

AGREEMENT
FOR
ENGINEERING SERVICES

This AGREEMENT, between the Norman Utilities Authority (OWNER) and Freese and Nichols, Inc., (ENGINEER);

WITNESSETH

WHEREAS, OWNER intends to replace approximately 2,700 feet of existing water line located along Robinson Street from the WTP west to 24th NE and associated inter-connections and appurtenances. This PROJECT will be identified as Robinson Water Line: WTP to 24th Avenue NE as further described in Attachment B.

WHEREAS, OWNER requires survey, design and engineering services in connection with the PROJECT (the SERVICES); and,

WHEREAS, ENGINEER is prepared to provide said SERVICES; and,

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

ARTICLE 1 - EFFECTIVE DATE

The effective date of this AGREEMENT shall be _____.

ARTICLE 2 - COMPLETION DATE

ENGINEER shall complete the SERVICES in accordance with Attachment A, Project Schedule.

ARTICLE 3 - GOVERNING LAW

The laws of the state of Oklahoma shall govern this AGREEMENT.

ARTICLE 4 - SERVICES TO BE PERFORMED BY ENGINEER

ENGINEER shall perform the SERVICES described in Attachment B, Scope of Services.

ARTICLE 5 - COMPENSATION

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

ARTICLE 6 - OWNER'S RESPONSIBILITIES

- 6.1. OWNER-Furnished Data: Upon request, OWNER will provide to ENGINEER all data in OWNER's possession relating to ENGINEER's SERVICES on the PROJECT. Such data may include electronic data available from the OWNER's Geographic Information System (GIS) and data generated by OWNER's water distribution system model. ENGINEER will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by OWNER. OWNER's data is provided for temporary use or copying by ENGINEER.
- 6.2. Access to Facilities and Property: OWNER will make its facilities accessible to ENGINEER as required for ENGINEER's performance of its SERVICES
- 6.3. Timely Review: OWNER will examine ENGINEER's studies, reports, sketches, drawings, specifications, proposals, and other documents; and transmit OWNER comments or other decisions to ENGINEER in a timely manner.
- 6.4. Meetings: OWNER will participate in monthly progress meetings or other meetings with ENGINEER or contractor(s) defined in Scope of Services.
- 6.5. Advertisements, Permits, and Access: Unless otherwise agreed to in the Scope of Services, OWNER will obtain, arrange, and pay for all advertisements for bids; permits and licenses required by local, state, or federal authorities; and land, easements, rights-of-way, and access necessary for ENGINEER's SERVICES or PROJECT construction.

- 6.6. Hazardous Substances: If hazardous substances in any form are encountered or suspected, ENGINEER will stop its own work in the affected portions of the PROJECT to permit testing and evaluation. ENGINEER will, if requested by OWNER, conduct tests to determine the extent of the problem and will perform the necessary studies and recommend necessary remedial measures at an additional fee with contract terms to be negotiated.

ARTICLE 7 - STANDARD OF CARE

ENGINEER shall exercise the same degree of care skill and diligence in the performance of the SERVICES as is ordinarily possessed and exercised by a professional engineer under similar circumstances. ENGINEER shall correct the SERVICES that fail to satisfy this standard of care. No warranty, express or implied is included in this AGREEMENT or in any drawing, specifications, report or opinion produced pursuant to this AGREEMENT.

ARTICLE 8 - LIABILITY AND INDEMNIFICATION

- 8.1 General. Having considered the potential liabilities that may exist during the performance of the SERVICES, the benefits of the PROJECT, the ENGINEER's fee for the SERVICES and in consideration of the promises contained in this AGREEMENT, OWNER and ENGINEER agree to allocate and limit such liabilities in accordance with this Article.
- 8.2 Indemnification and Liability. The CONSULTANT agrees to defend, indemnify, and hold harmless the OWNER, its officers, servants, and employees, from and against legal liability for all claims, losses, damage, cost, and expense (including reasonable attorneys' fees and accountants' fees) caused by a negligent act, error, or omission of the CONSULTANT in the performance of services under this Agreement. OWNER agrees to defend, indemnify, and hold harmless the CONSULTANT, its officers, servants, and employees, from and against legal liability for all claims, losses, damage, cost, and expense (including reasonable attorneys' fees and accountants' fees) caused by a negligent act, error, or omission of the OWNER in the performance of services under this Agreement, provided such indemnification shall be applicable only to the extent sovereign immunity has been waived pursuant to Oklahoma law. The CONSULTANT and the OWNER each agree to promptly service notice on the other party of any claims arising hereunder, and shall cooperate in the defense of such claims. The acceptance by OWNER or its representatives of any certification of insurance providing for coverage other than as required in this Agreement to be furnished by the CONSULTANT shall in no event be deemed a waiver of any of the provisions of this indemnity provision. None of the foregoing provisions shall deprive the OWNER of any action, right, or remedy otherwise available to OWNER at common law.
- 8.3 Employee Claims. ENGINEER shall indemnify OWNER against legal liability for damages arising out of claims by ENGINEER's employees. OWNER shall indemnify ENGINEER against legal liability for damages arising out of claims by OWNER's employees.
- 8.4 Consequential Damages. To the fullest extent permitted by law, ENGINEER shall not be liable to OWNER for any special, indirect or consequential damages resulting in any way from the performance of the SERVICES.
- 8.5 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 shall survive.

ARTICLE 9 - INSURANCE

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

- 9.1 Worker's compensation insurance for ENGINEER's employees as required by Oklahoma Workers Compensation Statutes.
- 9.2 Comprehensive general liability insurance with a minimum of \$125,000 per accident for bodily injury or death and \$25,000 per occurrence for property damage.
- 9.3 Comprehensive automobile liability insurance with a minimum of \$125,000 per accident for bodily injury or death and \$25,000 for property damage.
- 9.4 Professional Liability (errors and omissions) insurance with a minimum policy value of \$1,000,000.

ENGINEER shall furnish OWNER certificates of insurance that shall include a provision that such insurance shall not be canceled without at least thirty days written notice to OWNER. All PROJECT contractors shall be required to include OWNER and ENGINEER as additional insured on their General Liability Insurance policies.

ENGINEER and OWNER each shall require its insurance carriers to waive all rights of subrogation against the other and its directors, officers, partners, commissioners, officials, agents and employees for damages covered by property insurance during and after the SERVICES. A similar provision shall be incorporated into all contractual arrangements entered into by OWNER and shall protect OWNER and ENGINEER to the same extent.

ARTICLE 10 - LIMITATIONS OF RESPONSIBILITY

ENGINEER shall not be responsible for: (1) construction means, methods, techniques, sequences, procedures or safety precautions and programs in connection with the PROJECT; (2) the failure of any contractor, subcontractor, vendor or other PROJECT participant, not under contract to ENGINEER, to fulfill contractual responsibilities to the OWNER or to comply with federal, state or local laws, regulations, and codes; or (3) procuring permits, certificates and licenses required for any construction unless such responsibilities are specifically assigned to ENGINEER in Attachment B, Scope of Services.

ARTICLE 11 - OPINIONS OF COST AND SCHEDULE

Since ENGINEER 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, ENGINEER's opinion of probable costs and of PROJECT schedules shall be made on the basis of experience and qualifications as a professional engineer. ENGINEER does not guarantee that proposals, bids, or actual PROJECT costs will not vary from ENGINEER's cost estimates.

ARTICLE 12 - REUSE OF DOCUMENTS

Upon OWNER's request ENGINEER shall furnish OWNER with deliverables and/or other data on electronic media. All documents, including but not limited to, drawings, specifications and computer software prepared by ENGINEER pursuant to this AGREEMENT are instruments of Service in respect to the PROJECT. Said documents are not intended or represented to be suitable for reuse by OWNER or others on extensions of the PROJECT or on any other PROJECT.

ARTICLE 13 - TERMINATION

This AGREEMENT may be terminated by either party upon written notice in the event of substantial failure by the other 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 terminate or suspend performance of this AGREEMENT for OWNER's convenience upon written notice to ENGINEER. ENGINEER shall terminate or suspend performance of the SERVICES on a schedule acceptable to OWNER. If termination or suspension is for OWNER's convenience, OWNER shall pay ENGINEER for all the SERVICES performed to date, amount not to exceed the normal fee amount due for the SERVICES rendered

and termination or suspension expenses. Upon restart, an equitable adjustment shall be made to ENGINEER's compensation.

ARTICLE 14 - DELAY IN PERFORMANCE

Neither OWNER nor ENGINEER 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; floods; earthquakes; fire; epidemics; war; riot and other civil disturbances; strikes, work slowdowns and 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 ENGINEER under this AGREEMENT.

Should such circumstances occur the non-performing party shall, within a reasonable period after 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 15 - COMMUNICATIONS

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

ENGINEER: Tricia Hatley, P.E.
Freese and Nichols, Inc.
Vice President/Principal
6303 N Portland Ave, Ste 100
Oklahoma City, Oklahoma 73112

OWNER: Chris Mattingly, P.E.
Norman Utilities Authority
201-C West Gray
P.O. Box 370
Norman OK 73070
405-217-7778
chris.mattingly@normanok.gov

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

ARTICLE 16 - WAIVER

A waiver by either OWNER or ENGINEER 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 17 - 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 18 - INTEGRATION

This AGREEMENT represents the entire and integrated AGREEMENT between OWNER and ENGINEER. It supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this AGREEMENT. This AGREEMENT, including its attachments and schedules, may only be changed by a written amendment executed by both parties. The following attachments and schedules are hereby made a part of this AGREEMENT:

Attachment A - Schedule
Attachment B - Scope of Services
Attachment C - Compensation

ARTICLE 19 - SUCCESSORS AND ASSIGNS

OWNER and ENGINEER each binds itself and its directors, officers, partners, successors, executors, administrators, assigns, and legal representatives to the other party to this AGREEMENT and to the directors, officers, partners, successors, executors, administrators, assigns, and legal representatives of such other party in respect to all provisions of this AGREEMENT.

IN WITNESS WHEREOF, OWNER and ENGINEER have executed this AGREEMENT.

DATED this _____ day of _____ 20_____

Freese and Nichols, Inc. - ENGINEER

ATTEST

By:

Title:

Jocia H. Buckley
VICE PRESIDENT

Clay Hunt
Associate

Norman Utilities Authority- OWNER

APPROVED as to form and legality this 31 day of August, 2018.



City Attorney

APPROVED by the Trustees of the Norman Utilities Authority this _____ day of _____,
20 ____.

ATTEST

By:

Title:

Chairman

ATTACHMENT A

SCHEDULE

ENGINEER shall complete and submit 90% plans and specifications to the OWNER within 120 calendar days following receipt of Notice to Proceed from the OWNER.

ENGINEER shall complete Final Design Services and submit final plans and specifications to the OWNER within 30 calendar days following receipt of 90% comments from NUA.

ENGINEER shall provide Construction Services to the OWNER following the successful bidding and award of the PROJECT(s).

ENGINEER shall submit as-built drawings to the OWNER within 30 calendar days after acceptance of construction PROJECT(s) by OWNER.

Failure of ENGINEER to comply with above schedule for various tasks or subtasks may result in OWNER's termination of this AGREEMENT.

**ATTACHMENT B
CITY OF NORMAN
ROBINSON WATER LINE: WTP TO 24TH AVENUE NE
SCOPE OF SERVICES
August 28, 2018**

1.0 BACKGROUND

This contract will include the following components:

- a. Project includes replacing approximately 2,700 LF 24-inch concrete water line with 2,100 LF of 42-inch and 300 LF of 30-inch water line from the Water Treatment Plant west to 24th Avenue NE. This is one of the primary water lines that convey treated water from the WTP into the distribution system.
- b. Project also includes designing two concrete vaults to house isolation valves and fittings: 1) will be located just east of the existing natural gas pipeline to facilitate connections between the existing 30-inch water line, proposed 30-inch and 42-inch water line, and new 36-inch water line (by others), and 2) will be located on the existing 30-inch connection at the Water Treatment Plant. ENGINEER will consider future road widening of Robinson when recommending final vault locations.
- c. Project also includes designing 500 LF of 4-inch water line from outside the building at well #6 to a point just to the east of the proposed vault for blending of ground water with the treated water from the WTP. ENGINEER will not evaluate the anticipated performance of the well with the proposed improvements.
- d. Project will also include coordination of design and construction activities with others responsible for the design of utility relocations associated with widening 24th Avenue NE from Robinson south to Alameda, and new 30-inch water line being extended to the west of 24th Avenue NE.
- e. Project will be constructed in one construction phase.
- f. Project is illustrated in the attached Exhibit.

2.0 BASIC SERVICES

Basic Services provided by the ENGINEER will generally be covered under the following activities: Activity A – Project Coordination, Activity B – Pipeline Design, Activity C – Bid Phase Services, Activity D – Construction Phase Services and Activity E – Engineering Allowances. Specific tasks for each activity are identified in the following sections.

ACTIVITY A - PROJECT COORDINATION

Task 1 – Coordination Meetings

Coordination Meetings - ENGINEER will coordinate, prepare for, and conduct coordination meetings to review progress with the OWNER and the consultants working on the design. Meetings will take place at the OWNER's office in Norman.

- a. ENGINEER will prepare an agenda for the meetings.
- b. ENGINEER will moderate the meetings.
- c. ENGINEER will prepare and distribute draft meeting minutes for review within 5 business days of the progress meeting. After receipt of comments, the meeting minutes will be finalized and distributed to the OWNER and sub-consultants for record purposes.
- d. Up to six (6) coordination meetings will be held. One (1) is intended to be the project kick-off meeting with the OWNER.

Task 2 – Project Management

Provide project management for Activities A, B, C, D and E. Project management will include, but not be limited to developing and implementing a project management plan; tracking and managing internal schedules of work;

monitoring and addressing issues related to the scope of work, budget and deliverables; preparing and processing monthly billings; providing labor resources necessary to fulfill scoped work; scheduling and participating in quality control reviews; and providing updates to the OWNER on a regular basis.

- a. ENGINEER will coordinate design efforts on project tasks identified below.
- b. ENGINEER as the prime design consultant will manage sub-consultant's activities and coordinate those efforts with the OWNER.
- c. ENGINEER shall prepare a brief project update and common monthly invoice for all detailed design phase services.

Deliverables

- a. Draft and Final Meeting Notes for the progress meetings
- b. Monthly Invoices with Project Update
- c. Baseline Design Schedule

ACTIVITY B – PIPELINE DESIGN

Task 1 – Quality Control Meetings

- a. Participate in 50% and 90% design quality control review meetings with OWNER's personnel. The meetings will occur in concert with a coordination meeting. ENGINEER will furnish four sets of the draft plans, specifications and bidding documents to the OWNER for each meeting.
- b. In addition, furnish additional sets to utility companies affected by the PROJECT. Schedule and attend conference(s) with affected utility companies to verify horizontal and vertical locations of their existing facilities as required. Revise documents as necessary to reflect utility company and OWNER comments. Obtain written approval from affected utility companies as to correctness of existing facilities and proposed relocations shown on the revised plans.
- c. Provide a written record of OWNER comments and the ENGINEER's responses.

Task 2 – Pipeline Detailed Design

- a. Environmental Analysis
 1. Prior to making a field visit, obtain information for the vicinity such as soils maps, National Wetland Inventory maps, topographic maps, floodplain maps, and other readily available, pertinent data. This information will be evaluated to guide the field survey described below. ENGINEER's scientists will conduct a pedestrian survey of the route to identify environmental issues. This investigation will include the following:
 - Identification of "waters of the U.S." as defined by U.S. Army Corps Engineers' regulations. These waters of the U.S. are regulated by the USACE and require a permit for activities conducted within the jurisdictional boundaries. The presence of jurisdictional waters such as ephemeral, intermittent, or perennial streams; wetlands; or other open waters will be documented.
 - The presence of potential habitat for any federally listed threatened or endangered species will be determined.
 2. ENGINEER's scientists will prepare a letter report that will include a description of field observations described above; an opinion of whether or not jurisdictional waters are present, and if so, the type(s) of waters; an estimate of the area of impact to waters of the U.S.; and a discussion of potential USACE 404 permit options. The design team will work with the environmental team to select construction methods that avoid impacts that would trigger the necessity for preconstruction notification to the USACE.

b. Hydraulic Analysis

1. Utilize the existing water model to make recommendations for connections to the existing distribution system. The ENGINEER is not responsible for the calibration and accuracy of the water model as provided by the OWNER. The OWNER will perform the hydraulic analysis as required by ODEQ.
2. It is assumed that hydraulic model represents existing conditions and operations of the City's water distribution system and no updates to the hydraulic model will be required. The hydraulic analysis will consist of the following elements:
 - Review available information on WTP high service pump curves and elevated storage facility operating levels.
 - Modeled operating pressures in the proposed pipeline.
 - Hydraulic grade line (HGL) for the proposed pipeline.
 - Verify proposed pipeline diameter.
 - Determine required pipeline pressure class.
 - Identification of hydraulic constraints in the treated water pipelines in the vicinity of the WTP.

c. Plans

The ENGINEER will develop the plans as follows:

1. The ENGINEER will develop and submit conceptual drawings to the OWNER for review in advancing the design. The intent of this submittal is to verify topographic survey, and proposed alignment related to existing easements and infrastructure. The OWNER will review and comment. ENGINEER will provide a written response to OWNER comments and will modify drawings incorporating required changes.
2. Perform design calculations; develop design drawings to 50%, 90% and 100% levels.
3. The ENGINEER will consult with the OWNER's Transportation and Public Works Department, Water Department, and other departments, public utilities, private utilities, ODOT, OK Mental Health Department (Land Owner) and other facilities that have an impact or influence on the project.
4. ENGINEER will require the Contractor to prepare the Storm Water Pollution Prevention Plan (SWPPP) required for the project for use by the CONTRACTOR during construction. ENGINEER will prepare standard details for proposed SWPPP improvements that the CONTRACTOR must use during construction. CONTRACTOR will be responsible for filing the SWPPP with appropriate regulatory agencies.
5. Prepare detailed plans for the installation of the 42-inch, 30-inch, and 4-inch water lines, valve vaults, and special connection details. The construction plans at a minimum shall include:
 - Plan and Profile sheets which show the following: proposed water plan/profile and recommended pipe size, fire hydrants, water service lines and meter boxes, valves, isolation valves, manholes, existing meter numbers and sizes that are to be replaced, existing sample locations, existing fire line locations, existing utilities and utility easements, and all pertinent information needed to construct the project. Property lines, legal description (Lot Nos., Block Nos., and Addition Names) along with property ownership shall be provided on plan view. Plans will reflect actual conditions to a distance of at least 25 feet on either side of the proposed water lines, excluding the width of Robinson Street.
 - The ENGINEER shall make provisions for reconnecting all identifiable water service lines which connect directly to any main being replaced under this project, including replacement of existing service lines within OWNER right-of-way or utility easement. When the existing alignment of a water line or lateral is changed, provisions will be made in the final plans and/or specifications by the ENGINEER to relocate all service lines which are connected to the existing main and connect said service lines to the relocated main.
 - The ENGINEER will prepare standard and special detail sheets for water line installation or replacement that are not already included in the OWNER's standard details. Applicable OWNER's standard details will be included or modified as necessary and included in the detail sheets.

ENGINEER will ensure that the design complies with the most recent amendment of all applicable portions of Oklahoma Administrative Code including but not limited to OAC 252:626, Public Water Supply Construction Standards.

6. After completion of the 90% quality control review meeting and prior to the advertisement for bids, ENGINEER will provide contract documents and prepare an engineering design report and calculations to comply with ODEQ requirements. ENGINEER will submit three (3) sets of half size plans and specifications to ODEQ for review. If necessary, incorporate modifications requested by permitting entities and obtain all required design approvals and permits. The OWNER will be responsible for fees associated with the permitting process. OWNER will ensure that all necessary ROW is obtained prior to award of any construction contract(s). Submit plans as required to all parties associated with PROJECT including OWNER, ODEQ and private utility companies. ENGINEER will provide a written response to OWNER comments and will modify documents incorporating required changes. ENGINEER will provide sealed construction contract documents to OWNER.

Task 3 – Specifications

- a. Prepare specifications to fully describe the intended work and convey the intent of the design. ENGINEER will utilize City of Norman Standard Specifications and Construction Drawings (City Specifications) to the maximum extent possible.
- b. Prepare specifications for the proposed work on a unit price basis. Specifications shall include a measurement and payment description. Each unit price bid item will be fully described in this section. Bid documents shall be prepared to allow differing construction techniques such open trench, boring and jacking, or directional boring. The use of additive alternates shall be evaluated by the ENGINEER and incorporated if feasible to provide flexibility in awarding portions of the work that are within the OWNER's budget.

Task 4 – Opinion of Probable Construction Cost (OPCC) Development

- a. ENGINEER will prepare an OPCC for review by the OWNER. This OPCC will be prepared and submitted with the 50% and 90% quality control review of the plans and specifications. The ENGINEER will update the OPCC for submittal with the final sealed plans and specifications.
- b. Preparation of additional construction packages, separate procurement packages or additional OPCC's if requested by the OWNER shall be provided as an ADDITIONAL SERVICE.

Deliverables

- a. Conceptual drawings
 - i. Electronic (PDF) files of plans
- b. 50% plans, OPCC and table of contents for specifications
 - i. Four sets of half size (11-in x 17-in) plans
 - ii. Electronic (PDF) files of plans, OPCC and specifications TOC
- c. 90% plans, OPCC and specifications
 - i. Four sets of half size (11-in x 17-in) plans and two specification books
 - ii. Electronic (PDF) files of plans, OPCC and specifications
- d. Final sealed plans and specifications
 - i. Four sets of half size (11-in x 17-in) plans and four specification books
 - ii. Electronic (PDF) files of plans and specifications
- e. Final OPCC

ACTIVITY C – BID PHASE SERVICES

Task 1 – Pre-Bid Activities

Assist the OWNER in the advertisement of the project for competitive bids.

- a. Assist the OWNER in securing bids, preparing addenda, issuing notice to bidders and notifying construction news publications. The notice to bidders will be furnished to the OWNER for publication in the local news media. The cost for publications shall be paid by the OWNER. The ENGINEER will reproduce copies and distribute bidding documents. The ENGINEER will retain money received from the sale of bidding documents. The price of bid documents shall be agreed to by the OWNER and ENGINEER prior to advertisement.
- b. Coordinate and conduct a mandatory pre-bid conference for the project for the bid package included in Basic Services.
- c. In conjunction with the OWNER, ENGINEER will issue addenda in response to questions raised during the bidding process. ENGINEER will transmit addenda to all plan holders.

Task 2 – Post-Bid Activities

- a. Assist the OWNER in the opening and tabulation of bids for construction of project and recommend to the OWNER as to the proper action on all proposals received.
- b. Following the opening of bids the ENGINEER shall conform the contract documents including all addendum changes. The following contract document sets shall be provided to the OWNER and CONTRACTOR:
 1. Four sets of half size (11-in x 17-in) conformed plans.
 2. One set of full size (22-in x 34-in) conformed plans.
 3. Two conformed specification books for execution by the respective parties.
 4. Electronic (PDF) files of the plans and specifications via ftp site or optical disc.
- c. Assist the OWNER in coordinating the execution of the conformed contract documents.
- d. Preparation of additional copies of the documents for the OWNER or other parties will be performed by the ENGINEER as an ADDITIONAL SERVICE.

ACTIVITY D – CONSTRUCTION PHASE SERVICES

Task 1 – Pre-Construction Conference

- a. Conduct pre-construction conference and, in conjunction with the OWNER, issue clarifications in response to questions raised at the conferences. Attend monthly progress meetings at City Hall with the OWNER and the PROJECT contractor. Meet with OWNER staff and/or the City Council for PROJECT discussions, coordination and presentations as required by the OWNER.

Task 2 – Field Activities

- a. Represent the OWNER in Non-Resident construction administration of the project. In this capacity, the construction administration duties shall not place any responsibility on ENGINEER for the techniques, sequences and methods of construction or the safety precautions incident thereto, and the ENGINEER will not be responsible or liable in any degree for the Contractor's failure to perform the construction work in accordance with the Contract Documents.
- b. Make an average of one visit each month to the site for a 8-month period beginning with the date of execution of a construction contract by the OWNER to observe the progress and the quality of work and attend a construction progress meeting. The ENGINEER shall become familiar with the progress and quality of the work completed and will determine in general if the work when completed will be in accordance with the contract documents. In addition, on the basis of on-site observations, the ENGINEER shall exercise

reasonable care and due diligence in discovering and promptly reporting to the OWNER any defects or deficiencies in the work of CONTRACTOR or any subcontractor. The OWNER's approval, acceptance, use of, or payment for all or any part of the ENGINEER's services hereunder or the PROJECT itself shall in no way alter the ENGINEER's obligations or the OWNER's rights hereunder.

- c. Meet and review construction progress with OWNER inspectors, or 3rd Party Inspection personnel under contract with the OWNER, during the monthly site visits.
- d. Site visits beyond those described in the paragraphs above by the Engineer to check quality or quantity of the work or material shall be considered an ADDITIONAL SERVICE.
- e. Establish benchmarks and reference points for construction, one time only. Construction staking shall be considered an ADDITIONAL SERVICE.
- f. Conducting, with the OWNER's representative, a final inspection of the PROJECT for conformance with the design concept of the PROJECT and general compliance with the contract documents.

Task 3 – Construction Documentation

- a. Review samples, catalog data, schedules, shop drawings, laboratory, shop and mill tests of material and equipment and other data which the CONTRACTOR is required to submit, only for conformance with the design concept of the project and compliance with the information given by the Contract Documents.
- b. ENGINEER will review and comment on the certificate of completion and the recommendation for monthly progress payments to the CONTRACTOR. Verification of quantities and completion of work shall be the responsibility of the OWNER. OWNER will provide a copy of the approved pay application to the ENGINEER.
- c. Review and comment on the certificate of completion and the recommendation for final payment to the CONTRACTOR following final inspection of the completed Project.
- d. Review, evaluate and prepare routine change orders as required.

Task 4 – Record Drawing Preparation

- a. Revise contract drawings with reference to the Contract Document required "red line" notations and the assistance of assigned OWNER or 3rd Party Resident Representative Staff. Revised drawings shall reflect available information as to how the work was constructed. Furnish a set of reproducible mylars of these revised drawings to the OWNER as well as the drawings on an electronic thumb drive after completion of the project. Final as-built data shall be submitted in digital format as CAD files, as well as ESRI Arc GIS 10.5 compatible data layers to allow incorporating this data into the City's GIS system. As an alternate to GIS datalayers, the Contractor may provide all waterline X,Y coordinates in a spreadsheet for the City to use in mapping the data. All spatial data will be free of slivers or overlapping polygons, and must maintain topological integrity.

ACTIVITY E – ENGINEERING ALLOWANCES

Task 1 – Topographic Survey

- a. The amount shown in Attachment C is for detailed survey and will not be exceeded without written OWNER approval.
- b. ENGINEER will coordinate and subcontract topographic survey services beginning at the West side of the intersection of East Robinson Street and 24th Avenue NE going east approximately a ½ mile to the Norman Water Treatment Plant. The limits of the survey will be 50' each side of the proposed water line route which is roughly from the centerline of Robinson Street south 100'. Survey scope of work will include the following tasks:

1. Horizontal & Vertical Control:

- Set a minimum of two (2) control points for horizontal and vertical purposes. The primary control points will be tied to the City of Norman control network.
 - Establish benchmarks at no more than 400' intervals throughout the survey limits.
 - Run a differential level loop through all control points and benchmarks.
2. Topographic Survey:
- Provide topographic survey services to include the following existing surface features: roads, curbs, drives, sidewalks, buildings, finished floor at thresholds, signs, fences, walls, decorative trees, flowerbeds, all visible drainage structures, and visible and/or marked utilities
 - All utility companies servicing the project area will be contacted through "OKIE811" at least 48 hours prior to survey and the locations will be obtained. Private utilities that are not members of "OKIE811" will not be researched and locates will not be requested by ENGINEER for these non-members. If utility markers/evidence is found during the survey ENGINEER will attempt to contact the corresponding owner to have them located. ENGINEER will contact members listed on the OKIE ticket, request utility atlas maps, and plot atlas maps if possible. All utility information will be placed in the CAD drawing. ENGINEER is NOT responsible for unmarked or mismarked utilities.
 - Storm sewer manholes, sanitary sewer manholes, water valves and their inverts will be measured for depth (to the connection outside of survey limits).
 - Cross sections at 100' spacing including applicable break lines
3. Land Ties and Property Depiction:
- Research northern portion of Section 27, T9N R2W, I.M., Cleveland County, Oklahoma in order to accurately plot existing right-of-way, subdivision plats (if applicable) and property deeds.
 - Plot the right-of-way along Robinson Street throughout the survey limits.
 - Plot property deeds and subdivision plats for the properties adjoining the survey limits.
 - Have a Right of Way/Easement search conducted through an abstractor/title company and plot any documents received throughout the survey limits.
4. Easement Exhibit Preparation
- Prepare legal descriptions and easement exhibits on an as needed basis.
 - Note: All easement boundaries will be provided in Civil 3D or AutoCAD Format referenced to the topographic survey.
 - Easement Exhibit Fee of \$500.00 is based on a "per parcel" basis. For budgeting purposes, it is assumed that two parcel exhibits are required.
5. Subsurface Utility Engineering (SUE).
- SUE services will be located in areas requiring limited traffic control (Cones Only). All potholes will be filled with sand and/or slurry concrete. All Potholes will be to a depth of 6 feet from existing ground elevation. General Pothole locations to be provided by ENGINEER and approved by the OWNER. Actual Pot Holes will be based on OKIE field markings. A total of 4 pothole locations are budgeted.

Task 2 – Geotechnical Analysis

- a. ENGINEER will coordinate and subcontract geotechnical investigation services to evaluate subsurface conditions along the water line alignment. The geotechnical investigation will include field exploration, laboratory testing, and related reporting.
1. Field Exploration:
- a. Drill up to two (2) exploratory core borings to a depth of 15 feet and three (3) to a depth of 25 feet below the existing ground surface at select locations. The borings will be drilled in safe, clear, and accessible areas with a truck-mounted drilling rig.

- b. Utilize an all-terrain-mounted drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Four samples are obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. Soil sampling is typically performed using thin-wall tube and/or split-barrel sampling procedures. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge is pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split barrel sampling procedure, a standard 2-inch outer diameter split barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. The samples are placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. In addition, we observe and record groundwater levels during drilling, immediately after drilling, and approximately 24 hours after drilling.
 - c. Prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the geotechnical engineer's interpretation, and include modifications based on observations and laboratory tests.
 - d. Coordination regarding access permission and utility clearance at the selected boring locations will be conducted prior to initiating the field exploration. It is assumed that the necessary permission to enter each site will be obtained by the OWNER. Utility clearance at each location will be obtained by notifying the Oklahoma One-Call system and through coordination with the appropriate OWNER'S utility/public works department.
 - e. It is assumed that all drilling will be conducted outside the limits of roadways and traffic control will not be required. If traffic control is required, those services will be considered an Additional Service and additional costs for these services will be incurred. Traffic control, if needed, will require approval from the OWNER prior to providing these services.
 - f. Backfill borings per Oklahoma Water Resources Board requirements after completion. As required by the State of Oklahoma, any borings deeper than 20 feet, or borings which encounter groundwater or contaminated materials must be grouted or plugged in accordance with Oklahoma State statutes. One boring log must also be submitted to the Oklahoma Water Resources Board for each 10 acres of project site area.
2. Laboratory Testing
 - a. Testing shall be performed on samples obtained from the borings to determine soil classification and pertinent engineering properties of the subsurface materials.
 - b. Laboratory tests will be appropriately assigned for the specific subsurface materials encountered during exploration. Exact types and number of tests cannot be defined until completion of field work.
3. Reporting
 - a. Reporting will include the following documentation summarizing the investigation performed.
 - Boring logs with field and laboratory data
 - Stratification based on visual soil and rock classification
 - Groundwater levels observed during drilling, immediately after drilling, and approximately 24 hours after drilling
 - Site and boring location plans
 - Subsurface exploration procedures
 - Description of subsurface conditions
 - Recommended foundation options and engineering design parameters (for the vaults)
 - Estimated settlement of foundations (for the vaults)

- Lateral earth pressure recommendations (for the vaults)
- Seismic site classification
- Earthwork recommendations
- Design recommendations for thrust blocks

Task 3 – Resident Project Representative

- a. The Engineer may have a Resident Project Representative on the Site. The duties, responsibilities and the limitations of authority of the Resident Project Representative, and designated assistants, are as follows:
 1. Resident Project Representative (RPR) is Engineer's agent at the site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the on-site Work shall in general be with Engineer and Contractor, keeping Owner advised as necessary. RPR's dealings with Subcontractors shall only be through or with full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under the direction of Engineer.
 2. Fees for the on-site RPR will be negotiated at a later date. The ENGINEER will not proceed with RPR services without prior authorization from the OWNER.
- b. Duties and Responsibilities of Resident Project Representative:
 1. Schedules: Review the progress schedule, schedule of Shop Drawing submittals and schedules of values prepared by Contractor and consult with Engineer concerning acceptability.
 2. Conferences and Meetings: Attend meetings with Contractor, such as pre-construction conferences, progress meetings, job conferences and other project-related meetings.
 3. Liaison:
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of Contract Documents; and assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.
 - b. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
 4. Review of Work, Rejection of Defective Work, Inspections and Tests:
 - a. Conduct on-site observations of the Work in progress to determine if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever Resident Project Representative believes that any Work will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of Work the Resident Project Representative believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
 - c. Verify that tests, equipment and systems start-up and operating and maintenance training are conducted in the presence of appropriate personnel, and the Contractor maintains adequate records thereof; and observe record and report to Engineer appropriate details relative to the test procedures and start-ups.
 - d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Engineer.
 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
 6. Request for Revisions: Consider and evaluate Contractor's suggestions for revisions to Drawings or Specifications and report with Resident Project Representative's recommendations to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
 7. Records:

- a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and Samples, reproductions of original Contract Documents, including all Work Change Directives, Addenda, Change Orders, Field Orders, Written Amendments, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, submittals and correspondence received from and delivered to Contractor and other Project related documents.
8. Reports:
 - a. Furnish to Engineer and Owner periodic reports as required of progress of the work and of Contractor's compliance with the progress schedule and schedule of Shop Drawings and Sample submittals.
 - b. Consult with Engineer and Owner in advance of scheduled major tests, inspections or start of important phases of the Work.
 - c. Draft proposed Written Amendments, Change Orders and Work Change Directives, obtaining backup material from Contractor and recommend to Engineer and Owner Written Amendments, Change Orders, Work Change Directives, and Field Orders.
 - d. Report immediately to Engineer and Owner the occurrence of any accident.
9. Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Owner, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment at the Site but not incorporated in the Work.
10. Certificates, Maintenance and Operation Manuals: During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Engineer for review and forwarding to Owner prior to final payment for the Work.
11. Completion:
 - a. Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
 - b. Observe whether Contractor has performed inspections required by laws or regulations, ordinances, codes or order applicable to the Work, including but not limited to those to be performed by public agencies having jurisdiction over the Work.
 - c. Conduct a final inspection in the company of Engineer, Owner and Contractor and prepare a final list of items to be completed or corrected.
 - d. Observe whether all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance.
- c. Limitations of Authority of Resident Project Representative:
 1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless authorized by Engineer.
 2. Shall not exceed limitations of Engineer's authority as set forth in Agreement or the Contract Documents.
 3. Shall not undertake any of the responsibilities of Contractor, Subcontractor, Suppliers, or Contractor's superintendent.
 4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
 5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work or any activities or operations of Owner or Contractor.
 6. Shall not accept shop drawing or sample submittals from anyone other than the Contractor.
 7. Shall not participate in specialized field or laboratory tests or inspections conducted by others, except as specifically authorized by Engineer.

3.0 ADDITIONAL SERVICES

Additional Services are those services not included in General Services that may be required for the Project but cannot be defined sufficiently at this time to establish a Scope of Work. These include, but are not necessarily limited to the following:

- a. Other services not included in Basic that are approved by the OWNER.
- b. Modification of design criteria or significant design changes following review and comment on the 50% and 90% design document submittals.
- c. Labor and Analytical costs associated with water quality sampling, not included in Basic or Special Services.
- d. Archeological investigations
- e. GIS processing of geophysical and/or geotechnical data beyond the assumptions provided in Basic or Special Services.
- f. Preparing applications and supporting documents for grants, loans, or planning advances for providing data for detailed applications.
- g. Providing additional copies of reports, plans, specifications, OPCC's and contract documents beyond those specifically described in Basic and Special Services.
- h. Preparing environmental impact statements, storm water discharge permits, and 404 permit applications, except as specifically included in the Basic Engineering Services.
- i. Performing wetland delineation potentially identified during the performance of Basic Services.
- j. Appearing before regulatory agencies or courts as an expert witness in any litigation with third parties other than condemnation proceedings arising from the development or construction of the Project, including the preparation of engineering data and reports for assistance to the OWNER.
- k. Payment of fees for permit applications and publication(s) of notices.
- l. Public relation activities and consulting services.
- m. Additional Easement Services by the Surveyor beyond the dollar amount included for the allowance
- n. Services known to be required for completion of the PROJECT that the OWNER agrees are to be furnished by the ENGINEER or by a sub-consultant that cannot be defined sufficiently at this time to establish the maximum compensation.

ATTACHMENT C

COMPENSATION

The OWNER will compensate ENGINEER on a lump sum basis for the SERVICES rendered. The lump sum fee is broken down below by task as defined in the Scope of Services:

Activity	Task Description	Lump Sum Amount	Not To Exceed Amount	Total
	DETAILED DESIGN & CONSTRUCTION			
A	Project Coordination	\$21,000	\$0	\$21,000
B	Final Pipeline Design	\$82,200	\$0	\$82,200
C	Bid Phase Services	\$9,400	\$0	\$9,400
D	Construction Phase Services	\$29,600	\$0	\$29,600
	Subtotal	\$142,200	\$0	\$142,200
	ENGINEERING ALLOWANCES			
E1	Topographic Survey	\$12,100	\$2,400	\$14,500
E2	Geotechnical Analysis	\$0	\$8,800	\$8,800
E3	Resident Project Representative	\$0	TBD	TBD
F	Reimbursables	\$0	\$2,900	\$2,900
	Subtotal	\$12,100	\$14,100	\$26,200
	Total Fee	\$154,300	\$14,100	\$168,400

The ENGINEER may submit interim statements, not to exceed one per month, for partial payment for SERVICES rendered. The statements to OWNER will be by task for the percentage of work actually completed. The OWNER shall make interim payments within 30 calendar days in response to ENGINEER's interim statements.

No budgetary allowance has established for Additional Services. Additional services must be authorized by amendment of the agreement. Time and materials billing for ENGINEER'S labor will be at the hourly rates provided below. ENGINEER's direct expenses, including subcontractor expenses, will include a multiplier of 1.10.