT Tracker	\$10.00	day	\$20			2				
<b>Direct Expense Subtotal</b>			\$471	\$0	\$1	\$170	\$300	\$0	\$0	\$0
G & A Fee	0.15									
<b>TOTAL COST - DIRECT EXPENSES</b>			\$471	\$0	\$1	\$170	\$300	\$0	\$0	\$0
<b>Subcontract</b>										
Sub 1			\$0							
Sub 2			\$0							
Sub 3			\$0							
<b>Subcontract Subtotal</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$7,996	\$1,240	\$776	\$2,085	\$3,895	\$0	\$0	\$0

## TASK SUMMARY

	Task Name	Task Manager	Labor	Direct Expenses	Subcontractors	Task Total
Task 1:	5.1 NPPP	RWS	13,820	896	0	14,716
Task 2:	5.3 Riparian Assessment	0	7,525	471	0	7,996
Task 3:	0	0	0	0	0	0
Task 4:	0	0	0	0	0	0
Task 5:	0	0	0	0	0	0
Task 6:	0	0	0	0	0	0
Task 7:	0	0	0	0	0	0
Task 8:	0	0	0	0	0	0
Task 9:	0	0	0	0	0	0
Task 10:	0	0	0	0	0	0
Task 11:	0	0	0	0	0	0
Task 12:	0	0	0	0	0	0
Task 13:	0	0	0	0	0	0
Task 14:	0	0	0	0	0	0
Task 15:	0	0	0	0	0	0
<b>PROJEC T</b>			<b>21,345</b>	<b>1,367</b>	<b>0</b>	<b>22,712</b>



Project Name: Pima County Fairgrounds Sewer Lift Station and Force Main  
 Task: Survey  
 Client:  
 Project Manager:  
 Task Manager:  
 Code: Nov 2017

Sub Task ID

- 1 Task 2 - field location of SUE levels "A" and "B"
- 2 Task 3.1 - targets, control
- 3 Task 3.2.1 - research for easement,ROW acquisition
- 4 Task 3.2.2 - legal descriptions, researched ROW strip maps
- 5
- 6
- 7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task						
				1	2	3	4	5	6	7
Senior Project Manager	\$175.00	14	\$2,450	6	8					
Senior Surveyor I	\$115.00	174	\$20,010	40	84	40	10			
Senior Surveyor I	\$115.00	146	\$16,790	50	96					
Surveyor I	\$75.00	146	\$10,950	50	96					
Design Manager	\$160.00	36	\$5,760	30			6			
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
	\$0.00	0	\$0							
<b>TOTAL COST - LABOR</b>		516	\$55,960	\$19,950	\$29,300	\$4,600	\$2,110	\$0	\$0	\$0
<b>Direct Expenses</b>										
Item	\$/Unit	Unit								
Direct Expense Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - DIRECT EXPENSES</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Subcontract</b>										
Sub 1			\$0							
Sub 2			\$0							
Sub 3			\$0							
Subcontract Subtotal			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G & A Fee	0.15		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COST - SUBCONTRACT</b>			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>TOTAL COSTS</b>			\$55,960	\$19,950	\$29,300	\$4,600	\$2,110	\$0	\$0	\$0

## TASK SUMMARY

	Task Name	Task Manager	Labor	Direct Expenses	Subcontractors	Task Total
Task 1:	Survey	0	55,960	0	0	55,960
Task 2:	0	0	0	0	0	0
Task 3:	0	0	0	0	0	0
Task 4:	0	0	0	0	0	0
Task 5:	0	0	0	0	0	0
Task 6:	0	0	0	0	0	0
Task 7:	0	0	0	0	0	0
Task 8:	0	0	0	0	0	0
Task 9:	0	0	0	0	0	0
Task 10:	0	0	0	0	0	0
Task 11:	0	0	0	0	0	0
Task 12:	0	0	0	0	0	0
Task 13:	0	0	0	0	0	0
Task 14:	0	0	0	0	0	0
Task 15:	0	0	0	0	0	0
PROJEC T			55,960	0	0	55,960



June 29, 2018  
File Number: 180089

Dibble Engineering  
177 North Church Avenue, Suite 711  
Tucson, AZ 85701

Attention: Mr. Keith Faucett, PE

Re: Proposal for Geotechnical Subsurface Exploration  
Pima County RWRD Fairground Sewer  
Tucson, Arizona

ATEK Engineering Consultants, LLC (ATEK) is pleased to present this proposal to perform a geotechnical subsurface exploration at the above referenced site. This proposal is based on a scope of work provided via email on June 21, 2018 and sewer profile drawings by RBF Consultants, dated June 2010.

ATEK is committed to providing a high level of service to its clients, commensurate with their wants and needs. If a portion of this proposal does not meet your needs, or if those needs have changed, ATEK will consider appropriate modifications, subject to the standards of care to which we adhere as professionals. We look forward to the opportunity to serve you.

**PROJECT UNDERSTANDING**

The proposed project consists of design of a new sewer line of approximately 16,130 linear feet and lift station between approximately the Pima County Fairgrounds and the Interstate 10 and Rita Road exit within Pima County, Arizona. The improvements will include the use of PVC, HDPE and ductile iron pipe along the alignment. The project will also include approximately 37 manholes and will require jack and bore installation at potentially two locations. Additionally, a lift station will be designed at the fairgrounds location.

**COST AND SCHEDULE**

ATEK proposes to perform the geotechnical investigation as detailed below on a lump sum basis as tabulated below. This fee also assumes that one (1) color PDF report will be provided. Extra ‘hard copy’ reports will be provided if requested prior to the initial report printing.

Item	Cost
Geotechnical Subsurface Exploration	\$ 18,251.00

Work will be scheduled upon receipt of your authorization to proceed. We understand that the Client will provide access to the property. Once the Client has provided ATEK with access to the site, we estimate the geotechnical report will be complete within fifteen (15) working days following receipt of your authorization to proceed. If necessary ATEK can adjust the geotechnical exploration schedule to accommodate project requirements.

**SCOPE OF SERVICES**

A geotechnical subsurface exploration is required to develop information relative to existing site soil. ATEK proposes to provide the following scope of services:

- Perform a review of pertinent documents provided by the client regarding geotechnical information associated with the property;

- Perform a geotechnical site reconnaissance;
- Review available construction information for the proposed structure as it relates to the geotechnical characteristics of the site;

#### **Sewer Line**

- Explore the existing subsurface conditions by drilling 21 soil boring: ranging in depth from 15 to 30 feet below existing ground to determine information relative to subsurface soil conditions. Representative soil samples will be obtained between the surface and a depth of 2.5 feet, at 5 feet, and at 5 feet intervals thereafter using standard sampling procedures. Some the boring will several for dual purpose such as at the lift station and at the Jack and Bore locations. The borings are spaced approximately 750 feet apart although due to the location of existing utilities and Lift Station and Jack and Bore location some spacing may vary.
- Explore the existing near surface conditions by advancing three (3) soil test pits by hand to a depth of approximately three (3) feet to determine information relative to scour. Representative soil samples will be obtained using standard sampling procedures.

#### **ASSUMPTIONS**

Our proposed Scope of Work and cost estimate are based on the following assumptions:

- ATEK will obtain a 'no cost' Right-of-Way Permit from Pima County and City of Tucson for unrestricted access to all locations for borings.
- Borings for the pipeline will be advanced along the roadway shoulder and vacant property and traffic control will consist of a standard work truck with flashing lights (i.e. a formal traffic control plan and shadow vehicles will not be required).
- Locations of the borings will be checked by Arizona Blue Stake. The client will provide any other possible utility or underground facility locations. Damage to unknown buried facilities, not detected through "Blue Stake" or review of available utility maps provided to us, will not be the responsibility of ATEK.
- The Scope of Work included within our fee estimate does not include any services in connection with the discovery of potential contamination during our drilling and sampling operations. If such material is suspected, we will notify you immediately for direction before proceeding on any out-of-scope services.
- All borings will be backfilled with the excavated materials.
- This proposal assumes that the site is accessible with a truck-mounted drill rig, under its own power, without the need for towing or pushing.
- This proposal includes drilling to a maximum depth of 30 feet below existing site grade, if deeper borings are required we will need to revise our Scope of Work and fee estimate.
- Any service or cost not specifically included in this proposal is not included in the Scope of Work and associated fee. Costs generated from any work requested by the client that is outside the above Scope of Work will be charged to the client.

- The above estimate applies to work performed within 60 days. After that time, we should review the proposal.

All borings will be drilled to the proposed depths or refusal on rock or very dense or strongly cemented soils, whichever occurs first. The borings will be advanced with a truck-mounted hollow-stem auger drill rig (CME-55 or equivalent). ATEK will maintain a log of the soils encountered and obtain samples for visual observation, classification and laboratory testing. The depth to groundwater will be measured, if encountered. All borings will be backfilled with the excavated materials.

At the completion of the fieldwork, representative samples will be sealed in plastic bags or brass and plastic containers and transported to our laboratory. The samples will then be classified in general accordance with the Unified Soil Classification System (USCS) and reviewed by an experienced geotechnical engineer. Field boring logs will be prepared presenting a description of the soils encountered by the borings. Laboratory testing completed for this project will include natural moisture contents, percent passing a No. 200 sieve, Atterberg limits, one dimensional consolidation tests, undisturbed ring densities, swell tests, sulfate contents, chloride contents, expansion index (as required), redox, sulfates, pH and resistivity tests. All tests will be performed in general accordance with applicable ASTM procedures.

Based upon our analyses, a geotechnical engineering report will be prepared and issued. The following items are a summary of the items listed on the previously referenced scope of work and will be included in the report:

- A brief review of our field and laboratory procedures and all test results, including boring logs;
- A discussion of the general subsurface conditions including soil and groundwater conditions;
- A review of the proposed construction design conditions;
- Any unsatisfactory soil conditions (if applicable) and recommended remedial measures;
- A general evaluation of possible alternate foundation systems (if applicable), and a discussion of the recommended foundation system;
- Design criteria related to the recommended foundation system including allowable bearing pressure, minimum sizes, predicted performance and lateral earth pressures;
- Recommended construction procedures and quality control measures related to foundations and earthwork;
- Recommended pavement sections for the on-site pavements.

#### **AUTHORIZATION**

The work will be conducted in accordance with the attached General Conditions. Your signature on this proposal indicates your acceptance of these Conditions and authorization for ATEK to proceed with the Scope of Work outlined herein. If this proposal is acceptable, we can begin work as soon as we receive an ORIGINAL signature in the “acceptance” field.

If there is a need for any change in the scope of services or schedule described in the proposal, please call us immediately. Changes may require revision of the proposed fee, which will be communicated to you upon assessment of the requested changes effect on the fee.

**LIMITATIONS**

ATEK will perform its services in a manner consistent with the standards of care and skill ordinarily exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the services will be performed. No warranty or guarantee, express or implied, is provided as part of the services offered by this proposal. This proposal neither makes nor intends a warrantee or guarantee, express or implied, nor does it create a fiduciary responsibility to Client by Consultant.

**TERMS AND CONDITIONS**

All terms and conditions indicated in this proposal and in the attached General Conditions will be considered by both parties to be in effect from the effective date of the signed proposal through completion of the project. The proposal will remain in effect for 60 days from its date, and thereafter shall be null and void unless it has been signed for the work proposed.

We sincerely appreciate the opportunity to be of service and look forward to working with you on this project.

Sincerely,  
ATEK Engineering Consultants, LLC.



James P Floyd, PE  
Project Manager



Armando Ortega, PE  
Principal Geotechnical Engineer

Enclosure: General Conditions 2018

Client agrees to the Scope of Work described in this Proposal and Cost Estimate and the General Conditions attached and incorporated herein.

By: \_\_\_\_\_  
Dibble Engineering

Title: \_\_\_\_\_

Date: \_\_\_\_\_



**FEE PROPOSAL - Phase 1  
SUBCONSULTANT  
COST PROPOSAL SUMMARY**

SUBCONSULTANT: ATEK Engineering Consultants, LLC.

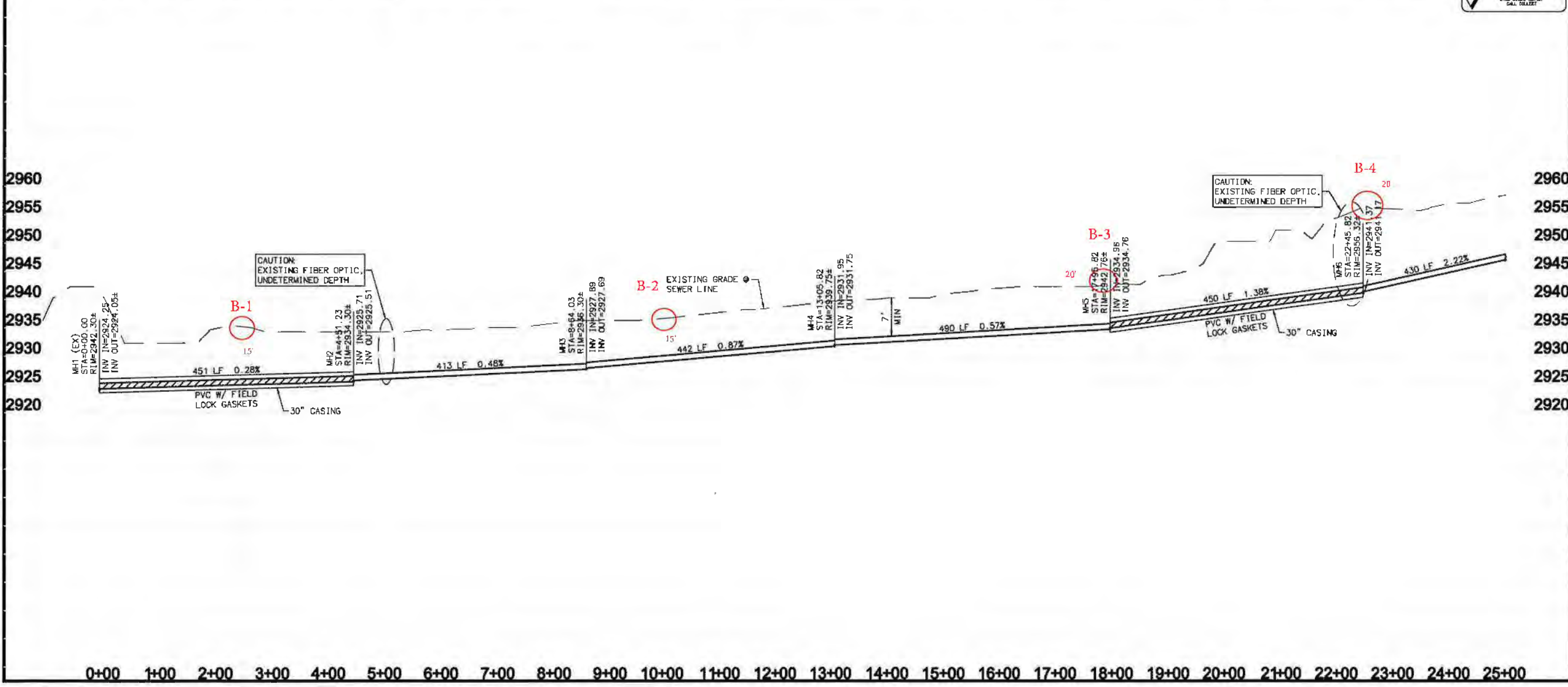
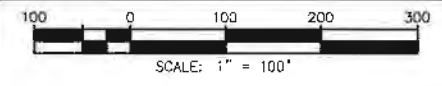
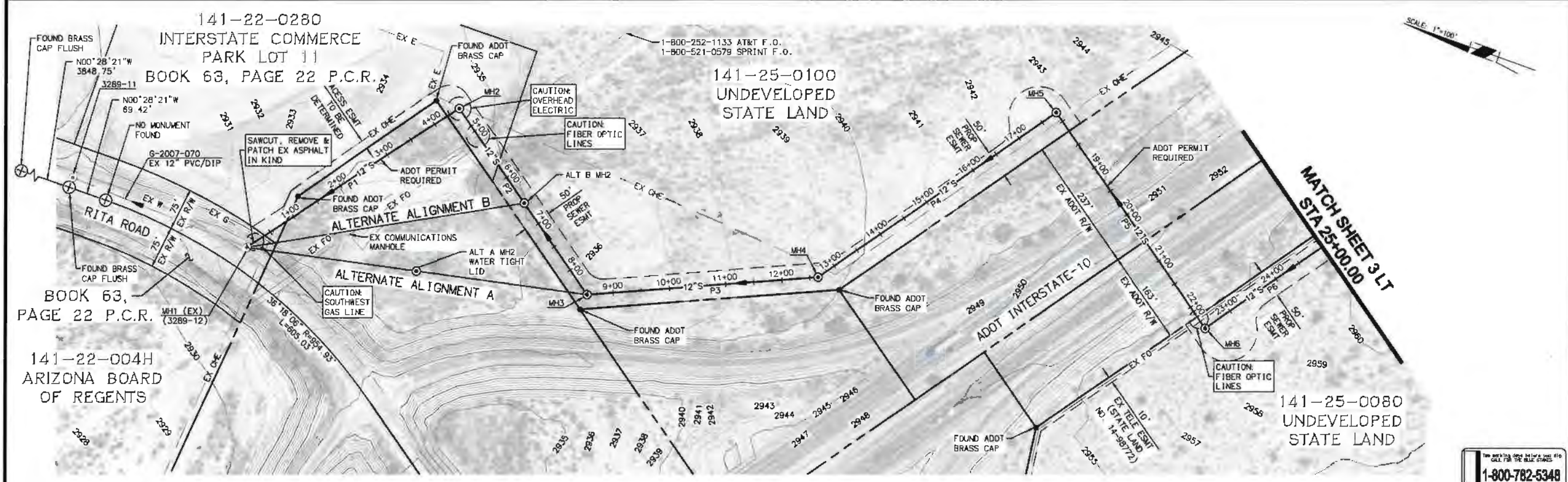
CONTRACT NO.: TBA

PROJECT NAME: Pima County RWRD Fairgrounds Sewer

DIRECT LABOR for TASK			
Classifications	Man-hours	Hourly Rates	Labor
Senior Project Engineer/Manager	12	\$ 125.00	\$ 1,500.00
Project Engineer	16	\$ 105.00	\$ 1,680.00
Staff Engineer	40	\$ 95.00	\$ 3,800.00
Administrative	4	\$ 47.00	\$ 188.00
TOTAL	72		
Sub consultant's Total Direct Labor for Task(s)			\$ 7,168.00

DIRECT AND OUTSIDE EXPENSES for TASK(S)			
DESCRIPTION			EXPENSE AMOUNT
Mileage	75	\$ 0.52	\$ 39.00
Outside Services - Track hoe		\$ 110.00	\$ -
Outside Services - Water Truck		\$ 70.00	\$ -
Outside Services - Traffic Control		\$ 110.00	\$ -
Outside Services - Dust Permit		\$ 700.00	\$ -
Outside Services - Drill Rig	30	\$ 165.00	\$ 4,950.00
Nuclear Density Equipment		\$ 30.00	\$ -
Hydrometer Analysis, Assumed Specific Gravity		\$ 175.00	\$ -
Moisture Content	21	\$ 15.00	\$ 315.00
Full Sieve Analysis, Coarse and Fine, washed	23	\$ 65.00	\$ 1,495.00
Plasticity Index (dry)	23	\$ 58.00	\$ 1,334.00
Consolidation	1	\$ 185.00	\$ 185.00
Undisturbed Moisture/Unit Weight	10	\$ 21.00	\$ 210.00
Undisturbed Swell	1	\$ 111.00	\$ 111.00
pH and Resistivity of Soils and Aggregate	3	\$ 150.00	\$ 450.00
Sulfates/Chlorides/Redox/Sulfides (ASTM)	5	\$ 262.00	\$ 1,310.00
Moisture-Density Relationship (Proctor)	3	\$ 108.00	\$ 324.00
Sulfates and Chlorides	10	\$ 36.00	\$ 360.00
Sub Consultant's Total of Direct and Outside Expenses			\$ 11,083.00
Sub Consultant's Total Labor			\$ 7,168.00
Sub Consultant's PROPOSED FEE			\$ 18,251.00





LINE DATA TABLE

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P2	N35°49'45"E	412.71'
P3	N23°57'00"W	441.79'
P4	N54°10'15"W	490.00'
P5	N35°49'45"E	450.00'
P6	N54°10'15"W	430.12'

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NOT FOR CONSTRUCTION**

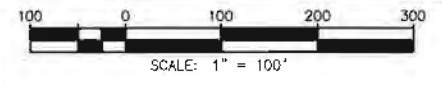
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<b>REVISIONS</b>				

**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

**RBF** PLANNING • DESIGN • CONSTRUCTION  
 3031 WEST WIA ROAD, SUITE 111  
 TUCSON, ARIZONA 85741 2102  
 520.797.3335 • FAX 520.797.3238 • WWW.RBF.COM

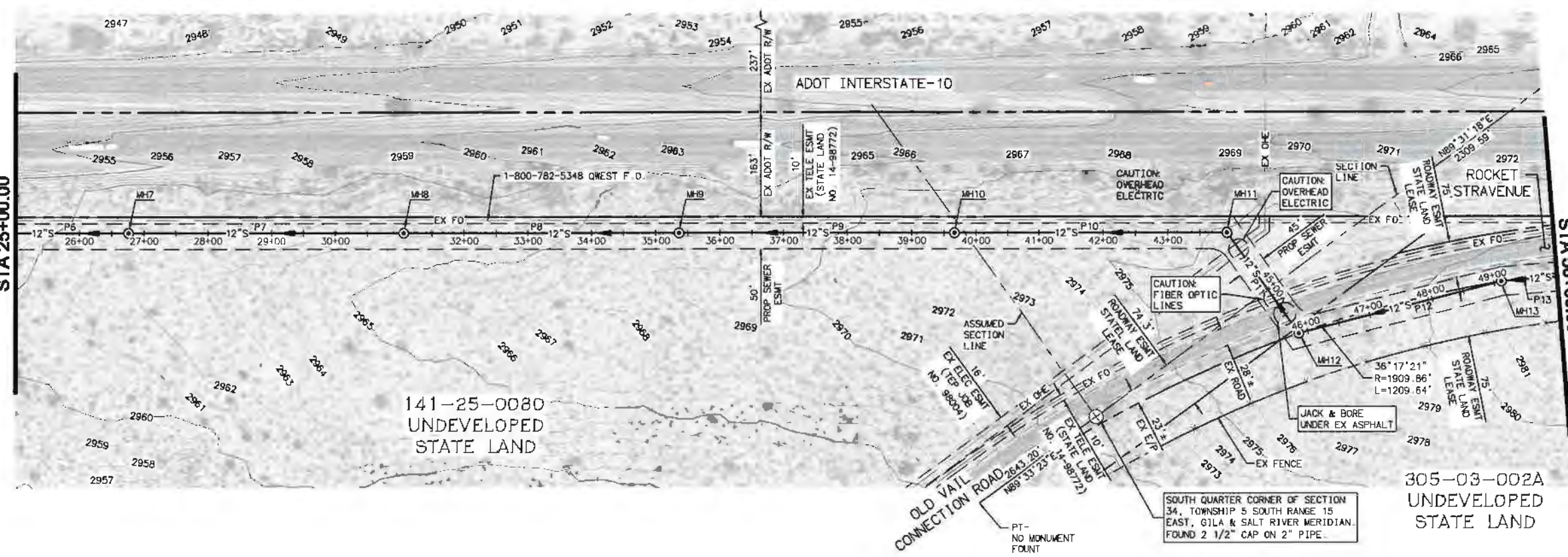
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PROJECT NUMBER 45103743			OF 8 SHEET





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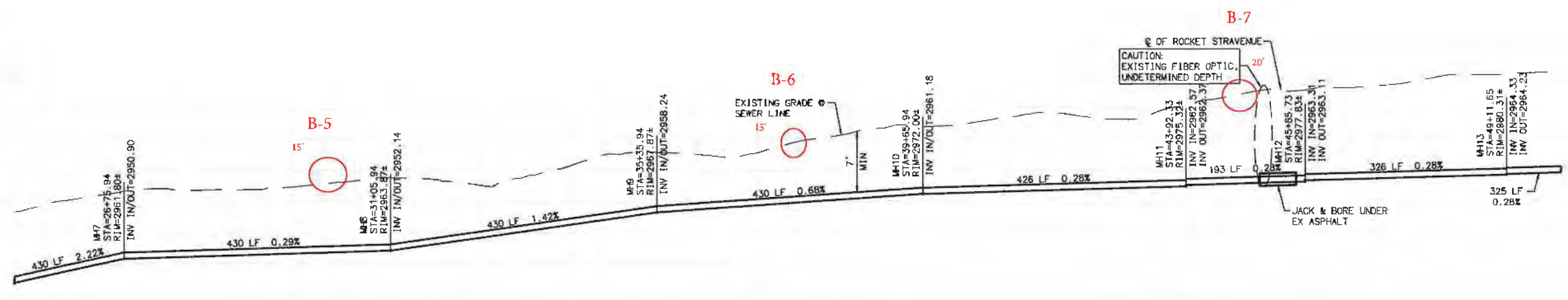
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1-800-782-5348  
Blue State Center  
GALLI GALLERY

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LINE DATA TABLE		
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P8	N54°10'15"W	430.00'
P9	N54°10'15"W	430.00'
P10	N54°10'15"W	426.39'
P12	N68°31'38"W	325.92'
P13	N58°45'23"W	325.00'

**PRELIMINARY  
NOT FOR CONSTRUCTION**

NO.	BY	DESCRIPTION	APP'D	DATE
<b>REVISIONS</b>				

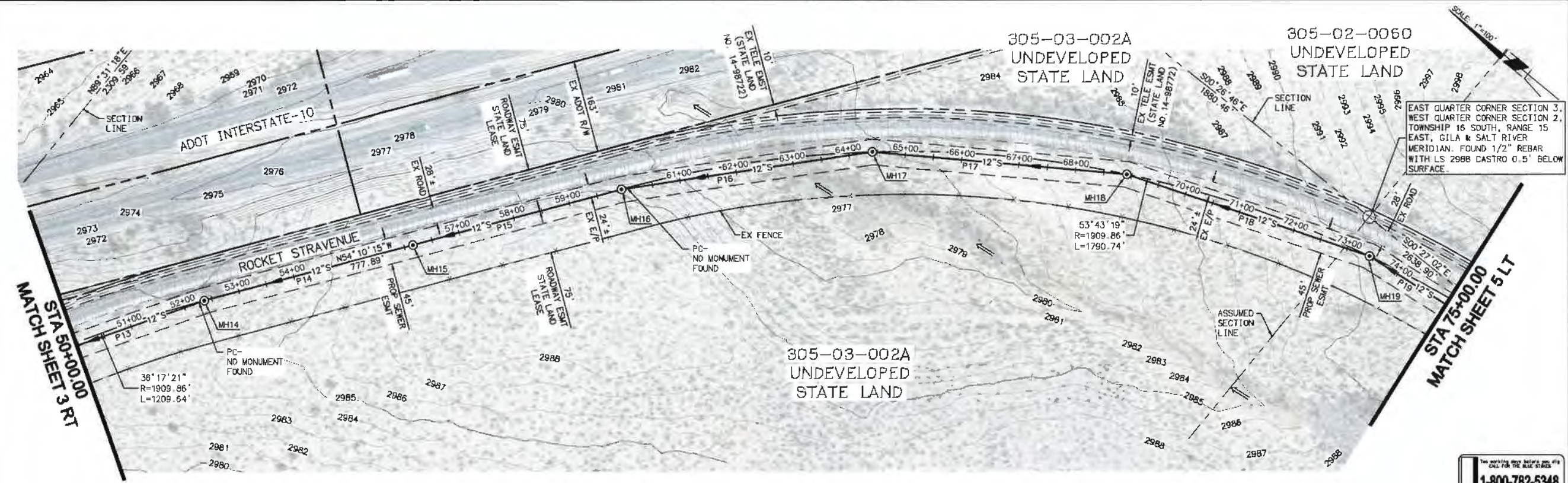
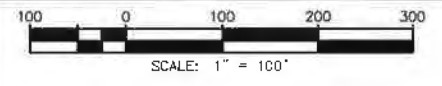
**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

**RBF** PLANNING • DESIGN • CONSTRUCTION  
3011 WEST NA ROAD, SUITE 211  
TUCSON, ARIZONA 85746-2101  
520.797.5225 • FAX 520.797.5226 • www.RBF.com

LAYOUT MRC	DRAFTED DLP	CHECKED JRC
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PLAN DATE JUN/2010	SHEET NO. <b>3</b> OF 8 SHEET	
PROJECT NUMBER 45103743		

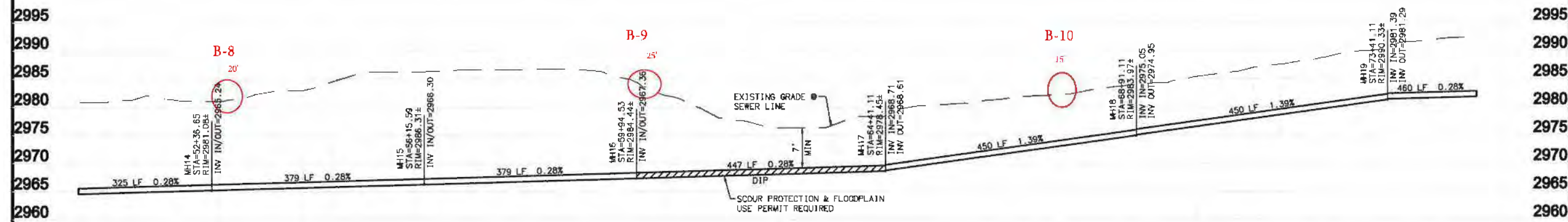
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EAST QUARTER CORNER SECTION 3,  
WEST QUARTER CORNER SECTION 2,  
TOWNSHIP 16 SOUTH, RANGE 15  
EAST, GILA & SALT RIVER  
MERIDIAN, FOUND 1/2" REBAR  
WITH LS 2988 CASTRO 0.5" BELOW  
SURFACE.

1-800-762-5348  
Blue State Center  
CALL COLLECT



LINE DATA TABLE		
NO.	BEARING/DELTA	LENGTH
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P15	N54°10'15"W	378.94'
P16	N47°45'13"W	446.57'
P17	N34°16'38"W	450.00'
P18	N20°44'45"W	450.00'
P19	N07°04'04"W	459.93'

**PRELIMINARY  
NOT FOR CONSTRUCTION**

NO.	BY	DESCRIPTION	APP'D	DATE
<b>REVISIONS</b>				

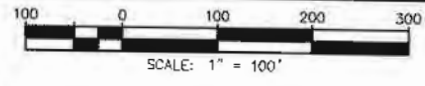
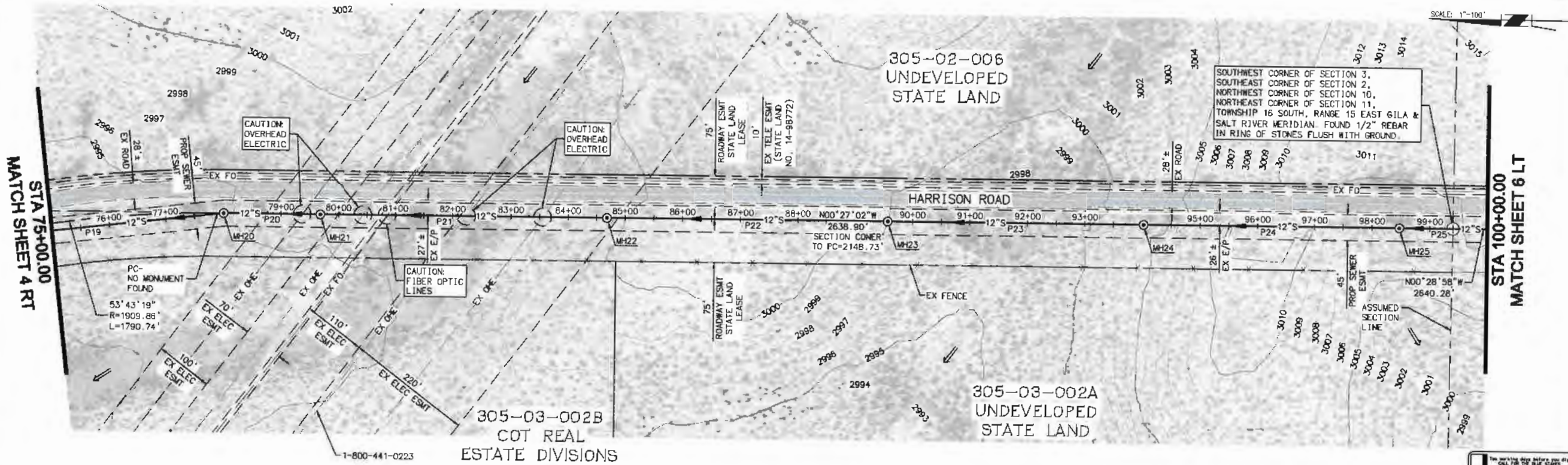
**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

**RBF** PLANNING • DESIGN • CONSTRUCTION  
301 WEST NA ROAD, SUITE 10  
TUCSON, ARIZONA 85741-2602  
520.797.3225 • FAX 520.797.3226 • www.RBF.com

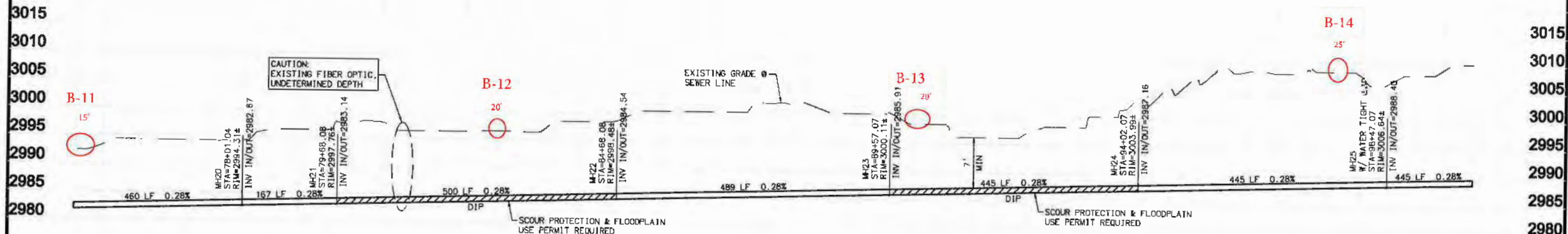
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PLAN DATE JUN/2010 PROJECT NUMBER 45103743			

50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00





1-800-782-5348  
Blue State Center  
SALE COLLECT



LINE DATA TABLE

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P22	N00°26'56"W	488.99'
P23	N00°26'56"W	445.00'
P24	N00°26'56"W	445.00'
P25	N00°26'33"W	445.00'

**PRELIMINARY  
NOT FOR CONSTRUCTION**

NO.	BY	DESCRIPTION	APP'D	DATE
<b>REVISIONS</b>				

**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

**RBF** CONSULTING  
PLANNING ■ DESIGN ■ CONSTRUCTION

301 WEST MA ROAD, SUITE 11  
TUCSON, ARIZONA 85741-2101  
520.797.3235 • FAX 520.797.3236 • www.RBF.com

LAYOUT: MRC  
DRAFTED: DLP  
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1"= 10' VERTICAL

PLAN DATE: JUN/2010  
PROJECT NUMBER: 45103743

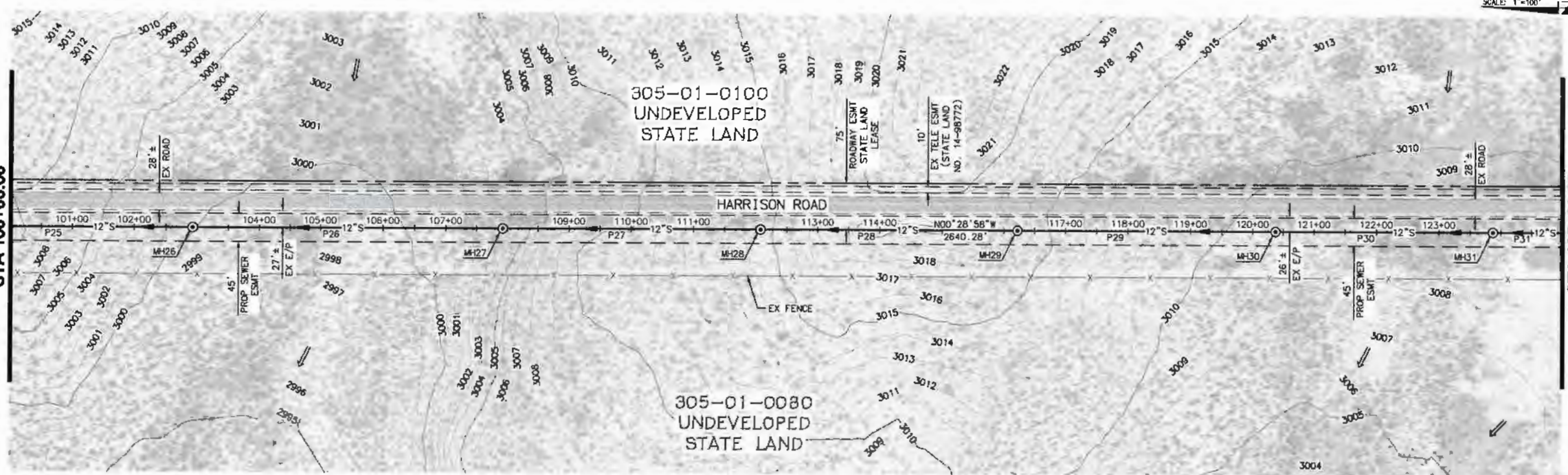
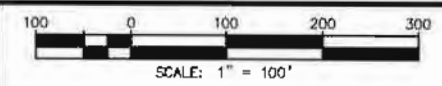
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OF 9 SHEETS

75+00 76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00 94+00 95+00 96+00 97+00 98+00 99+00 100+00



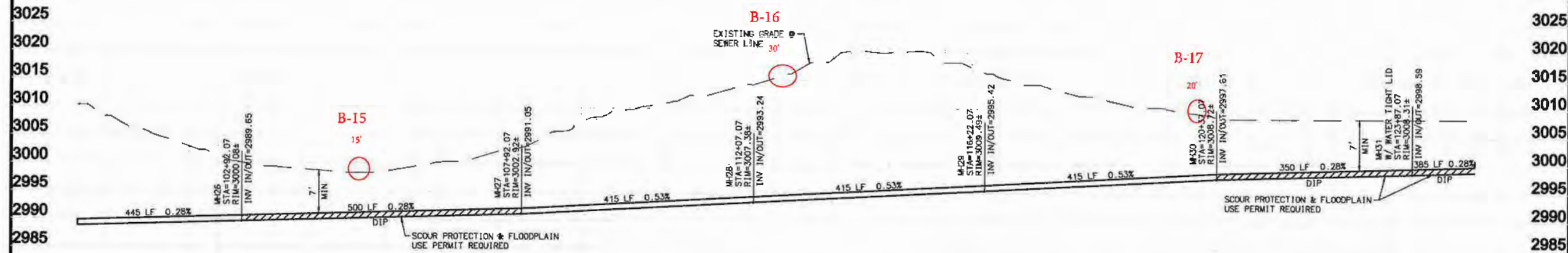
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STA 125+00.00  
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CALL FOR THE BLUE PRINTS  
1-800-782-5348  
ELECTRICITY  
DATE: 06/10/10



LINE DATA TABLE

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P28	N00°26'58"W	415.00'
P29	N00°26'58"W	415.00'
P30	N00°26'58"W	350.00'
P31	N00°35'50"W	385.00'

**PRELIMINARY  
NOT FOR CONSTRUCTION**

NO.	BY	DESCRIPTION	APP'D	DATE
REVISIONS				

**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

PLANNING ■ DESIGN ■ CONSTRUCTION  
**RBF CONSULTING**  
3011 WEST INA ROAD, SUITE 10  
TUCSON, ARIZONA 85741-2101  
520.797.3235 • FAX 520.797.3236 • www.RBFcon.com

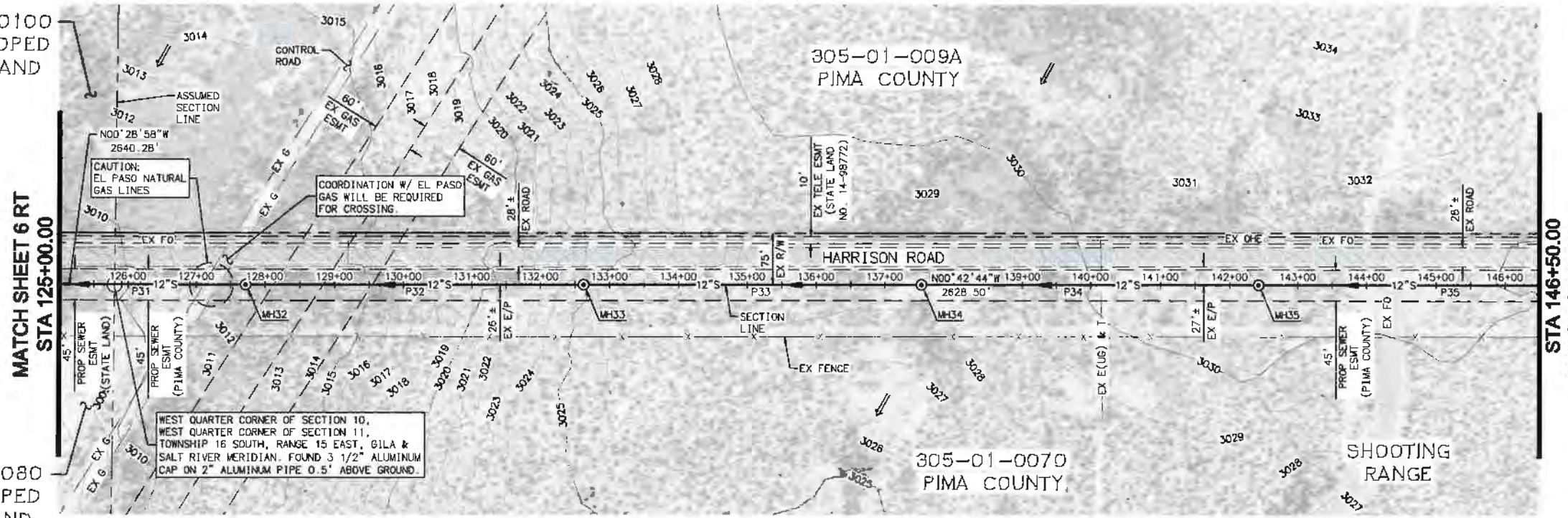
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PLAN DATE JUN/2010 PROJECT NUMBER 45103743			

100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00

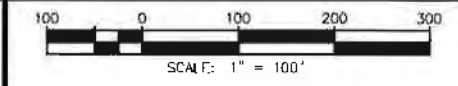


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STATE LAND

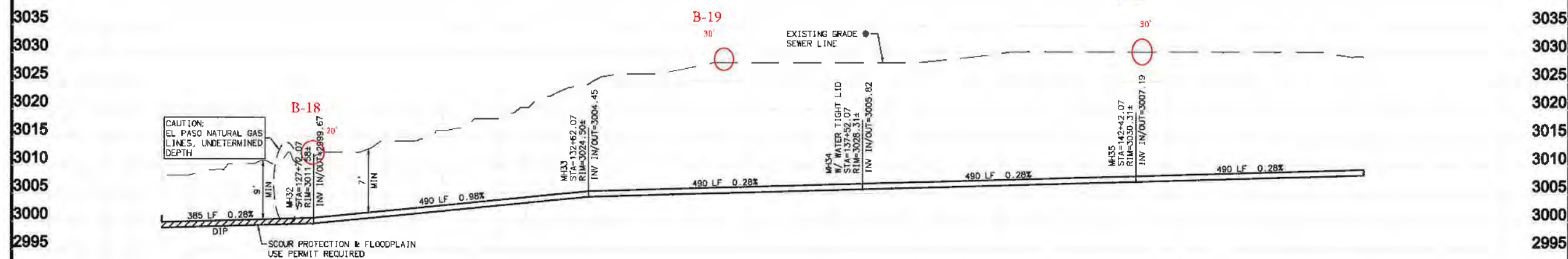
305-01-0080  
UNDEVELOPED  
STATE LAND



SCALE: 1"=100'



1-800-782-5348  
CALL COLLECT



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P33	N00°42'44"W	490.00'
P34	N00°42'44"W	490.00'
P35	N00°42'44"W	490.00'

**PRELIMINARY  
NOT FOR CONSTRUCTION**

NO.	BY	DESCRIPTION	APP'D	DATE
<b>REVISIONS</b>				

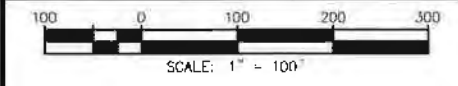
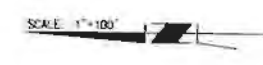
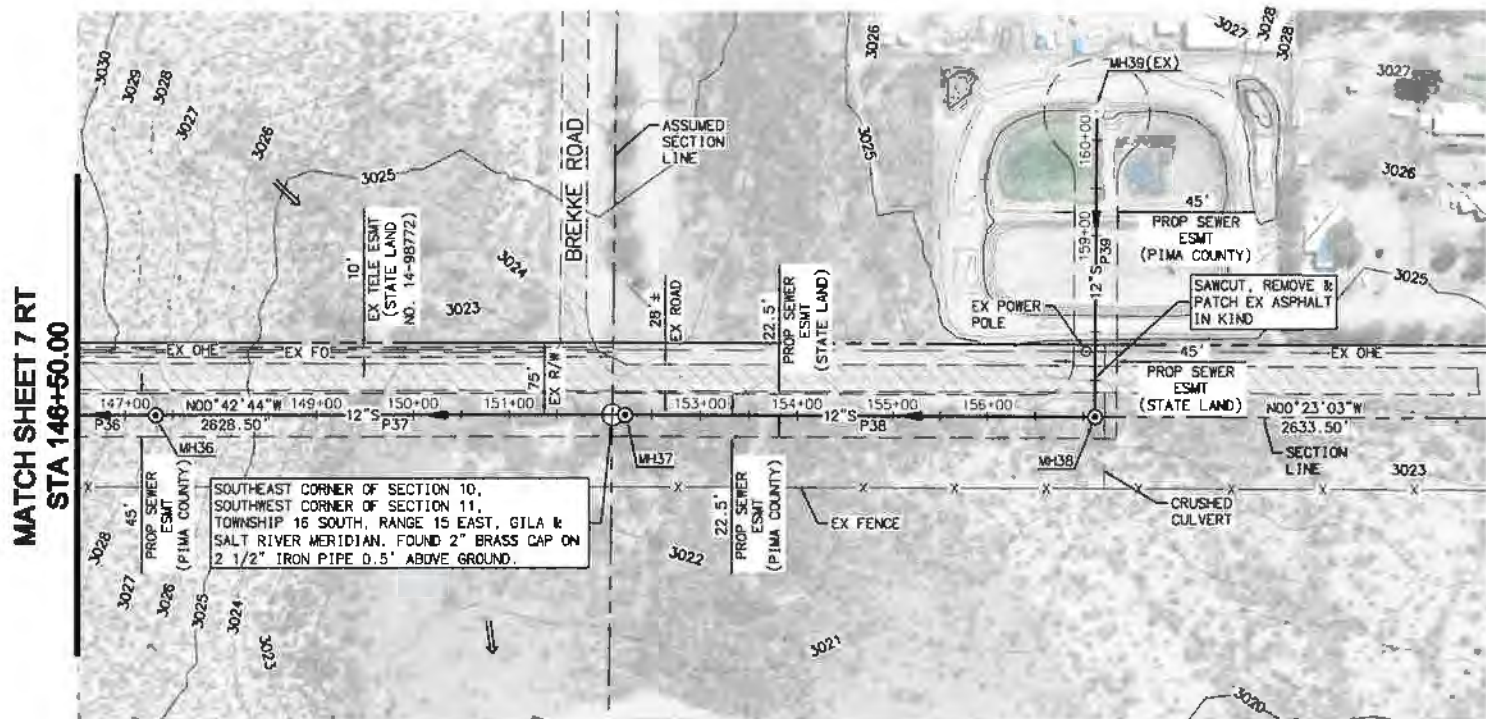
**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

**RBF** PLANNING • DESIGN • CONSTRUCTION  
3011 WEST INA ROAD, SUITE 10  
TUCSON, ARIZONA 85741-2101  
520.797.3235 • FAX 520.797.3236 • www.RBF.com

LAYOUT MRC	DRAFTED DLP	CHECKED JRC
DRAWING SCALE(S) 1"=100' HORIZONTAL 1"=10' VERTICAL		
PLAN DATE <b>JUN/2010</b>		SHEET NO. <b>7</b>
PROJECT NUMBER <b>45103743</b>		OF B SHEET

125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00

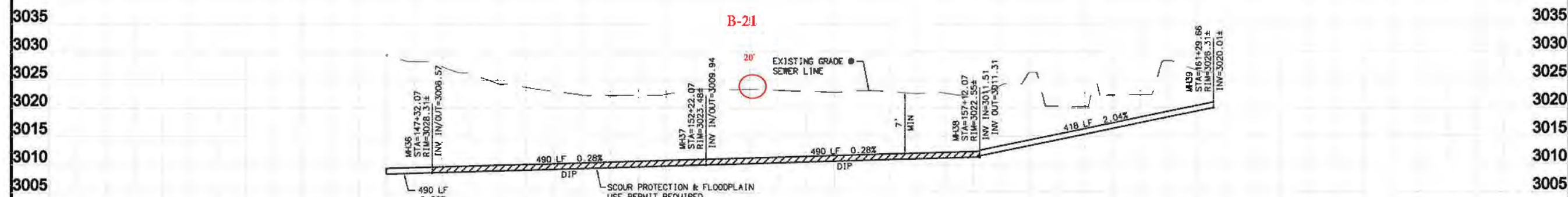




MATCH SHEET 7 RT  
STA 148+50.00

SOUTHEAST CORNER OF SECTION 10,  
SOUTHWEST CORNER OF SECTION 11,  
TOWNSHIP 16 SOUTH, RANGE 15 EAST, G1LA &  
SALT RIVER MERIDIAN. FOUND 2" BRASS CAP ON  
2 1/2" IRON PIPE 0.5' ABOVE GROUND.

See working sheet before job #14  
CALL FOR BLUE PRINTS  
**1-800-782-5348**  
Show State Dealer  
CALL COLLECT



LINE DATA TABLE		
NO.	BEARING/DELTA	LENGTH
P36	N00°42'44"W	490.00'
P37	N00°42'12"W	490.00'
P38	N00°23'03"W	490.00'
P39	N89°42'33"E	317.60'

**PRELIMINARY  
NOT FOR CONSTRUCTION**

NO.	BY	DESCRIPTION	APP'D	DATE
REVISIONS				

**FAIRGROUNDS WASTEWATER ALIGNMENT STUDY  
ALIGNMENT EXHIBIT**

PLANNING ■ DESIGN ■ CONSTRUCTION  
**RBF CONSULTING**  
301 WEST INA ROAD, SUITE 10  
TUCSON, ARIZONA 85741-2900  
520.797.3235 • FAX 520.797.3236 • WWW.RBF.COM

	LAYOUT	DRAFTED	CHECKED
	MRC	DLP	JRC
DRAWING SCALE(S) 1"=100' HORIZONTAL 1"= 10' VERTICAL			
PLAN DATE <b>JUN/2010</b>			SHEET NO. <b>8</b>
PROJECT NUMBER <b>45103743</b>			OF 8 SHEET

147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00



June 28, 2018

Keith Faucett, PE  
Dibble Engineering  
177 N Church Ave, Suite 711  
Tucson, Arizona 85701

RE: **Pima Co RWRD Fairgrounds Sewer Project - Drainage Engineering Proposal**  
**Pima County Project No. 3FGS17**

Dear Keith:

CMG Drainage Engineering (CMG) appreciates the opportunity to submit this RWRD Fairgrounds Sewer Project drainage engineering proposal. Our proposed scope of work and fee estimate are shown below.

**WORK TASKS**

**TASK 1.1.0 – MEETINGS**

- a. Attend project kick-off meeting
- b. Attend 2 plan review meetings
- c. Attend 1 internal meeting
- d. Attend 1 PCRFCFCD meeting

**TASK 6 – WASH CROSSING AND PROXIMITY ANALYSIS REPORT**

- a. CMG will provide an analysis and report on the design requirements that are applicable to the crossings closely paralleling of washes by the alignment of the sewer to be designed and constructed. The report shall establish technical design criteria for each of the wash crossing or paralleling situations. Design criteria will be presented in a manner to be easily used to facilitate the design of the project where it crosses or parallels washes. Information for this report shall be in accordance with the requirements as stated in Attachment C – “Wash Crossings and Proximity Requirements.”
- b. Deliverable - 6.1
  - Analysis & Report for Wash Crossing/Paralleling Criteria, six (6) printed copies and one (1) digital copy to Dibble Engineering

**Task 7 - PERMITTING**

- a. CMG shall prepare a floodplain use permit application and obtain written approval for floodplain permitting from the Pima County Regional Flood Control District (PCRFCFCD).
- b. Deliverables - 7.1
  - PCRFCFCD Floodplain Use Permit

**TASK 8 – PRELIMINARY AND FINAL DESIGN REPORT**

- a. Provide a brief drainage design summary for 60% Draft and Final Design Report submittals

**TASK 9 – FINAL DESIGN**

- a. Provide drainage design information to Dibble Engineering for preparation of

- construction plans at 30%, 60% and 95% stages.
- b. Assist Dibble Engineering in responding to Pima Co review comments on plans relating to drainage and provide revised drainage designs for incorporation into new plans as needed.
  - c. Provide supporting information to update drainage design systems, materials and quantities as needed.

**TASK 12 – CONSTRUCTION ACTIVITIES**

- a. Submittal Review - During construction, CMG will assist Dibble Engineering to review up to 3 submittals from the CMAR as pertaining to the drainage design. The review process, submittals to disposition, shall take no more than five (5) working days.
- b. Requests for Information – CMG will work with Dibble Engineering to respond to up to 3 requests for information (RFI) needed to clarify the drainage design. Responses shall take no more than five (5) working days.

**Assumptions/Exclusions**

- Changes to alignment after the initial calculation are not accounted for in the hours estimate
- Development of scour mitigation alternatives are not included
- Exhibits at each scour location will not be provided; however, we can provide the cross-section linework used for hydraulics in CAD/GIS format.

Thank you for the opportunity to submit this proposal. Please contact me if you have questions or need additional information.

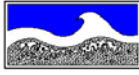
Sincerely,  
CMG Drainage Engineering, Inc.

*Jerald L. Curless*

Jerald L. Curless, PE  
Principal

Attachment: Fee Estimate Table





# CMG DRAINAGE ENGINEERING, INC.

3555 N. Mountain Ave. • P.O. Box 64880 (mail) • Tucson, AZ 85728 • phone: (520) 882-4244 • fax: (520) 888-1421

## FEE ESTIMATE

Project Name: Pima Co RWRD Fairgrounds Sewer Project (Pima Co Project No. 3FGS17)

Date: June 28, 2018

### **I. LABOR**

#### **TASK 1.1.0 – MEETINGS**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	0	\$ -
Project Manager	\$ 130.00	15	\$ 1,950.00
Sr Project Engineer / Hydrologist	\$ 115.00	0	\$ -
Project Engineer / Hydrologist	\$ 100.00	0	\$ -
Designer	\$ 87.00	0	\$ -
CADD Tech	\$ 75.00	0	\$ -
Clerical / Administration	\$ 55.00	0	\$ -
Sub-Total			\$ 1,950.00

#### **TASK 6 – WASH CROSSING AND PROXIMITY ANALYSIS REPORT**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	0	\$ -
Project Manager	\$ 130.00	80	\$ 10,400.00
Sr Project Engineer / Hydrologist	\$ 115.00	32	\$ 3,680.00
Project Engineer / Hydrologist	\$ 100.00	20	\$ 2,000.00
Designer	\$ 87.00	20	\$ 1,740.00
CADD Tech	\$ 75.00	32	\$ 2,400.00
Clerical / Administration	\$ 55.00	0	\$ -
Sub-Total			\$ 20,220.00

#### **Task 7 - PERMITTING**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	0	\$ -
Project Manager	\$ 130.00	10	\$ 1,300.00
Sr Project Engineer / Hydrologist	\$ 115.00	0	\$ -
Project Engineer / Hydrologist	\$ 100.00	4	\$ 400.00
Designer	\$ 87.00	0	\$ -
CADD Tech	\$ 75.00	4	\$ 300.00
Clerical / Administration	\$ 55.00	0	\$ -
Sub-Total			\$ 2,000.00

#### **TASK 8 – PRELIMINARY AND FINAL DESIGN REPORT**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	0	\$ -
Project Manager	\$ 130.00	8	\$ 1,040.00
Sr Project Engineer / Hydrologist	\$ 115.00	0	\$ -
Project Engineer / Hydrologist	\$ 100.00	0	\$ -
Designer	\$ 87.00	0	\$ -
CADD Tech	\$ 75.00	0	\$ -
Clerical / Administration	\$ 55.00	0	\$ -
Sub-Total			\$ 1,040.00

#### **TASK 9 – FINAL DESIGN**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	0	\$ -
Project Manager	\$ 130.00	16	\$ 2,080.00
Sr Project Engineer / Hydrologist	\$ 115.00	8	\$ 920.00
Project Engineer / Hydrologist	\$ 100.00	8	\$ 800.00
Designer	\$ 87.00	4	\$ 348.00
CADD Tech	\$ 75.00	4	\$ 300.00
Clerical / Administration	\$ 55.00	0	\$ -
Sub-Total			\$ 4,448.00

**TASK 12 – CONSTRUCTION ACTIVITIES**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	0	\$ -
Project Manager	\$ 130.00	12	\$ 1,560.00
Sr Project Engineer / Hydrologist	\$ 115.00	12	\$ 1,380.00
Project Engineer / Hydrologist	\$ 100.00	0	\$ -
Designer	\$ 87.00	0	\$ -
CADD Tech	\$ 75.00	6	\$ 450.00
Clerical / Administration	\$ 55.00	0	\$ -
Sub-Total			\$ 3,390.00
<b>TOTAL LABOR</b>			<b>\$ 33,048.00</b>

\* Includes overhead at (127)% of labor and profit at (10)% of labor and overhead.

**II. ESTIMATE OF DIRECT EXPENSES**

Wash Crossing & Proximity Analysis Report Reproduction (6 copies)	\$ 180.00
General large format scanning & plotting	\$ 100.00
General in-house photocopying	\$ 200.00
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 480.00</b>
<b>TOTAL NOT-TO-EXCEED PROJECT COST</b>	<b>\$ 33,528.00</b>



**Dibble Engineering**

**CMAR Pima County Connection of the Fairgrounds WRF to the Conveyance System (Solicitation No. 297870)**

July 11, 2018

**Community Outreach Services - Project Duration 7 Months**

**ESTIMATE OF MANHOURS**

<b>Task</b>	<b>Project Principal/Manager</b>	<b>Designer/Artist</b>	<b>Public Relations Coordinator</b>	<b>Clerical</b>	<b>Total Hours</b>	<b>Total Labor Costs</b>	<b>Direct Expenses</b>	<b>Total Costs</b>
	\$125	\$100	\$90	\$50				
1. Project Team Meetings - Assumes attendance at 2 meetings for the duration of the project.	8	0	2	0	10	\$ 1,180.00	\$ -	\$ 1,180.00
2. Stakeholder/Public Outreach - Assumes development and production of project collateral such as informational flier, project area maps; etc. as requested by client. Assumes no Open Houses or one-on-one meetings. Project information to Fairground and gas station stakeholders only.	12	8	4	2	26	\$ 2,760.00	\$ 170.00	\$ 2,930.00
3. Website - Assumes coordination of project specific webpage and update postings of project information.	12	4	4	2	22	\$ 2,360.00	\$ 400.00	\$ 2,760.00
4. Project Management - Additional coordination, communications and updates with Project Manager as needed.	8	0	4	0	12	\$ 1,360.00	\$ -	\$ 1,360.00
<b>TOTAL</b>	40	12	14	4	70	\$ 7,660.00	\$ 570.00	\$ 8,230.00



333 North Wilmot Road  
Suite 340  
Tucson, Arizona 85711  
(520) 561-6537

June 27, 2018

Keith Faucett, PE

**Dibble Engineering**

177 North Church Avenue, Suite 711  
Tucson, Arizona 85701

## Proposal: Pima County Fairgrounds WRF

AeroTech Mapping, Inc., (ATM) is pleased to present the following cost proposal for aerial photography and photogrammetric services for the above mentioned project.

### Photogrammetric Scope of Work

Our services will begin with the production of 1"=40', 1 foot topographical information, planimetric detail and digital orthophoto covering the approximate 200' x 16,070' corridor located in Tucson, Arizona. The aerial mapping limits are indicated in green on the attached layout.

The photography will consist of 3 flight lines and 31 exposures utilizing 4.5cm digital imagery. Accuracies of plus or minus 0.295' can be expected as it relates to the topographical information generated from the Digital Terrain Modeling (DTM) information. Accuracies of plus or minus 0.221' can be expected as it relates to the DTM information itself.

Project accuracy to conform to generally accepted photogrammetric standards established by the American Society of Photogrammetry and Remote Sensing (ASPRS).

### Aerial Ground Control

We understand that **Westland Resources, Inc.** will be responsible for the establishment of aerial ground control for the aerial survey. A total of 18 aerial targets are needed for this project, and a layout showing their locations is attached. The aerial target sizes should be in the order of 6" wide and measure 6' in total length.

### Deliverables

Deliverables will consist of a Flash Drive containing the DTM information used for the generation of topographical information, the contour information, planimetric detail, the .tfw image limit file, orthophoto TIFF image and .dwg image limits file which will allow for bringing the image into its proper coordinate position.

Final delivery of the digital information will be supplied in AutoCAD, or as directed by **Dibble Engineering**. The layering scheme will be standard Dibble Engineering layering.

ARIZONA

CALIFORNIA

NEVADA

NEW MEXICO

TEXAS

[www.atmlv.com](http://www.atmlv.com)