

**AGREEMENT SUMMARY
BROKEN ARROW MUNICIPAL AUTHORITY
OLD ADAMS CREEK LIFT STATION REHABILITATION
PROFESSIONAL CONSULTANT AGREEMENT**

1.0 Professional Consulting Firm:

- 1.1 Name: Tetra Tech, Inc.
- 1.2 Telephone No.: (918) 249-3909
- 1.3 Address: 7645 East 63rd Street, Suite 301 Tulsa, OK 74133

2.0 Project Name/Location: Old Adams Creek Lift Station Rehabilitation. 1800 N. 65th Street, Broken Arrow, OK.

3.0 Statement of Purpose: **Phase 1 – Study** will consist of a review and evaluation of flow projections; evaluation of the existing Old Adams Creek lift station hydraulic capacity, and functional aspects of the Old Adams Creek lift station; evaluation of alternatives for both short- and long-term improvements, and a report.

4.0 Agreement Summary:

- 4.1 Agreement Amount: Phase 1
Alternative Evaluation Study: \$125,000.00
Flow Monitoring: \$54,000.00
Total: **\$179,000.00**
- 4.2 Agreement Time: 275 calendar days from NTP
- 4.3 Estimated Construction Cost: NA – Study Only

5.0 Contract Documents and Priority: The Broken Arrow Municipal Authority (OWNER), represented by the City Manager, and the Professional Consulting firm, (CONSULTANT), identified in paragraph 1.0 agree to perform this AGREEMENT in strict accordance with the clauses, provisions, and the documents identified as below, all of which are made part of this Contract. In the event of conflict, these documents shall be interpreted in the following order:

- 5.1 AGREEMENT with corresponding Attachments;
- 5.2 Duly authorized Amendments to the AGREEMENT;
- 5.3 AGREEMENT Summary;
- 5.4 Specific project written correspondence mutually recognized; and
- 5.5 Specific project verbal instructions mutually recognized.

6.0 Agreement Approved by the Owner on: October 1st, 2019

**AGREEMENT
FOR
PROFESSIONAL CONSULTANT SERVICES
BETWEEN
BROKEN ARROW MUNICIPAL AUTHORITY
AND
TETRA TECH, INC.
FOR
OLD ADAMS CREEK LIFT STATION REHABILITATION**

This AGREEMENT, including Attachment A through Attachment E, between the Broken Arrow Municipal Authority (OWNER) and Tetra Tech, Inc., (CONSULTANT);

W I T N E S S E T H:

WHEREAS, OWNER intends to evaluate feasible design alternatives for the rehabilitation of the Old Adams Creek Lift station (PROJECT) for which OWNER has requested that CONSULTANT provide certain professional services as required and,

WHEREAS, CONSULTANT is qualified and capable to provide the professional services required;

NOW, therefore, in consideration of the promises contained in this AGREEMENT, OWNER and CONSULTANT agree as follows:

ARTICLE 1 - EFFECTIVE DATE

The effective date of this AGREEMENT shall be the 1st day of October 2019.

ARTICLE 2 - GOVERNING LAW

This AGREEMENT shall be governed by the laws of the State of Oklahoma and venue for any action concerning this Agreement shall be in the District Court of Tulsa County, Oklahoma.

ARTICLE 3 - SERVICES TO BE PERFORMED BY CONSULTANT

CONSULTANT shall perform the SERVICES described in Attachment A, Scope of Services. If construction phase services are included, the CONSULTANT shall be the OWNER'S agent and representative to observe, record and report with respect to all services that are required or authorized by the construction documents.

ARTICLE 4 – ORGANIZATION OF SUBMITAL DOCUMENTS

CONSULTANT shall prepare the documents as described in Attachment B as part of this Agreement.

ARTICLE 5 - COMPENSATION

OWNER shall pay CONSULTANT in accordance with Attachment C, Compensation.

ARTICLE 6 - OWNER'S RESPONSIBILITIES

OWNER shall be responsible for all matters described in Attachment D, OWNER'S Responsibilities and Special Conditions.

ARTICLE 7 - STANDARD OF CARE

CONSULTANT shall perform the SERVICES undertaken in a manner consistent with the prevailing accepted standard for similar services with respect to projects of comparable function and complexity, and with the applicable state laws, as well as the specific codes, regulations,

design criteria and construction specifications adopted by the owner and other governing policies published and generally considered authoritative by CONSULTANT'S profession that are in effect at the time of performance of these SERVICES. CONSULTANT is obligated to perform professional services in accordance with the foregoing standard with respect to the laws, codes, regulations, design criteria and construction specifications that are applicable pursuant to this AGREEMENT.

ARTICLE 8 - LIABILITY

8.1 General. Having considered the potential liabilities that may exist during the performance of these SERVICES, the benefits of the PROJECT, and CONSULTANT'S fee for the SERVICES; and in consideration of the promises contained in this AGREEMENT, OWNER and CONSULTANT agree to allocate and limit such liabilities in accordance with Article 10.

8.2 Indemnification. CONSULTANT agrees to indemnify, and hold harmless OWNER, and its agents and employees, from and against legal liability for all claims, losses, damages, and expenses to the extent such claims, losses, damages, or expenses are caused by the negligent or intentional acts, errors, or omissions of CONSULTANT, its agents or employees. In the event claims, losses, damages, or expenses are caused by the joint or concurrent negligence of OWNER and CONSULTANT, or their agents or employees, then they shall be borne by each party in proportion to each entity's own negligence.

8.3 Consequential Damages. OWNER shall not be liable to CONSULTANT for any special, indirect, or consequential damages resulting in any way from the performance of the SERVICES such as, but not limited to, loss of use, loss of revenue, or loss of anticipated profits.

8.4 Survival. Upon completion of all SERVICES, obligations, and duties provided for in this AGREEMENT, or if this AGREEMENT is terminated for any reason, the terms and conditions of this Article 8 shall survive.

ARTICLE 9 - INSURANCE

During the performance of the SERVICES under this AGREEMENT, CONSULTANT shall maintain the following insurance:

- (1) General Liability Insurance, with a combined single limit of \$1,000,000 for each occurrence and \$1,000,000 in the aggregate;
- (2) Automobile Liability Insurance, with a combined single limit of not less than \$1,000,000 for each person, not less than \$1,000,000 for each accident and not less than \$1,000,000 for property damage; and
- (3) Professional Liability Insurance, with a limit of \$1,000,000 annual aggregate.

CONSULTANT shall furnish OWNER certificates of insurance, which shall include a provision that such insurance shall not be canceled without at least thirty (30) days written notice to OWNER. All PROJECT sub-consultants shall be required to name OWNER and CONSULTANT as certificate holders on their certificate of insurance for the PROJECT, and shall be required to indemnify OWNER and CONSULTANT to the same extent. CONSULTANT shall be held responsible to submit certificates of insurance for sub-consultants to OWNER prior to the sub-consultant's release to commence work.

ARTICLE 10 - LIMITATIONS OF RESPONSIBILITY

CONSULTANT shall not be responsible for: (1) construction means, methods, techniques, sequences, procedures, or safety precautions and programs in connection with the construction of the PROJECT; or (2) procuring permits, certificates, and licenses required for any construction unless such responsibilities are specifically assigned to CONSULTANT in Attachment A, Scope of Services.

ARTICLE 11 - LIMITATIONS OF RESPONSIBILITIES FOR ACTS OF OTHERS

CONSULTANT shall not at any time supervise, direct, control or have authority over any work performed by any employee, contractor or other agent of OWNER. CONSULTANT shall not be responsible for the acts or omissions of any employee, contractor or other agent associated with the PROJECT except for its own employees, subcontractors and other agents.

ARTICLE 12 - OPINIONS OF COST AND SCHEDULE

Since CONSULTANT has no control over the cost of labor, materials, or equipment furnished by others, or over the resources provided by others to meet PROJECT schedules, CONSULTANT'S opinion of probable costs and of PROJECT schedules shall be made on the basis of experience and qualifications as a professional. CONSULTANT does not guarantee that proposals, bids, or actual PROJECT costs will conform to OWNER'S cost estimates or that actual schedules will conform to OWNER'S projected schedules.

ARTICLE 13 - REUSE OF DOCUMENTS

All documents, including, but not limited to, drawings, specifications, and details, reports, etc. prepared by CONSULTANT pursuant to this AGREEMENT are instruments of service in respect to the PROJECT. They are not intended or represented to be suitable for reuse by CONSULTANT or others on extensions of the PROJECT or on any other project. Any reuse or adaptation without prior written verification by the OWNER for the specific purpose intended will be at CONSULTANT'S sole risk and without liability or legal exposure to the OWNER. CONSULTANT shall defend, indemnify, and hold harmless the OWNER against all claims, losses, damages, injuries, and expenses, including attorney's fees, arising out of or resulting from such reuse.

ARTICLE 14 - OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

Except as otherwise provided herein, engineering documents, drawings, and specifications prepared by CONSULTANT as part of the SERVICES shall become the property of OWNER. CONSULTANT shall retain its rights in its standard drawing details, specifications, data bases, computer software, and other proprietary property. CONSULTANT shall not be held liable for reuse of documents or modifications thereof by the OWNER or its representatives for any purpose other than the original intent of this AGREEMENT, without written authorization of and appropriate compensation to CONSULTANT. Rights to intellectual property developed, utilized, or modified in the performance of the SERVICES shall remain the property of CONSULTANT, but shall be provided to the OWNER, at no additional expense to the OWNER.

ARTICLE 15 - TERMINATION

This AGREEMENT may be terminated by either party upon written notice in the event of substantial failure by the either party to perform in accordance with the terms of this AGREEMENT. The non-performing party shall have fifteen (15) calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

OWNER may suspend performance of this AGREEMENT for OWNER'S convenience upon written notice to CONSULTANT. Upon restart, an equitable adjustment may be made to CONSULTANT'S compensation, if the period of suspension has created an economic hardship for the CONSULTANT.

ARTICLE 16 - DELAY IN PERFORMANCE

Neither OWNER nor CONSULTANT shall be considered in default of this AGREEMENT for delays in performance caused by circumstances beyond the reasonable control of the non-performing party. For purposes of this AGREEMENT, such circumstances include, but are not limited to, abnormal weather conditions such as floods, earthquakes, fire; civil disturbances such as war, riots, or other civil epidemic; power outages, strikes, lockouts, work slowdowns, or other labor disturbances; sabotage; judicial restraint, and inability to procure permits, licenses, or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses, or services required to be provided by either OWNER or CONSULTANT under this AGREEMENT.

Should such circumstances occur, the non-performing party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this AGREEMENT.

ARTICLE 17 - WAIVER

A waiver by either OWNER or CONSULTANT of any breach of this AGREEMENT shall be in writing. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

ARTICLE 18 - SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this AGREEMENT or the occurrence of any event rendering any portion or provision of this AGREEMENT void shall in no way affect the validity or enforceability of any other portion or provision of this AGREEMENT. Any void provision shall be deemed severed from this AGREEMENT, and the balance of this AGREEMENT shall be construed and enforced as if this AGREEMENT did not contain the particular portion or provision held to be void. The parties further agree to amend this AGREEMENT to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this Article shall not prevent this entire AGREEMENT from being void should a provision which is of the essence of this AGREEMENT be determined void.

ARTICLE 19 - INTEGRATION

This AGREEMENT represents the entire and integrated AGREEMENT between OWNER and CONSULTANT. It supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this AGREEMENT.

ARTICLE 20 - SUCCESSORS AND ASSIGNS

To the extent permitted by Article 22, OWNER and CONSULTANT each binds itself and its successors and assigns to the other party to this AGREEMENT.

ARTICLE 21 - ASSIGNMENT

Neither OWNER nor CONSULTANT shall assign its duties under this AGREEMENT without the prior written consent of the other party. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this AGREEMENT. Nothing contained in this Article shall prevent CONSULTANT from employing independent sub-consultants, associates, and sub-contractors to assist in the performance of the SERVICES. However, third party entities must comply with Article 9.

ARTICLE 22 - THIRD PARTY RIGHTS

Nothing in this AGREEMENT shall be construed to give any rights or benefits to anyone other than OWNER and CONSULTANT.

ARTICLE 23 - COMPLETION

CONSULTANT shall complete the services within the time frame outlined on Attachment E, Schedule, subject to conditions which are beyond the control of the CONSULTANT.

ARTICLE 24 - IMMIGRATION COMPLIANCE

24.1 Consultant shall demonstrate that he:

24.1.1 Has complied, and shall at all times during the term of this Contract, comply in all respects with all immigration-related laws, statutes, ordinances and regulations including without limitation, the Immigration and Nationality Act, as amended, the Immigration Reform and

Control Act of 1986, as amended, and the Oklahoma Taxpayer and Citizen Protection Act of 2007 (Oklahoma HB 1804) and any successor laws, ordinances or regulations (collectively, the Immigration Laws"); and

24.1.2 Has properly maintained, and shall at all times during the term of this Contract, maintain any and all employee records required by the U.S. Department of Homeland Security ("DHS"), including, without limitation, properly completed and maintained Form I-9s for each of the Consultants employees; and

24.1.3 Has verified the employment eligibility for all employees hired on or after July 1, 2008 through DHS's E-Verify system, and shall at all times continue to verify the employment eligibility of all employees hired during the term of this Contract; and

24.1.4 Has required, and will at all times during the term of this Contract, require any sub-contractor utilized, hired or sub-contracted for by Consultant for the completion or undertaking of any duties, tasks or responsibilities under this Contract, to comply the requirements and obligations imposed by the Immigration Laws and set forth in Paragraph (I), parts (a), (b) and (c), above, with regards to each of the sub-contractor's employees.

24.2 Consultant will indemnify, defend and hold harmless City against any loss, cost, liability, expense (including, without limitation, costs and expenses of litigation and reasonable attorney's fees) demands, claims, actions, causes of action, liabilities, suits, damages, including special and consequential damages that arise from or in connection with, directly or indirectly, Consultants failure, deliberate or negligent, to fulfill its obligations and representations regarding verifying the employment eligibility of its employees and the employees of any subcontractor utilized by Contractor as set forth more fully in Paragraph 24.1 above.

ARTICLE 25 - COMMUNICATIONS

Any communication required by this AGREEMENT shall be made in writing to the address specified below:

OWNER: Broken Arrow Municipal Authority
485 N. Poplar Street
Broken Arrow, OK 74012
Contact: Mr. Roger D. Hughes, P.E.
Engineering Division Manager

CONSULTANT: Tetra Tech, Inc.
7645 E 63rd Street, Suite 301
Tulsa, OK 74133
Contact Name: Mr. Joshua Paz, P.E.
Project Manager

Nothing contained in this Article shall be construed to restrict the transmission of routine communications between representatives of OWNER and CONSULTANT.

IN WITNESS WHEREOF, the City Manager of the City of Broken Arrow, Oklahoma has hereunto set his hand, for and on behalf of the City of Broken Arrow and the CONSULTANT has signed, or

caused his name to be signed, and seal affixed by proper authority, the day and year first above written and these presents have been executed in triplicate counterparts.

OWNER:

Broken Arrow Municipal Authority

CONSULTANT:

Tetra Tech, Inc.

Approved as to form:

By L. Spurgeon 9/9/19
Assistant City Attorney

By Felix R. Belanger
Felix Belanger, Vice President

Date August 7, 2019

By _____
Michael L. Spurgeon, City Manager

Date _____

Attest:

By _____
Curtis Green, City Clerk

Date _____

(CORPORATE SEAL) If applicable



Attest:

By William D. [Signature]

Date 8/8/19

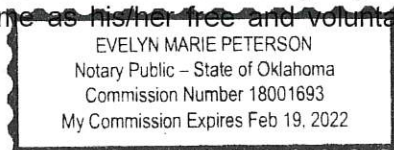
VERIFICATION

State of OKLAHOMA)
County of TULSA) §

Before me, a Notary Public, on this 7th day of AUGUST, 2019, personally appeared FELIX BELANGER, known to be to be the (President, Vice-President, Corporate Officer, Member, or Other: VICE PRESIDENT) of Tetra Tech, Inc., and to be the identical person who executed the within and foregoing instrument, and acknowledged to me that he/she executed the same as his/her free and voluntary act and deed for the uses and purposes therein set forth.

My Commission Expires:

2/19/22



Evelyn Marie Peterson
Notary Public

**ATTACHMENT A
TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES
BETWEEN
BROKEN ARROW MUNICIPAL AUTHORITY (OWNER)
AND
TETRA TECH, INC.
FOR
OLD ADAMS CREEK LIFT STATION REHABILITATION**

SCOPE OF SERVICES

The following scope of services shall be made a part of the AGREEMENT dated the 1st day of October 2019.

1.0 PROJECT UNDERSTANDING

- 1.1 CONSULTANT understands that the OWNER has retained their professional services in order to prepare an alternatives evaluation study for planning purposes for the rehabilitation of the Old Adams Creek Lift Station. This study shall include, but not be limited to, a detailed study report containing supporting data and documentation addressing the intent of the project.
- 1.2 The CONSULTANT is required to keep the OWNER apprised of the PROJECT costs and advise the OWNER of necessary cost reduction measures, if required, during the course of the PROJECT.
- 1.3 Furthermore, the CONSULTANT understands that the OWNER has \$200,000 available repurposed from an existing OWRB loan budgeted for Phase 1 – Study of this PROJECT that includes all professional consultant fees and project construction monies. OWNER will request additional loan money for future design tasks and construction.

2.0 PROJECT SCOPE AND BACKGROUND

- 2.1 The Old Adams Creek lift station (LS) is located 1800 N. 65th Street, Broken Arrow, OK. The station consists of a concrete wet well with a split face CMU building enclosure where 4 self-priming suction lift pumps are located. The pumps are 60 Hp and operate as 2 pumps in a series. The station was constructed in 2005 and is currently operational.
- 2.2 The Old Adams Creek LS is the central lift station located within the Adams Creek Drainage Basin. The station receives and pumps flows from seven (7) lift stations within the basin to a gravity interceptor located approximately 18,000 LF south of the station. The seven (7) lift stations that pump to Old Adams Creek LS are as follows: Timberbrook, 245th/Easley, Oneta Rd., Wellstone, Villas on the Green, Cambridge, and Park Lane. Wellstone and Villas on the Green lift stations discharge to the Oneta Rd. lift station which in turn pumps to the gravity line served by the Old Adams Creek lift station. All of the lift stations pumping to Old Adams Creek lift station discharge into a 12-inch gravity sewer which in turn discharges into the wet well of the Old Adams Creek lift station. According to City staff, the forcemain that conveys pumped flows from Old Adams Creek LS to the gravity interceptor is 12-inch C900 PVC that is approximately 20 years old.

- 2.3 The Old Adams Creek LS experiences upstream bypasses (sanitary sewer overflows - SSO) during heavy rain events. The bypasses are from manholes on the 12-inch gravity sewer upstream of the lift station.

3.0 SCOPE OF SERVICES

PHASE 1 - STUDY

- 3.1 PHASE 1 – STUDY, will consist of a review and evaluation of flow projections; evaluation of the existing Old Adams Creek lift station hydraulic capacity, condition, and functional aspects of the Old Adams Creek lift station, evaluation of alternatives for both short- and long-term improvements, and a report.
- 3.2 PROJECT MANAGEMENT. This subtask involves overall project management, quality control, and project workshops through the course of the Phase 1 study.
- 3.2.1 General Management and Coordination. This item includes:
- 3.2.1.1 Project initiation and setup.
 - 3.2.1.2 Coordination of the project team.
 - 3.2.1.3 General project communication and coordination with the AUTHORITY.
 - 3.2.1.4 Data collection and review.
 - 3.2.1.5 Quality Control Reviews. ENGINEER's senior design staff shall review the results of project activities and the deliverables prior to submission.
- 3.3 WORKSHOPS/MEETINGS. This task shall include workshops and meetings where the ENGINEER's and the AUHTORITY's key staff will meet to discuss various alternatives and findings as outlined in scope below. The preferences of the AUTHORITY's staff will be discussed and evaluated as well as the ideas of the design team. Within 7 days following each workshop/meeting, ENGINEER shall summarize the discussions and decisions in a memorandum and distribute meeting notes/minutes to each participant. The memorandums will serve to document the decisions. The workshops/meetings will include:
- 3.3.1 SCOPING MEETING. An initial meeting shall be conducted to establish and confirm the project approach, schedule, goals, and preliminary alternative concepts.
 - 3.3.2 CONCEPT REVIEW WORKSHOPS. Up to two (2) workshops shall be conducted. The first workshop will be to review preliminary findings of hydraulic assessments and evaluations and the second workshop can be used to review and finalize up to three (3) feasible alternatives for the report.
 - 3.3.3 REPORT REVIEW WORKSHOPS. Up to two (2) workshops shall be conducted. The first workshop will be to review comments on the draft report and the second workshop can be used to review and finalize the final report if needed.
- 3.4 HYDRAULIC EVALUATION – LIFT STATION:
- 3.4.1 THE HYDRAULIC EVALUATION shall identify the required flow capacity for both existing and future conditions, the current station capacity, and why the station cannot convey current peak flows.
 - 3.4.2 STATION CAPACITY PROJECTIONS: The ENGINEER shall review flow projections prepared by HDR as part of the 2018 Master Plan, evaluate more recent flow data from the flow monitors installed under this study, and compare and summarize the findings

of the flow projections for discussion with the AUTHORITY for lift station sizing. Population projections shall be used as given in the master plan developed by HDR. No new population forecasts will be performed. Based on the findings and discussions with the AUTHORITY, the ENGINEER shall provide an opinion of current flow projections for both dry weather and wet weather conditions at 1-year, 2-year, and 5-year return intervals.

- 3.4.3 CAPACITY EVALUATION: The ENGINEER shall evaluate the Old Adams Creek lift station in order to determine its existing capacity, and to identify potential capacity enhancements for both interim and long-term improvements. The Capacity Evaluation will consist of an inspection of the lift station, development of a testing plan, and such testing as is necessary to determine the existing pump capacity and potential capacity enhancements.
- 3.4.4 The testing plan will identify the specific tests to be performed, manpower requirements for both the ENGINEER and the AUTHORITY, testing schedule, test equipment to be utilized, and safety requirements. The draft Testing Plan shall be reviewed with the AUTHORITY and a final Testing Plan developed.
- 3.4.5 The testing shall be performed under the general guidance of the ENGINEER. All test data shall be recorded by the ENGINEER. Upon completing the testing, the ENGINEER shall conduct a hydraulic analysis of the lift station and force main system. Additional testing may be performed to test the hypotheses developed during the analysis if ENGINEER determines it is needed.
- 3.4.6 The ENGINEER shall utilize the existing lift station capacity information summarized by HDR as part of the 2018 Master Plan for the seven (7) other lift stations located within the Old Adams Creek basin for model development and alternatives analysis. No hydraulic evaluation/capacity testing will be performed for these stations as part of the scope of work. The AUTHORITY at their discretion may utilize the ENGINEER to perform additional station capacity testing however, this work is considered additional services and will require scope and fee modification.

4.1 FUNCTIONAL EVALUATION – LIFT STATION ASSESSMENT:

- 4.1.1 The ENGINEER shall evaluate the Old Adams Creek Lift Station in order to grade its overall functionality, condition, remaining useful life, and compatibility with current standards for City of Broken Arrow's lift stations. Each lift station component system shall also be evaluated to include pumping system, valves, structural condition of the station, electrical systems, instrumentation and control systems, screening systems, site accessibility considerations, flood protection, operations and maintenance, and all other systems operating in support of the overall station operation. The findings from the lift station evaluation will be summarized as an appendix in the final report.
- 4.1.2 The ENGINEER shall utilize the information from previous station evaluations completed by Dewberry in 2015 for the seven (7) other lift stations located within the Old Adams Creek basin. No lift station evaluation/assessment will be performed for these stations as part of the scope of work. The AUTHORITY at their discretion may utilize the ENGINEER to perform additional station evaluations, however,

this work is considered additional services and will require scope and fee modification.

5.1 FLOW MONITORING AND ANALYSIS:

- 5.1.1 Flow Monitoring will be performed in order to determine the relative I&I contribution and projected flows originating from within the study area. This information will be used to validate and corroborate the 2013 flow data and modeled flows as specified in the HDR as part of the 2018 Master Plan in conjunction with Hydraulic Modeling in order to evaluate various basin wide alternatives and to finalize the projected design capacity of the Old Adams Creek Lift Station to handle future flows.
- 5.1.2 The ENGINEER will analyze the Old Adams Creek basin collection system piping network and identify up to 8 optimum locations upstream of the Old Adams Creek Lift station for flow monitoring. ENGINEER shall install, retrieve and maintain flow monitors as necessary. Flow monitors shall consist of open channel flow monitors which measure depth of flow and velocity of flow over the duration of the flow monitoring period with redundant sensors installed. Flow monitors will be calibrated at a minimum of once per month. Monitors shall be installed over a 3-month period commencing on a notice to proceed or as early as October 1, 2019 to January 1, 2020. Simultaneous to flow monitoring, ENGINEER shall deploy rain gauges at strategic locations in the study area. The ENGINEER shall provide the AUTHORITY with a map and list depicting the locations of the flow monitors and rain gauges.
- 5.1.3 Flow data analysis will be performed to evaluate the flow data to determine the dry weather flow, to include, base infiltration and wastewater production; and wet weather flow, to include infiltration at saturated ground conditions (ISGC), and rainfall derived inflow and infiltration (RDII) using RTK methodology.

6.1 ALTERNATIVES DEVELOPMENT:

- 6.1.1 The ENGINEER shall identify and evaluate the required short- and long-term improvements needed at the Old Adams Creek lift station. The Alternatives Development phase shall result in final recommendations to the AUTHORITY for maximizing existing short-term capacity over the next 2-5 years, as well as recommendations for long-term improvements that will allow uninterrupted service to the basin.
- 6.1.2 The ENGINEER shall identify up to five (5) feasible alternatives and meet with the AUTHORITY to review them. The three (3) most feasible long-term solutions shall be selected. Upon approval, the three alternatives shall be evaluated in detail.
- 6.1.3 The ENGINEER shall utilize a copy of the AUTHORITY's InfoWorks ICM wastewater hydraulic model as previously developed by HDR as part of the 2018 Wastewater Master Plan, to calibrate and evaluate the system model to identify the capacity enhancements needed to achieve the project goals. A section of the draft and final reports will describe the results of the flow monitoring, flow data analysis, hydraulic modeling; and provide sizing recommendations for the Old Adams Creek Lift Station. This task assumes the hydraulic model provided by the AUTHORITY has been updated with recent pipe network information and is in good working condition. No remodeling of the existing hydraulic system will be

performed as part of this scope. The existing model will be evaluated and recalibrated for the alternatives developed. The AUTHORITY at their discretion may utilize the ENGINEER to perform additional hydraulic modeling to make updates to the existing wastewater hydraulic system, however, this work is considered additional services and will require scope and fee modification.

- 6.1.4 The ENGINEER shall validate alternatives within the hydraulic model to confirm future design flows and required pipe and lift station capacities.
- 6.1.5 The evaluation of each final long-term alternatives (3 total) shall consider capital costs as well as operational costs. Social impacts shall be described and weighted. Each alternative shall be described in sufficient detail to thoroughly communicate the proposed improvements; to include conceptual level drawings, cost estimates, and narrative descriptions. A matrix will be developed and reviewed with the AUTHORITY, each alternative ranked, and the rankings presented and discussed with the AUTHORITY.
- 6.1.6 The ENGINEER shall also identify up to five (5) short-term solutions that can be implemented in the interim of the long-term solutions based on discussion with the AUTHORITY.
- 6.1.7 The results of the evaluation shall be presented to the AUTHORITY and discussed. Revisions shall be made based on the AUTHORITY's comments and a final presentation shall be made to the AUTHORITY.

7.1 REPORT DELIVERABLES:

- 7.1.1 The ENGINEER shall prepare and submit a draft final report which includes results of the various evaluations and findings of the Study. ENGINEER will provide seven (7) copies of the draft report including an electronic PDF copy for AUTHORITY review and comment. After comments are received, a final report will be prepared and submitted to the AUTHORITY. ENGINEER will provide ten (10) copies of the final report including an electronic PDF copy.

- 4.1 PRELIMINARY DESIGN PHASE: This phase may be negotiated with the CONSULTANT upon the request of the OWNER.
- 5.1 FINAL DESIGN PHASE: This phase may be negotiated with the CONSULTANT upon the request of the OWNER.
- 6.1 BID DOCUMENTS. This task may be negotiated with the CONSULTANT upon the request of the OWNER.
- 7.1 BID ASSISTANCE PHASE: This phase may be negotiated with the CONSULTANT upon the request of the OWNER.
- 8.1 CONSTRUCTION SERVICES PHASE: This phase may be negotiated with the CONSULTANT upon the request of the OWNER.
- 9.1 RECORD DRAWINGS. This phase may be negotiated with the CONSULTANT upon the request of the OWNER.

**ATTACHMENT B
TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES
BETWEEN
BROKEN ARROW MUNICIPAL AUTHORITY (OWNER)
AND
TETRA TECH, INC.
FOR
OLD ADAMS CREEK LIFT STATION REHABILITATION**

ORGANIZATION OF SUBMITTAL DOCUMENTS

The CONSULTANT shall prepare the following documents as described as a part of the AGREEMENT dated the 1st day of October 2019.

- 1.0 CONSTRUCTION PLANS:** The CONSULTANT shall submit in-full, in accordance with City requirements.

Not Applicable under Basic Scope (Study Phase Only)

- 2.0 DESIGN ANALYSIS:** The CONSULTANT shall submit in-full, in accordance with City requirements.

Not Applicable under Basic Scope (Study Phase Only)

- 3.0 TECHNICAL SPECIFICATIONS:** The CONSULTANT shall submit in-full, in accordance with City requirements.

Not Applicable under Basic Scope (Study Phase Only)

- 4.0 DESIGN CALCULATIONS:** The CONSULTANT shall submit in-full, in accordance with City requirements.

Not Applicable under Basic Scope (Study Phase Only)

- 5.0 CONTRACT DOCUMENTS:** The CONSULTANT shall submit in-full, in accordance with City requirements.

Not Applicable under Basic Scope (Study Phase Only)

- 6.0 STUDY REPORT (10 hard copies)** The CONSULTANT shall submit in-full, a study report in accordance with City requirements.

- Alternative Analysis Evaluation Study Report - Old Adams Creek Lift Station Rehabilitation

**ATTACHMENT C
TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES
BETWEEN
BROKEN ARROW MUNICIPAL AUTHORITY (OWNER)
AND
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OLD ADAMS CREEK LIFT STATION REHABILITATION**

COMPENSATION AND ADDITIONAL SERVICES

The following compensation and hourly rates shall apply as described in Attachment C and shall be made a part of the AGREEMENT dated the 1st day of October 2019.

1.0 BASIC COMPENSATION

The basic compensation for the Professional Consultant to perform all duties and responsibilities associated with the Scope of Services as described in Attachment A shall be in accordance with the following payment breakdown:

- 1.1 Phase 1 Study:
 - 1.1.1 Detailed Alternative Evaluation Study and Report: The OWNER shall pay the CONSULTANT a lump sum amount of \$125,000.00 for the completion of the Phase 1 study and report. This amount includes all labor, material, overhead and profit associated with the Scope of Services.
 - 1.1.2 Flow Monitoring: The OWNER shall pay the CONSULTANT a lump sum amount of \$54,000.00 for the completion of flow monitoring. This amount includes all labor, material, overhead and profit associated with the Scope of Services.
- 1.2 Preliminary Design Phase Payment: The OWNER may negotiate professional services fee with the CONSULTANT at the OWNER'S discretion.
- 1.3 Final Design Phase Payment: The OWNER may negotiate professional services fee with the CONSULTANT at the OWNER'S discretion.
- 1.4 Construction Services Phase: The OWNER may negotiate professional services fee with the CONSULTANT at the OWNER'S discretion.
- 1.5 Project Closeout Phase Payment: The OWNER may negotiate professional services fee with the CONSULTANT at the OWNER'S discretion.
- 1.6 The OWNER may negotiate other professional services fees with the CONSULTANT at the OWNER'S discretion.

2.0 ADDITIONAL SERVICES BASED ON TIME

The hourly rates set forth in Appendix 1 include all salaries, benefits, overhead and other indirect costs including federal, state, and local taxes, plus profit and effective as of January 1, 2019 for engineering services.

3.0 REPRODUCTION

All charges for reproduction shall be included in Basic Compensation Fee of the Professional Consultant. No separate payment will be made for these expenses.

4.0 MILEAGE

All direct costs shall be included in the Basic Compensation of the Professional Consultant. No separate payment will be made for these expenses.

5.0 DIRECT COSTS

All direct costs shall be included in the Basic Compensation of the Professional Consultant. No separate payment will be made for these expenses.

6.0 ADJUSTMENT CLAUSE

The rates and costs described in this AGREEMENT shall not be revised annually, unless mutually agreed upon by both parties.

**ATTACHMENT D
TO
AGREEMENT FOR CONSULTING SERVICES
BETWEEN
BROKEN ARROW MUNICIPAL AUTHORITY (OWNER)
AND
TETRA TECH, INC.
FOR
OLD ADAMS CREEK LIFT STATION REHABILITATION**

OWNER'S RESPONSIBILITIES AND SPECIAL CONDITIONS

The following list of special OWNER'S responsibilities and contract special conditions shall be made a part of this AGREEMENT dated the 1st day of October 2019.

1.0 OWNER'S RESPONSIBILITIES

- 1.1 OWNER shall furnish to CONSULTANT all available information pertinent to the PROJECT including previous reports, wastewater hydraulic model, record drawings and any other data relative to study, design and construction of the PROJECT;
- 1.2 OWNER shall furnish to CONSULTANT all public utility information available relative to the design and construction of the PROJECT.
- 1.3 OWNER shall furnish to CONSULTANT list of codes adopted by the municipality as well as subdivision regulations, design criteria and construction standards and specifications that may be pertinent to the design and construction of the PROJECT;
- 1.4 OWNER shall be responsible for all permit fees and for all reproduction costs associated with the bidding of the final approved construction documents required for the construction of this PROJECT;
- 1.5 OWNER shall be responsible for all land/easement acquisition costs and filing of the required legal documents, if necessary; and
- 1.6 OWNER shall examine all studies, reports, sketches, estimates, specifications, plan drawings, proposals, and other documents presented by the CONSULTANT and render in writing decisions pertaining thereto within a reasonable time so as not to delay the SERVICES of the CONSULTANT.
- 1.7 OWNER shall be responsible for coordinating all property access and notifying public of planned work. CONSULTANT shall have free and safe passage to access properties within project area as required by PROJECT.

2.0 SPECIAL CONDITIONS

- 2.1 OWNER shall be responsible for all sampling and laboratory testing cost identified in the Agreement, if necessary.

**ATTACHMENT E
TO
AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES
BETWEEN
BROKEN ARROW MUNICIPAL AUTHORITY (OWNER)
AND
TETRA TECH, INC.
FOR
OLD ADAMS CREEK LIFT STATION REHABILITATION**

PROJECT SCHEDULE

The following schedule shall be made a part of the AGREEMENT dated the 1st day of October 2019.

1.0 PHASE 1 STUDY – OLD ADAMS CREEK LIFT STATION REHABILITATION

1.1.0 ALTERNATIVES EVALUATION STUDY REPORT:

- 1.1 Hold Preliminary Alternative Study Review Workshop: within 120 days of Notice to Proceed
- 1.2 Hold Final Alternative Review Workshop: within 45 days of draft review workshop
- 1.3 Submit Draft Report: within 75 days of final review workshop
- 1.4 Owner Review: 14 days
- 1.5 Submit Final Report: within 21 days after Owner review comments are received.

2.0 PRELIMINARY DESIGN PHASE: TBD

3.0 FINAL DESIGN PHASE: TBD

4.0 BIDDING PHASE: TBD

5.0 CONSTRUCTION OVERSIGHT PHASE: TBD



Schedule of Hourly Rates

APPENDIX 1 - RATES

Hourly Billing Rates for: IEW

Rates Effective Starting: January 1, 2019

Personnel	Hourly Rate
Management	
Operations Management	
Principal in Charge	\$340.00
Project and Program Management	
Project Manager 1	\$185.00
Project Manager 2	\$200.00
Sr Project Manager	\$240.00
Program Manager	\$260.00
A/E Services	
Engineers	
Engineer 1	\$95.00
Engineer 2	\$110.00
Engineer 3	\$125.00
Project Engineer 1	\$140.00
Project Engineer 2	\$170.00
Sr Engineer 1	\$220.00
Sr Engineer 2	\$225.00
Sr Engineer 3	\$250.00
Principal Engineer	\$340.00
Engineering Designers	
Engineering Technician	\$65.00
Engineering Designer 1	\$90.00
Engineering Designer 2	\$110.00
Engineering Designer 3	\$125.00
Sr Eng Designer 1	\$150.00
Sr Eng Designer 2	\$160.00
Sr Eng Designer 3	\$180.00
Architects	
Arch Technician	\$55.00
Architectural Designer 1	\$75.00
Architectural Designer 2	\$85.00
Architectural Designer 3	\$130.00
Architect 1	\$135.00
Architect 2	\$145.00
Sr Architect 1	\$180.00
Sr Architect 2	\$200.00
Architectural Program Mgr	\$260.00
Interior Designers	
Interior Designer 1	\$85.00
Interior Designer 2	\$95.00
Interior Designer 3	\$105.00
Sr Interior Designer 1	\$190.00

Schedule of Hourly Rates

Hourly Billing Rates for: IEW

Rates Effective Starting: January 1, 2019

Personnel	Hourly Rate
Sr Interior Designer 2	\$200.00
Sr Interior Designer 3	\$230.00
Landscape Architects	
Landscape Designer 1	\$75.00
Landscape Design 2	\$85.00
Landscape Designer 3	\$100.00
Landscape Architect 1	\$115.00
Landscape Architect 2	\$140.00
Planning	
Planner 1	\$90.00
Planner 2	\$100.00
Planner 3	\$115.00
Sr Planner 1	\$140.00
Sr Planner 2	\$160.00
Sr Planner 3	\$180.00
Principal Planner	\$200.00
Information Technology	
Sys Analyst / Programmer 1	\$105.00
Sys Analyst / Programmer 2	\$120.00
Sr Sys Analyst / Programmer 1	\$165.00
Sr Sys Analyst / Programmer 2	\$265.00
Sci Svcs	
Scientists	
Scientist 1	\$75.00
Scientist 2	\$95.00
Scientist 3	\$120.00
Sr Scientist 1	\$135.00
Sr Scientist 2	\$165.00
Sr Scientist 3	\$210.00
Principal Scientist	\$260.00
Field Services	
Construction Observation	
Construction Project Rep 1	\$80.00
Construction Project Rep 2	\$10.00
Sr Constr Project Rep 1	\$140.00
Sr Constr Project Rep 2	\$150.00
Construction Administration	
Construction Administrator	\$90.00
Sr Construction Administrator	\$110.00
Construction Management	
Construction Manager 1	\$170.00
Construction Manager 2	\$200.00

Schedule of Hourly Rates

Hourly Billing Rates for: IEW

Rates Effective Starting: January 1, 2019

Personnel	Hourly Rate
Sr Construction Manager	\$235.00
Construction Director	\$280.00
Surveying	
Survey Tech 1	\$60.00
Survey Tech 2	\$90.00
Survey Crew Chief	\$100.00
Surveying Specialist	\$130.00
Land Surveyor	\$135.00
Sr Land Surveyor	\$155.00
Plant Operations	
Plant Operator 1	\$85.00
Plant Operator 2	\$95.00
Plant Supervisor	\$110.00
Technical Services	
Technicians	
Technician 1	\$65.00
Technician 2	\$80.00
Technician 3	\$95.00
Sr Technician 1	\$135.00
Sr Technician 2	\$140.00
Sr Technician 3	\$145.00
Project Support	
Computer Aided Design (CAD)	
CAD Technician 1	\$65.00
CAD Technician 2	\$75.00
CAD Technician 3	\$95.00
CAD Designer	\$110.00
Sr CAD Designer 1	\$130.00
Sr CAD Designer 2	\$145.00
CAD Director	\$160.00
Geographic Information Systems (GIS)	
GIS Analyst 1	\$70.00
GIS Analyst 2	\$100.00
Sr GIS Analyst	\$110.00
GIS Application Developer	\$130.00
Sr GIS Application Developer	\$170.00
Business Support	
Project Administration	
Project Assistant 1	\$65.00
Project Assistant 2	\$75.00
Project Administrator	\$95.00
Sr Project Administrator	\$115.00

Schedule of Hourly Rates

Hourly Billing Rates for: IEW

Rates Effective Starting: January 1, 2019

Personnel	Hourly Rate
Contracts / Legal	
Contract Administrator	\$80.00
Sr Contract Administrator	\$115.00
Finance / Accounting	
Project Analyst 1	\$75.00
Project Analyst 2	\$100.00
Sr Project Analyst	\$155.00
Project Accounting Director	\$240.00
Technical Writers	
Technical Writer 1	\$95.00
Technical Writer 2	\$100.00
Sr Technical Writer	\$125.00
Sr Technical Writer 2	\$150.00
Graphics	
Graphic Artist	\$125.00
Consulting	
Consultant 1	\$75.00
Consultant 2	\$100.00
Sr Consultant 1	\$160.00
Sr Consultant 2	\$190.00
Sr Consultant 3	\$200.00