City of KELLER

EXHTBTT "A"



AGREEMENT FOR PROFESSIONAL SERVICES

PROJECT NAME: WATER SYSTEM CAPITAL IMPROVEMENT PLAN - PHASE 2

TNP PROJECT NUMBER: KEL 19470

CLIENT: City of Keller

ADDRESS: 1100 Bear Creek Parkway

Keller, Texas 76244

City of Keller (Client) hereby requests and authorizes Teague Nall and Perkins, Inc., (Consultant) to perform the following services:

Article I

SCOPE OF BASIC SERVICES:

Consultant shall provide survey, design, bidding, construction management and construction inspection services for the improvements associated with Phase 2 of City of Keller's Water System Capital Improvement Plan. The project involves approximately 16,130 LF of water line replacements. The purpose of the project is addressing water loss within the City of Keller's water distribution system. A graphical depiction of the approximate location and limits of the water line replacements is shown depicted on Exhibit 'A'. The following is a summary of the projects associated with this scope of services:

Project 8 - Hillside Drive - 2,025 LF of 8" water line

Project 14 – Bourland Road (South) – 1,520 LF of 8" water line

Project 15 – Bancroft Road (West) – 2,380 LF of 8" water line

Project 19 - Pearson Lane - 5,060 LF of 8" water line

Project 21 – Chandler Road – 2,575 LF of 8" water line

Project 33 – Pate Orr Road – 2,570 LF of 8" water line

Project 40 – Water Service Replacements

A detailed scope of services is included as Attachment 'A' and is made a part hereto.

Article II

COMPENSATION:

Compensation to be on a basis of the following:

- 1. **BASIC SERVICES:** The Client agrees to pay the Consultant as follows:
 - a. Services associated with Tasks 1, 2 and 3 (preparing the construction plans and documents for the water line improvements) shall be performed for the fixed fee amount of \$272,475 (Two Hundred Seventy-Two Thousand, Four Hundred Seventy-Five Dollars). The services to be provided are further outlined on Attachment 'A'.
 - b. Services associated with Task 4 (Construction Management) shall be performed on a time and expense basis with a not-to-exceed budget of \$81,500 (Eighty-One Thousand, Five Hundred Dollars). This budget is an estimate for the services anticipated but the actual cost for these services may be a lesser or higher amount. However, it is understood that the stated budget amount shall not be exceeded without written authorization from the Client. Reimbursement shall be per the



- Consultant's standard rate schedule (Attachment 'B'). The services to be provided are further outlined on Attachment 'A'.
- c. Services associated with Task 5 (Construction Inspection) shall be performed on a time and expense basis with a not-to-exceed budget of \$173,400 (One Hundred Seventy-Three Thousand, Four Hundred Dollars). This budget is an estimate for the services anticipated but the actual cost for these services may be a lesser or higher amount. However, it is understood that the stated budget amount shall not be exceeded without written authorization from the Client. Reimbursement shall be per the Consultant's standard rate schedule (Attachment 'B'). The services to be provided are further outlined on Attachment 'A'.
- 2. SPECIAL SERVICES: The Client agrees to pay the Consultant as follows:
 - a. Services associated with Task 6 (Survey Services) shall be performed for the fixed fee amount of \$116,155 (One Hundred Sixteen Thousand, One Hundred Fifty-Five Dollars). The services to be provided are further outlined on Attachment 'A'.
 - b. Services associated with Task 7 (Subsurface Utility Engineering) shall be performed on a unit price basis with a not-to-exceed budget of \$166,000 (One Hundred Sixty-Six Thousand Dollars). This budget is an estimate for the services anticipated but the actual cost for these services may be a lesser or higher amount. However, it is understood that the stated budget amount shall not be exceeded without written authorization from the Client. Unit prices shall be \$0.60 per linear foot of Level C SUE for non-delectable utilities, \$1.50 per linear foot of Level B SUE for detectable utilities, and \$2,100 per Level A test hole. The services to be provided are further outlined on Attachment 'A'.
 - c. Services associated with Task 8 (Easement Preparation) shall be performed on a unit price basis with a not-to-exceed budget of \$15,000 (Fifteen Thousand Dollars). This budget is an estimate for the services anticipated but the actual cost for these services may be a lesser or higher amount. However, it is understood that the stated budget amount shall not be exceeded without written authorization from the Client. The unit price shall be \$2,500 per easement instrument. The services to be provided are further outlined on Attachment 'A'.
 - d. Services associated with Task 9 (ROW Negotiation Services) shall be performed on a unit price basis with a not-to-exceed budget of \$19,200 (Nineteen Thousand, Two Hundred Dollars). This budget is an estimate for the services anticipated but the actual cost for these services may be a lesser or higher amount. However, it is understood that the stated budget amount shall not be exceeded without written authorization from the Client. The unit price shall be \$3,200 per parcel. The services to be provided are further outlined on Attachment 'A'.
 - e. Services associated with Task 10 (Geotechnical Investigations) shall be performed for the fixed fee amount of \$13,750 (Thirteen Thousand, Seven Hundred Fifty Dollars). The services to be provided are further outlined on Attachment 'A'.
 - f. Services associated with Task 11 (Materials Testing) shall be performed on a time and expense basis with a not-to-exceed budget of \$19,900 (Nineteen Thousand, Nine Hundred Dollars). This budget is an estimate for the services anticipated but the actual cost for these services may be a lesser or higher amount. However, it is understood that the stated budget amount shall not be exceeded without written authorization from the Client. Reimbursement shall be per the Consultant's standard rate schedule (Attachment 'B'). The services to be provided are further outlined on Attachment 'A'.
- 3. **DIRECT EXPENSES:** The Client agrees to pay the Consultant as follows:
 - a. Direct expenses for the Project shall be a fixed fee amount of \$7,000 (Seven Thousand Dollars). Direct expenses include prints, plots, photocopies, plans or documents on CD, DVD or memory devices, postage,



courier services and mileage. No individual or separate accounting of these items will be performed by TNP. Direct expenses shall be invoiced on a percent complete basis with contractor award of the project representing 100% completion for the purposes of direct expense invoicing. Any permit fees, filing fees, or other fees related to the project and paid on behalf of the client by TNP to other entities shall be invoiced at 1.10 times actual cost and are not accounted for in the \$7,000 direct expense budget.

- 4. **ADDITIONAL SERVICES:** The Client agrees to pay the Consultant as follows:
 - a. Services incidental to the project but not within the scope of the Basic Services or the Special Services may be added by the City to the Consultant's responsibilities. These services shall be performed on a time and expense basis. The established budget for these services shall be \$25,000 (Twenty-Five Thousand Dollars). No Additional Services shall be performed without the City's written authorization. Reimbursement shall be per the Consultant's standard rate schedule (Attachment 'B').

PAYMENT TERMS: Client shall be billed monthly for services rendered and pay upon receipt of invoice. Delays of transmitting payments to Consultant more than 30 days from invoice date may result in cessation of services until payment is received.

Article III

SCHEDULE: The proposed services shall begin within 5 working days of authorization to proceed. A conceptual project scheduled is included as Attachment 'C'.

It is understood and mutually agreed that the objective of all involved in this project is to produce and provide quality and complete information and deliverables, which requires a considerable amount of coordination and cooperation, as well as adequate time for research, analysis and development. It is also understood that Consultant's ability to perform the scope of service is dependent upon timely receipt of information and data from the Client, as well as other requested materials as may be needed to complete the work. Adjustments in schedule may be required should information or data from the Client become delayed or not provided in a timely manner. It is anticipated that the life of this service agreement will be no more than **Twenty-Seven (27) months** after receiving the authorization to proceed. If necessary and mutually agreed in writing by both parties, the duration of the contract can be extended.

Article IV

Key Project Personnel: The Consultant has committed key project personnel to the project as identified in Attachment 'D'. Consultant agrees to make these personnel available for the project as needed to accomplish the scope set forth herein. If a key project member becomes physically unable to perform on Client's project as a result of illness, injury, death, leave, departure from the firm, or any other reason, a qualified substitute shall be communicated to the Client for review and approval.



Article V

SUPPLEMENTAL PROVISIONS: The attached supplemental provisions are incorporated and made a part of this agreement.

Please execute and return a signed copy for our files. Receipt of an executed copy of this contract will serve as notice to proceed. No work shall commence on the project until an executed copy of this contract is received by Consultant. By signing below, the signer warrants that he or she is authorized to execute binding contracts for the Client for the services indicated.

Approved by Client:		Accepted by Consultant:				
City of Keller		Teague Nall and Perkins, Inc.				
Ву:		Ву:	Smith De			
	Mark Hafner		Jonathan Bengfort, PE			
Title:	City Manager	Title:	Director of Engineering Services			
Date:		Date:	December 27, 2019			



Supplemental Provisions

AUTHORIZATION TO PROCEED

Signing this agreement shall be construed as authorization by CLIENT for TNP, Inc. to proceed with the work, unless otherwise provided for in this agreement.

2. LABOR COSTS

TNP, Inc.'s Labor Costs shall be the amount of salaries paid TNP, Inc.'s employees for work performed on CLIENTS Project plus a stipulated percentage of such salaries to cover all payroll-related taxes, payments, premiums, and benefits.

3. DIRECT EXPENSES

A fee equal to 3% of labor billings shall be included on each monthly invoice to account for the TNP's direct expenses for the Project. Direct Expenses shall be those costs incurred on or directly for the CLIENT's Project, including but not limited to prints, plots, copies, postage, courier services, binding charges, mileage, etc. Any permit fees, filing fees, application fees related to the Project that are paid by the TNP and are not covered by the scope of services shall be reimbursed by the CLIENT at 1.10 times the actual cost.

4. OUTSIDE SERVICES

When technical or professional services are furnished by an outside source, when approved by CLIENT, an additional amount shall be added to the cost of these services for TNP, Inc.'s administrative costs, as provided herein.

5. OPINION OF PROBABLE COST

In providing opinions of probable cost, the CLIENT understands that TNP, Inc. has no control over costs or the price of labor, equipment, or materials, or over the Contractor's method of pricing, and that the opinions of probable cost provided to CLIENT are to be made on the basis of the design professional's qualifications and experience. TNP, Inc. makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

6. PROFESSIONAL STANDARDS

TNP, Inc. shall be responsible, to the level of competency presently maintained by other practicing professional engineers in the same type of work in the State of Texas, for the professional and technical soundness, accuracy, and adequacy of all design, drawings, specifications, and other work and materials furnished under this Authorization. TNP, Inc. makes no other warranty, expressed or implied.

7. TERMINATION

Either CLIENT or TNP, Inc. may terminate this authorization by giving 10 days written notice to the other party. In such event CLIENT shall forthwith pay TNP, Inc. in full for all work previously authorized and performed prior to effective date of termination. If no notice of termination is given, relationships and obligations created by this Authorization shall be terminated upon completion of all applicable requirements of this Authorization.

MEDIATION

In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the CLIENT and the ENGINEER agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbonding mediation unless the parties mutually agree otherwise.

The CLIENT and the ENGINEER further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants retained also to include a similar mediation provision in all agreements with subcontractors, subconsultants, suppliers or fabricators so retained, thereby providing for mediation as the primary method for dispute resolution between the parties to those agreements.

9. LEGAL EXPENSES

In the event legal action is brought by CLIENT or TNP, Inc. against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions hereby created, the losing party shall pay the prevailing party such reasonable amounts for fees, costs and expenses as may be set by the court.

10. PAYMENT TO TNP, INC

Monthly invoices will be issued by TNP, Inc. for all work performed under the terms of this agreement. Invoices are due and payable on receipt. If payment is not received within 30 days of invoice date, all work on CLIENT's project shall cease and all work products and documents shall be withheld until payment is received by TNP. Time shall be added to the project schedule for any work stoppages resulting from CLIENT's failure to render payment within 30 days of invoice date. Interest at the rate of 1½% per month will be charged on all past-due amounts, unless not permitted by law, in which case, interest will be charged at the highest amount permitted by law.

11. LIMITATION OF LIABILITY

TNP, Inc.'s liability to the CLIENT for any cause or combination of causes is in the aggregate, limited to an amount no greater than the fee earned under this agreement.

12. ADDITIONAL SERVICES

Services not specified as Basic Services in Scope and Attachment 'A' will be provided by TNP, Inc. as Additional Services when required. The CLIENT agrees upon execution of this contract that no additional authorization is required. Additional services will be paid for by CLIENT as indicated in Article II, Compensation.

13. SALES TAX

In accordance with the State Sales Tax Codes, certain surveying services are taxable. Applicable sales tax <u>is not</u> included in the fee set forth and will be added on and collected when required by state law. Sales tax at the applicable rate will be indicated on invoice statements.

14. SURVEYING SERVICES

In accordance with the Professional Land Surveying Practices Act of 1989, the CLIENT is informed that any complaints about surveying services may be forwarded to the Texas Board of Professional Land Surveying, 12100 Park 35 Circle, Building A, Suite 156, MC-230, Austin, Texas 78753, (512) 239-5263.

15. LANDSCAPE ARCHITECT SERVICES

The Texas Board of Architectural Examiners has jurisdiction over complaints regarding the professional practices of persons registered as landscape architects in Texas.



The CLIENT is informed that any complaints about landscape architecture services be forwarded to the Texas Board of Architectural Examiners, Hobby Building: 333 Guadalupe, Suite 2-350, Austin, Texas 78701, Telephone (512) 305-9000, Fax (512) 305-8900.

16 INVALIDITY CLAUSE

In case any one or more of the provisions contained in this Agreement shall be held illegal, the enforceability of the remaining provisions contained herein shall not be impaired thereby.

17. PROJECT SITE SAFETY

TNP, Inc. has no duty or responsibility for project site safety.

18. CONSTRUCTION MEANS AND METHODS AND JOBSITE SAFETY

Means and methods of construction and jobsite safety are the sole responsibility of the contractor.

ATTACHMENT 'A' SCOPE OF SERVICES

DESIGN AND CONSTRUCTION SERVICES FOR WATER SYSTEM CAPITAL IMPROVEMENT PLAN - PHASE 2

CITY OF KELLER

The scope set forth herein defines the work to be performed by the CONSULTANT in completing the project. Both the CITY and CONSULTANT have attempted to clearly define the work to be performed and address the needs of the Project.

WORK TO BE PERFORMED

The purpose of the project is addressing water loss within the City of Keller's water distribution system. The project involves the investigation, survey, design, bidding, construction management and construction inspection of approximately 16,130 LF of water line replacements. A graphical depiction of the approximate location and limits of the water line replacements is shown depicted on Exhibit 'A'. The following is a summary of the projects associated with this scope of services. The project numbers correspond to the Project designations from the Water System CIP Report prepared by TNP for the City of Keller in 2017.

Project 8 – Hillside Drive – 2,025 LF of 8" water line

Project 14 - Bourland Road (South) - 1,520 LF of 8" water line

Project 15 – Bancroft Road (West) – 2,380 LF of 8" water line

Project 19 – Pearson Lane – 5,060 LF of 8" water line

Project 21 – Chandler Road – 2,575 LF of 8" water line

Project 33 – Pate Orr Road – 2,570 LF of 8" water line

Project 40 - Water Service Replacements

The following tasks have been identified for inclusion in this scope of services:

- Task 1. Preliminary Design
- Task 2. Final Design
- Task 3. Bid Phase Services
- Task 4. Construction Management Services
- Task 5. Construction Inspection Services
- Task 6. Survey Services
- Task 7. Subsurface Utility Engineering
- Task 8. Geotechnical Investigations
- Task 9. Materials Testing

TASK 1. PRELIMINARY DESIGN (60% Plans)

Preliminary plans shall be submitted to CITY per the approved Project Schedule.

CONSULTANT will develop the preliminary design of the infrastructure as follows.

CONSULTANT shall manage the project and,

- 1.1. Managing the Team
 - Lead, manage and direct design team activities
 - Ensure quality control is practiced in performance of the work
 - Communicate internally among team members
 - Task and allocate team resources
- 1.2. Communications and Reporting
 - Attend a pre-design project kickoff meeting with CITY staff to confirm and clarify scope, understand CITY objectives, and ensure economical and functional designs that meet CITY requirements
 - Conduct review meetings with the CITY at the end of each design phase.
 - Conduct site visits on an as-needed basis for investigations and coordination during the design process.
 - Prepare and submit monthly progress reports in the format requested by the CITY.
 - Prepare and submit an anticipated Project Schedule. Provide schedule updates as the Project progresses through the design process.
 - Coordinate with CITY, franchise utilities, property owners and other agencies and entities for the planning and design of the proposed infrastructure, and provide and obtain information needed to prepare the design.
 - Personnel and Vehicle Identification: When conducting site visits to the project location, the CONSULTANT or any of its sub-consultants shall carry readily available information identifying the name of the company and the company representative.

1.3. Data Collection

- In addition to data obtained from the CITY, CONSULTANT will attempt to identify and research proposed improvements by others that may influence the project.
- The CONSULTANT will also identify and seek to obtain data for existing conditions
 that may impact the project including but not limited to; agencies (AT&T, TxDOT, gas
 companies, etc.), and property ownership as available from the Tax Assessor's
 office.
- The CONSULTANT shall visit the project site to confirm the existing conditions and elements that may influence the design.

1.4. Water Modeling

 CONSULTANT assumes that no water modeling will be associated with this scope of services. Efforts related to performing any water modeling shall be considered an additional service.

1.5. Route Study

- CONSULTANT assumes that conceptual routes/limits identified in the Water System CIP Report will serve as the basis for the general alignments and limits of the proposed water line improvements.
- The routes and limits will be refined and adjusted as additional information is collected via the design survey and investigations.
- A formal route study is not part of this scope of services.
- 1.6. Development of Preliminary Design Drawings and Specifications shall include the following:
 - Cover Sheet
 - <u>Project Control Sheet</u> with benchmarks and control points.
 - General Notes Sheet
 - Overall project property sheet(s) with property owner information.
 - Overall project water layout sheets. The water layout sheet shall identify the proposed water line improvements, existing water and sewer lines in the vicinity.
 - Water Plan and Profile sheets including, but may not be limited to, the following:
 - Proposed water line alignment
 - Pipe size(s)
 - Valves
 - Appurtenances
 - Service connections
 - Pavement repair limits
 - Easement and ROW limits
 - Property ownership information
 - Existing utilities
 - > Temporary water lines
 - Coordinates on all P.C.'s, P.T.'s, P.I.'s, valves, mainline fittings, etc., in the same coordinate system as the Control Points
 - In general, proposed water lines less than 12" diameter will not be profiled. However, where deemed appropriate, profiles will be provided to help clarify the vertical alignment and relationship to existing utilities and features.
 - Water lines 12" and larger will be profiled.

- The CONSULTANT shall make provisions for reconnecting all identifiable water service lines which will be impacted by the proposed main, including replacement of existing service lines within City right-of-way or utility easement.
- The CONSULTANT will prepare special details for the water line installation and/or replacement that are not already included CITY's standard details. These may include connection details between various parts of the project, tunneling details, boring and jacking details, relocations, details unique to the construction of the project, trenchless details, and special reconnections.

1.7. Constructability Review

 Prior to the 60% review meeting with the CITY, the CONSULTANT shall schedule and attend a project site visit with the CITY to walk the project. The CONSULTANT shall summarize the CITY's comments from the field visit and submit this information to the CITY in writing.

1.8. Utility Clearance

- Subsurface Utility Engineering (SUE) services have been included in this scope of services. Please refer to Task 7.
- The CONSULTANT will consult with the applicable CITY's departments and other public utilities, private utilities and government agencies in an attempt to determine the approximate location of above and underground utilities, and other facilities (current and future) that may have an impact or influence on the project. Based on the information obtained, the CONSULTANT will design the proposed facilities in a manner that avoids or minimizes conflicts with existing utilities, and where known and possible, consider potential future utilities in designs. Should it become necessary to adjust an existing utility, this work shall be performed by the owner of the utility or it can be added to this scope of services as an Additional Service.
- The CONSULTANT will contact utility companies and/or 1-800-DIG-TESS to request locates of all utilities within the project limits. Any locates that are marked by others will be incorporated into the design survey and reflected on the plans.
- CONSULTANT shall attend a utility coordination meeting with the CITY and impacted
 franchise utility companies to review the project and the proposed timing. Plans
 shall be provided to the franchise utility companies for their use in identifying
 impacts and coordinating adjustments.

1.9. Traffic Control and Phasing

- Traffic Control shall be the responsibility of the Contractor.
- Where deemed appropriate, the plans shall contain notes and requirements for the Contractor directing to how the project shall be phased and how traffic flow shall be accommodated.
- Any overall Project phasing relating to the progression of the various projects within this scope of work shall be provided on the General Notes sheet.

1.10. Storm Water Pollution Prevention Plan

• The SWPPP shall be the responsibility of the Contractor.

ASSUMPTIONS

- It is assumed that the design services will span up to a maximum of twelve (12) months (Does NOT include construction).
- It is assumed that all projects associated with this engineering services agreement shall be designed and reviewed concurrently, regardless of how the projects are packaged and bid.
- Meetings: one kickoff meeting, one utility coordination meeting, one submittal meeting, site visits and design coordination meetings on an as-needed basis.
- CONSULTANT shall not proceed with Final Design activities without obtaining the CITY's approval of the Preliminary Design Plans.

DELIVERABLES

- A. Meeting minutes with action items
- B. Monthly invoices
- C. Monthly progress reports
- D. Project schedule with updates
- E. 4 copies of the Preliminary Design plans will be provided to the City for review.
- F. Permit Applications/correspondence (e.g. TxDOT, franchise utilities, gas companies, etc.)
- G. Franchise utility coordination drawings
- H. Preliminary Opinion of Probable Cost
- Names and addresses of residents and businesses that may be affected by the Project.
- J. Summary of the proposed technical specifications for the Project.

TASK 2. FINAL DESIGN (90%) AND FINAL CONSTRUCTION DOCUMENTS (100%)

Upon approval of the Preliminary plans, CONSULTANT will prepare construction plans as follows:

- 2.1. Development of Final Design Drawings and Specifications shall include the following:
 - The final plans shall include completed versions of all plan sheets associated with the preliminary plan submittal plus the CITY's standard details and any other plan sheets that were identified during the review of the preliminary plans or the development of the final plans.
 - Conduct site visits on an as-needed basis for investigations and coordination during the design process.
 - Proposal, technical specifications and documents not covered by the CITY's standard specifications and contract documents.
 - Final plans and specifications shall be submitted to CITY per the approved Project Schedule. Copies of the CITY's preliminary plans comments shall be provided with the submittal.
 - Following a 90% construction plan review meeting with the CITY, the CONSULTANT shall submit Construction Documents (100%) to the CITY per the approved Project Schedule. Each plan sheet shall be stamped, dated, and signed by the CONSULTANT licensed in State of Texas. The specification book shall contain updated proposal pages and all necessary technical specifications as well as copies of all necessary permits and approvals for construction of the project (e.g. TxDOT utility permit, utility crossing permits, easements, etc.)
 - The CONSULTANT shall submit a final opinion of probable construction cost with both the 90% and 100% design packages.
 - Coordinate with the CITY to develop a best-value based competitive sealed proposal selection criteria and format for bidding the Project in accordance with Texas Local Government Code Chapter 2269. Criteria to be used in the selection process can include, but is not limited to:
 - Price
 - Contractor's experience
 - Contractor's performance on similar work
 - Contractor's safety record
 - Contractor's personnel
 - Contractor's financial capacity

ASSUMPTIONS

- Project will be bid as a single construction package.
- All projects associated with this engineering services agreement shall be designed and reviewed concurrently.

DELIVERABLES

- A. 4 copies of the 90% design plans and specifications.
- B. 4 copies of the 100% construction plans and specifications.
- C. 90% and 100% final opinion of probable construction cost including summaries of bid items and quantities.
- D. Three (3) sets of bid document for the CITY's use during the bidding process.

TASK 3. BID PHASE SERVICES

CONSULTANT will provide the following services during the Project's bidding and award phase.

3.1. Bid Support

- Assist the CITY in preparing an advertisement for the construction project comprised of the seven (7) projects associated with Phase 2.
- Upload the bidding documents to a web-based distribution system such as Civcast.
- Assist the CITY in preparing an agenda and conducting a pre-bid conference.
- Assist the CITY in addressing bidder questions and preparing and distributing any addenda.
- Assist in the bid opening and tabulation of bids.
- Assist the CITY in evaluating the best value criteria and determining the qualifications
 of prospective contractors and their teams. Provide a letter of recommendation to
 the City for award of the project.
- Assist the CITY in coordinating with the selected Contractor to compile the necessary bonds and insurance to prepare the contract documents for execution by the CITY and the Contractor.
- Incorporate all addenda into the contract documents and issue conformed sets of plans and specifications for use as the issued for construction documents.

ASSUMPTIONS

- The CITY is responsible for the cost of advertising the project.
- The CONSULTANT will assemble the conformed contract documents and specifications for construction.
- The CONSULTANT will facilitate the distribution of plans through a web-based plan distribution system such as Civcast.
- The bid opening will take place at the City offices. CONSULTANT will be present to assist with the opening and reading of the bids.

DELIVER ABLES

- A. Addenda
- B. Bid tabulations and best value analysis
- C. Recommendation of award
- D. Up to 8 sets of Conformed plans and specifications

TASK 4. CONSTRUCTION MANAGEMENT SERVICES

CONSULTANT will provide construction management services for the project as follows.

4.1 Construction Support

- In performing services, CONSULTANT will endeavor to protect the CITY against
 defects and deficiencies in the work of Contractor. CONSULTANT will report any
 observed deficiencies to the CITY. CONSULTANT shall not be responsible for the
 means, methods, techniques, sequences, or procedures of construction selected by the
 Contractor, or the safety precautions and programs incident to the work of the
 Contractor
- Assemble the executed contracts with the conformed plans for distribution at the preconstruction meeting.
- The CONSULTANT shall prepare a pre-construction meeting agenda and conduct the pre-construction meeting in conjunction with the CITY. CONSULTANT shall prepare and distribute meeting minutes.
- Maintain a document control process/system for the purpose of tracking and processing the Contractor's submittals, RFI's, change orders, etc., and provide for filing and retrieval of Project documentation, including daily construction reports and tracking corrections to defective work.
- Establish and monitor quality assurance. Notify the CITY of non-conforming work observed by the CONSULTANT or identified by the Project inspector(s). Promptly recommend action to initiate corrective procedures for defective work, and coordinate special materials tests and performance tests needed to obtain a quality PROJECT.
- Provide interpretations and clarifications of contract documents, prepare change orders, and make recommendations as to the acceptability of the work.
- Review the Contractor's monthly pay requests and make recommendations to the CITY regarding acceptance and recommendation for payment.
- Make monthly site visits, generally before or after the monthly construction progress meeting. Observe the progress and the quality of work, and attempt to determine if the work is proceeding in accordance with the construction Contract Documents. The CONSULTANT will document any field notes.
- In addition to the monthly construction progress meetings, participate in up to four (4) additional meetings with the CITY and/or Contractor for the purpose of coordination or to address construction related issues.
- Prepare and lead monthly construction progress meetings at a location to be determined by the CITY. The CONSULTANT shall prepare the meeting agenda and will prepare and distribute meeting minutes.

- Review samples, catalog data, schedules, shop drawings and modification requests.
 Produce monthly reports to be distributed at the construction progress meeting indicating the status of all submittals, RFI's and change orders in the review process.
- Review quality related documents provided by the Contractor such as laboratory tests, equipment tests, or-equal submittals and other data and documentation associated with the Project.
- Assist the CITY in processing contract modifications (e.g. change orders) and in the negotiating with Contractor to determine the cost and time impacts of these changes.
- The CONSULTANT shall attend the "Final" project walk through and prepare the final punch list. CONSULTANT shall coordinate with the construction inspector and CITY to confirm that the punch list items have been addressed before issuing any substantial or final completion letters to the CITY.
- The CONSULTANT shall prepare Record Drawings using information provided by the CITY and the Contractor. Record drawings shall consist of a full size (22"x34") blackline copy and a PDF version on CD or flash drive. CONSULTANT shall also provide the CITY with AutoCAD files for the Project, if requested.
- Upon completion of Project, prepare and issue a Letter of Recommendation of Project Acceptance to the CITY that also identifies the start of the Project's warranty period.

ASSUMPTIONS

The length of construction is anticipated to be a period of twelve (12) months.

DELIVERABLES

- A. Meeting agenda and minutes
- B. Change orders and field changes
- C. Progress payment recommendation letters
- D. Final punch list
- E. Record drawings
- F. Recommendation of acceptance letter

TASK 5. CONSTRUCTION INSPECTION SERVICES

CONSULTANT will provide construction inspection services for the project as follows.

- Assign qualified staff to provide inspection of the work.
- Document work progress in daily work reports.
 - Confirm and document work performed.
 - Document all project activity inclusive of weather conditions, work items in progress and their locations, and any significant project issues.
- Review Contractor's traffic control set-up for each work site
- Meet with/attend utility meetings to facilitate coordination of contract work with existing utilities within the ROW.
- Facilitate the resolution of any issues arising with the abutting property owners.
- Coordinate Material Testing with the Project's material testing firm.
 - Receive and review test reports
 - Coordinate additional testing where deemed necessary
- Inspect water line placement
 - > Ensure construction plans are followed
 - Ensure specified materials are provided
 - Ensure pavement is saw cut to acceptable lines, backfill is placed at specified density and pavement is repaired in accordance with plan details
- Obtain horizontal and vertical data on facility inclusive of bends and valves for use in preparing record drawings upon completion of the project.
- Provide response to requests for information from Contractor.
- Review and verify the Contractor's progress report each month prior to processing the Contractor's pay request.
- Assist in the coordination and negotiation for any needs for Field Changes or Change Orders.
- Help the City resolve any Contractor disputes relative to the work.
- Serve as a liaison between the public and City and/or Contractor.
- Participate in the substantial completion walk-thru and prepare a final punch list prior to acceptance of the Project.
- Advise the City of the status of Contractor's progress on punch list.
- Witness pressure testing and sampling of the water lines.

ASSUMPTIONS

• The length of construction is anticipated to be twelve (12) months.

DELIVERABLES:

- A. Copies of Daily Work reports
- B. Copies of material testing reports
- C. Support documentation for RFI's, change orders and field changes
- D. As-built plans

TASK 6. SURVEY SERVICES

CONSULTANT will provide surveying services for the project as follows.

6.1. Design Survey

- CONSULTANT will perform field surveys to collect horizontal and vertical elevations and other information needed by CONSULTANT in design and preparation of plans for the project. Information gathered during the survey shall include topographic data, elevations of sanitary and adjacent storm sewers, rim/invert elevations, location of buried utilities (where marked), structures, trees (measure caliper, identify overall canopy, and species of trees), and other features relevant to the final plan sheets
- Visible utilities such as power poles, manholes and valves will be located and underground markings tied. Texas 811 will be notified in an effort to enhance the amount of visible utility information.
- The approximate ROW lines from the boundary analysis will be incorporated into the design survey.
- The minimum survey information to be provided on the plans shall include the following:
 - A Project Control Sheet, showing Control Points, used or set while gathering data. Generally, on a scale of not less than 1:400:
 - Coordinates on all P.C.'s, P.T.'s, P.I.'s, Manholes, Valves, etc., in the same coordinate system, as the Control.
 - > Approximately nine (9) bench marks and thirty-six (36) horizontal control points.
 - Bearings given on all proposed centerlines, or baselines.
 - Station equations when appropriate
- Prepare a topographic drawing in digital format (AutoCAD) showing 1-foot contours and the items listed above.

6.2. Right-of-Way and Easements

- It is anticipated that a majority of the survey associated with this project can be accomplished from within public right-of-way or existing public easements. Where determined necessary, the CONSULTANT will work with the CITY and coordinate with property owners to obtain right of entry for the survey activities. Should it become necessary to enter a fenced backyard, the CONSULTANT shall contact the CITY and coordinate the appropriate Right of Entry process.
- Perform property research and obtain deeds for the properties adjacent to the proposed alignments.

 Prepare a deed sketch to confirm the approximate limits of existing ROW and/or easements, and determine where additional easements may be required.

6.3. Construction Staking Services

- CONSULTANT shall provide the Contractor with an AutoCAD file that includes the alignments as well as the Project's control point and benchmark information.
- It is assumed that the Contractor will be responsible for performing the construction staking for the Project. If requested, the CONSULTANT shall provide the CITY with an Additional Services proposal for performing the construction staking.

ASSUMPTIONS

- A comprehensive tree survey is not part of the scope of services.
- Construction staking to be performed by the Contractor.

DELIVERABLES

- A. Deed sketch
- B. AutoCAD file containing the project layout with dimensions and coordinate list.

TASK 7. SUBSURFACE UTILITY ENGINEERING (SUE)

CONSULTANT will provide SUE services for the project as follows.

7.1. SUE Services

- Research and coordination (Level C and D SUE) for the purpose of identifying the
 utilities that are within or adjacent to the project limits is included with Task 1
 (Preliminary Design).
- Based on information collected during the preparation of the Project's Water System Capital Improvements Plan, the CONSULTANT anticipates there are approximately 93,000 LF of existing underground utilities (approximately 59,000 LF of detectable utilities and approximately 34,000 LF of non-detectable utilities) adjacent to the alignments of the proposed water lines. The CONSULTANT anticipates approximately 25 critical utility crossings warranting Level A test holes/locating. These amounts represent the anticipated total amounts of Level C/D (records research), Level B (toning and designating), and Level A (test hole) that will be associated with the Project.
- SUE work will be performed in compliance with CI/ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data".
- Flagging and markings from the Level B efforts will be field surveyed and transferred to the project base map to aid in the design.
- Each test hole will be field surveyed and transferred to the project base map to aid
 in the design. Vertical information from the test hole will be plotted in the design
 profiles to facilitate the determination of the vertical alignments of the Project's
 proposed water lines and other subsurface elements.
- The results of the Project's SUE efforts will be incorporated into the Project's base map and be reflected in the plan sheets as applicable. Separate sealed SUE drawings will also be prepared and included in the Project's construction documents.

ASSUMPTIONS

• The Project will involve approximately 34,000 of Level C/D research for non-detectable utilities, approximately 59,000 LF of Level B designating of detectable utilities, and approximately 25 Level A test holes.

DELIVERABLES

- A. SUE drawings
- B. AutoCAD file containing the results of the SUE investigations.

TASK 8. EASEMENT PREPARATION

CONSULTANT will provide easement preparation services for the project as follows.

- 8.1. Right-of-Way and Easements
 - It is anticipated that the majority of the proposed improvements shall be contained within existing ROW and/or easements. However, preparation of up to six (6) easements and/or ROW documents is included in the scope of this project. Preparation of easements and/or ROW documents above and beyond six (6) shall be considered an Additional Service.

ASSUMPTIONS

• No more than six (6) easement/ROW documents will be required.

DELIVERABLES

A. Easement exhibit and legal description

TASK 9. ROW NEGOTIATION SERVICES

CONSULTANT will provide ROW/easement negotiation services for the project as follows.

9.1. Project Administration

- Attend status meetings with appropriate City Staff. Date, time and location are determined by City Staff.
- Maintain copies of all correspondence and contacts with property owners.

9.2. Title and Closing Services

- Secure preliminary title commitment or preliminary title search, and 5-year sales
 data from Title Company that will be providing title insurance. The charges from
 the Title Company for the preliminary title commitments will be paid for by the City.
- Secure title commitment updates in accordance with insurance rules and requirements for parcel payment submissions.
- Secure title insurance for all parcels acquired, insuring acceptable title to the City. Written approval by the City required for any exception.
- The curative services necessary to provide clear title to the City is the responsibility of the Provider (Teague Nall and Perkins).
- Cost of curative services must be included in the negotiated fee schedule for this service.
- Curative services do not include costs/expenses that qualify as payment of incidental expenses to transfer real property to the City.
- The Provider has the responsibility of direct contact with the Title Company to obtain an updated title commitment along with other forms and certified copy of the instrument of conveyance necessary when requesting the Parcel Payment from City Staff.
- The Provider provides closing services in conjunction with the Title Company and will be required to attend closings.
- Any fee related to obtaining certified court documents and fees for recording same
 which are not collected at the closing of the parcel shall be direct pass through fees
 at the exact cost supported by the county court house receipts.
- Provider shall cause the recordation all original instruments immediately after closing at the respective County Clerk's Office. The cost of the recording fees and filing

fees are paid by City and must not be included in the Provider's negotiated fee schedule.

9.3. Negotiation Services

- Analyze preliminary title report to determine potential title problems, propose and inform City Office of methods to cure title deficiencies. This includes analysis of access easements.
- Analyze Tarrant County Appraisal District information and confirm the City's approved value prior to making offer for each parcel. Provider shall attempt to obtain the easements through donation prior to discussing approved monetary offer with landowners.
- Prepare and send the letter transmitting the Landowners' Bill of Rights by Certified Mail Return Receipt Requested (CMRRR).
- Prepare the initial offer letter, memorandum of agreement, instruments of conveyance, and any other documents required or requested by the City.
- Any prepared forms will be submitted to the City for approval.
- The written offer and required brochures must be sent to each property owner or the property owner's designated representative through Certified Mail Return Receipt Requested (CMRRR). Maintain follow-up contacts and secure the necessary instruments upon acceptance of the offer for the closing. Retain copies of the unsigned CMRRR as support for billing purposes.
- Make at least four (4) diligent attempts to negotiate with each property owner after which negotiations will be considered exhausted.
- Prepare a separate negotiator report for each parcel.
- Copies of working and final file documents may be kept by the Provider (TNP).
 Parcel files of original documentation related to the purchase of the real property or property interests will be maintained.
- Receive any counteroffers from the property owner. Evaluate all counters and submit and discuss them with the City's Project Manager.
- After concurrence of City Project Manager, prepare final offer letter, and mail the documents of conveyance by Certified Mail Return Receipt Requested (CMRRR).
- Appear and provide Expert Witness testimony as a Provider when requested.
- Issue Property Owner's Survey to the property owner.

 Securing a Right of Entry or Possession and Use Agreement is part of general Negotiation Services.

9.4. Services by the City

- Provide available criteria and full information as to the City's requirements for the project.
- Assist the Provider by placing at its disposal all available data pertinent to the project.
- Examine documents submitted by the Provider and render a decision pertaining thereto promptly, to avoid unreasonable delay in the progress of the Provider's services.
- The Project Manager for the City shall appoint, in writing, a representative that the Provider shall be entitled to rely upon regarding decisions made by the City.
- City shall pay all title company invoices directly which will include fees for title commitments, title policies and all other fees related to the closing with the title company.

ASSUMPTIONS

No more than six (6) easement/ROW parcels will be required.

TASK 10. GEOTECHNICAL INVESTIGATIONS

CONSULTANT will provide geotechnical services for the project as follows.

10.1. Geologic Conditions

- CONSULTANT will work with its geotechnical sub-consultant and the City to provide
 a preliminary geological assessment of existing subsurface conditions within the
 general limits of the Project. This assessment will be based on the sub-consultant's
 experience in the area as well as other record information available to the subconsultant.
- Based on the results of the preliminary assessment, CONSULTANT shall coordinate
 with the CITY to determine locations where geological investigations (i.e. soil bores)
 are recommended for the Project. It is anticipated that two (2) soil bores will be
 performed within the limits of each of the following project locations associated with
 this Project for a total of twelve (12) soil bores:
 - Project 8 Hillside Drive
 - Project 14 Bourland Road (South)
 - Project 15 Bancroft Road (West)
 - Project 19 Pearson Lane
 - Project 21 Chandler Road
 - Project 33 Pate Orr Road
- All bores shall extend to a minimum of 10' below existing grade.
- The bore locations will be incorporated into the design base map and reflected on the plans.
- Field and laboratory analysis will be made for the purpose of determining soil conditions and for making recommendations for excavation, trench stability, backfill and earthwork recommendations and stabilization. The following tests will be performed:
 - Moisture content and soil identification
 - Percent passing the #200 sieve
 - > Liquid and plastic limit determinations
 - Unconfined compression tests on soil
 - Unit weight determinations
- Bore logs and a summary report shall be prepared. The report will address the following:
 - General soil and ground-water conditions
 - Earthwork recommendations
 - Recommendations for boring operations

ASSUMPTIONS

• The geotechnical report will not include pavement recommendations.

DELIVERABLES

A. Geotechnical report with bore logs

TASK 11. MATERIALS TESTING

CONSULTANT will provide material testing services for the project as follows.

- A representative of the CONSULTANT's material testing sub-consultant will be present at the pre-construction meeting.
- Review testing results from the Contractor's testing firm.
- Coordinate with the Project Inspector to make periodic site visits to observe the Contractor's testing firm and verify that testing is being performed in accordance with the Project's plans and specifications.
- Where requested by the City or Project Inspector, perform sampling and laboratory testing of existing subgrade, trench backfill, and stabilized pavement subgrade materials.
- Where requested by the City or Project Inspector, perform in-place moisture/density testing of existing subgrade, utility trench backfill, and stabilized pavement subgrade materials.
- Where requested by the City or Project Inspector, perform laboratory determination of maximum theoretical specific gravity of base and surface courses for HMAC pavement and perform in-place density monitoring by nuclear methods.
- Where requested by the City or Project Inspector, perform on-site placement observation and testing of cast-in-place concrete to include slump, temperature, entrained air content, and the molding of test cylinders. Perform laboratory curing and testing of cylinders.
- Provide and distribute test results as directed by the City or the Project Inspector.
- When requested by the City or Project Inspector, attend and participate in on-site or off-site meetings to help clarify testing procedures or construction issues related to materials testing.

ASSUMPTIONS

Contractor is responsible for pressure testing water lines and coordinating with the
 City for the purpose of pulling water testing samples.

DELIVERABLES

- A. Testing results
- B. Observation reports

ADDITIONAL SERVICES NOT INCLUDED IN THE SCOPE OF SERVICES

CITY and CONSULTANT agree that the following services are beyond the Scope of Services described in the tasks above. However, CONSULTANT can provide these services, if needed, upon the CITY's written request. Any additional amounts paid to the CONSULTANT as a result of any material change to the Scope of the Project shall be agreed upon in writing by both parties before the services are performed. These additional services include the following:

- Preparation of roadway reconstruction plans.
- Preparation of easement and/or ROW documents beyond those listed in the scope of services.
- Negotiation of easements or property acquisition including temporary right-ofentries beyond those listed in the scope of services.
- Geotechnical services beyond those listed in the scope of services.
- Subsurface Utility Engineering (SUE) services beyond those listed in the scope of services.
- Preparation of detailed traffic control or phasing plans.
- Services related to development of the CITY's project financing and/or budget.
- Services related to disputes over pre-qualification, bid protests, bid rejection and re-bidding of the contract for construction.
- Construction management and inspection services beyond those listed in the scope of services.
- Performance of materials testing or specialty testing services beyond those listed in the scope of services.
- Services necessary due to the default of the Contractor.
- Services related to damages caused by fire, flood, earthquake or other acts of God.
- Services related to warranty claims, enforcement and inspection after final completion.
- Services related to Survey Construction Staking beyond those listed in the scope of services.
- Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the CITY.
- Public outreach support and public meeting attendance.
- Performance of miscellaneous and supplemental services related to the project as requested by the CITY.



Attachment 'B' TEAGUE NALL AND PERKINS, INC.

Standard Rate Schedule for Time and Expense Contracts Effective January 1, 2019 to December 31, 2020*

Principal	Engineering /Landscape Architecture/ROW		-	То	
Team Leader	Principal	\$200	_	\$250	Per Hour
Senior Project Manager	·		_		
Project Manager			_		
Senior Engineer	, ,		_		
Project Engineer	,		_		Per Hour
Engineer II/IV \$95	· ·		_		
Engineer I/I	• •	*	_		
Landscape Architect / Planner	· · · · · · · · · · · · · · · · · · ·		_	\$110	Per Hour
Landscape Designer	,		_	\$200	Per Hour
Senior Designer	•		_		Per Hour
Designer	·	\$110	-	\$150	Per Hour
Senior CAD Technicion	· · · · · · · · · · · · · · · · · · ·	\$100	_	\$130	Per Hour
CAD Technician	· · · · · · · · · · · · · · · · · · ·		_		
Clerical			_		Per Hour
Clerical	IT Consultant	\$100	_	\$170	Per Hour
Construction Inspector			_		Per Hour
Construction Inspector III			_		Per Hour
Senior Construction Inspector	·		_		Per Hour
Construction Superintendent	·		_		Per Hour
ROW Manager \$120	·		_	\$180	Per Hour
Senior ROW Agent	•		_		
ROW Agent \$80	· · · · · · · · · · · · · · · · · · ·		_		
Relocation Agent Senior Utility Coordinator Senior Utility Coordinator Utility Coordinator Intern Serior Utility Coordinator Intern Serior Utility Coordinator Intern Serior Utility Coordinator Intern Serior Serior Serior Survey Manager Survey Manager Survey Manager Registered Professional Land Surveyor (RPLS) Serior Serior Survey Technician Serior Serior Survey Technician Serior Serior Survey Technician Serior Survey Technician Serior Serior Survey Technician Serior Serior Survey Technician Serior Serior Survey Technician Serior Serior Serior Survey Technician Serior Se	· · · · · · · · · · · · · · · · · · ·		_		
Senior Utility Coordinator Utility Coordinator Utility Coordinator Intern \$80 -\$130 Per Hour Intern \$50 -\$70 Per Hour Surveying Survey Manager	· ·		_		
Utility Coordinator \$80 - \$130 Per Hour	•		_		
Surveying Survey Manager Survey Ma	,		_		
Survey Manager Registered Professional Land Surveyor (RPLS) \$140 - \$190 Per Hour Field Coordinator \$100 - \$130 Per Hour \$1.1. or Senior Survey Technician \$70 - \$120 Per Hour Survey Technician \$70 - \$100 Per Hour \$1.1. or Senior Survey Technician \$70 - \$100 Per Hour \$1.1. or Senior Survey Technician \$70 - \$100 Per Hour \$1.1. or Senior Survey Technician \$70 - \$100 Per Hour \$1. or Senior Survey Technician \$70 - \$100 Per Hour \$1. or Senior Survey Technician \$70 - \$100 Per Hour \$1. or Senior Survey Technician \$70 - \$100 Per Hour \$1. or Senior Survey Technician \$70 - \$100 Per Hour \$1. or Senior Survey Technician \$70 - \$100 Per Hour \$1. or Senior Survey Technician \$70 - \$100 Per Hour	•		-		
Registered Professional Land Surveyor (RPLS) \$140 - \$190 Per Hour Field Coordinator \$100 - \$130 Per Hour S.J.T. or Senior Survey Technician \$70 - \$120 Per Hour Survey Technician \$65 - \$100 Per Hour Per Hour 1-Person Field Crew w/Equipment** \$125 Per Hour 3-Person Field Crew w/Equipment** \$180 Per Hour 4-Person Field Crew w/Equipment** \$180 Per Hour Flagger \$40 Per Hour Flagger Abstractor (Property Deed Research) \$85 Per Hour SUE Engineer \$150 Per Hour SUE Engineer \$160 Per Hour SUE Engineer \$160 Per Hour S100 Per Hour S1185 P	Surveying				
Registered Professional Land Surveyor (RPLS) \$140 - \$190 Per Hour Field Coordinator \$100 - \$130 Per Hour S.J.T. or Senior Survey Technician \$70 - \$120 Per Hour Survey Technician \$65 - \$100 Per Hour Per Hour 1-Person Field Crew w/Equipment** \$125 Per Hour 3-Person Field Crew w/Equipment** \$180 Per Hour 4-Person Field Crew w/Equipment** \$180 Per Hour Flagger \$40 Per Hour Flagger Abstractor (Property Deed Research) \$85 Per Hour SUE Engineer \$150 Per Hour SUE Engineer \$160 Per Hour SUE Engineer \$160 Per Hour S100 Per Hour S1185 P	Survey Manager	\$190	-	\$230	Per Hour
Field Coordinator S.I.T. or Senior Survey Technician S.I.T. or Senior Survey Technician Survey Technic Technic Survey Technic Technic Technic Survey Technic T	, ,		_		Per Hour
Survey Technician 1-Person Field Crew w/Equipment** 2-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** 5200 Per Hour 4-Per Hour Flagger Abstractor (Property Deed Research) 5250 SUE Project Manager SUE Project Manager SUE Engineer Sr. Utility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$120 \$100 Per Hour Per Hour Per Hour \$185 Per Hour \$185 \$100 \$85 Per Hour \$100 \$85 Per Hour \$100 \$120 \$120 \$145 \$14	· · · ·	\$100	-	\$130	Per Hour
Survey Technician 1-Person Field Crew w/Equipment** 2-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** 5200 Per Hour 4-Person Field Crew w/Equipment** 5200 Per Hour Flagger Abstractor (Property Deed Research) 525 SUE Project Manager SUE Project Manager SUE Engineer SUE Engineer Sr. Utility Location Specialist 1-Person Designator Crew w/Equipment*** 1-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$100 Per Hour Per Hour Per Hour Per Hour \$185 Per Hour \$185 \$100 \$85 Per Hour \$100 \$85 Per Hour \$100 \$85 Per Hour \$120 \$120 \$145 Per Hour \$145 \$	S.I.T. or Senior Survey Technician	\$70	-	\$120	Per Hour
1-Person Field Crew w/Equipment** 2-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** \$180 Per Hour 4-Person Field Crew w/Equipment** \$200 Per Hour Flagger Abstractor (Property Deed Research) \$85 Per Hour Subsurface Utility Engineering (SUE) SUE Project Manager SUE Engineer SUE Engineer Subsider Struility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 1-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$125 Per Hour \$180 Per Hour \$185 Per Hour \$160 Per Hour \$160 Per Hour \$100 Per Hour \$100 Per Hour \$120 Per Hour \$120 Per Hour \$120 Per Hour \$120 Per Hour \$145 Per Hour \$250 Per Hour (4 hr. min.)	•	\$65	-	\$100	Per Hour
2-Person Field Crew w/Equipment** 3-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** \$200 Per Hour Flagger Abstractor (Property Deed Research) \$85 Per Hour Subsurface Utility Engineering (SUE) SUE Project Manager SUE Engineer Subsurface Utility Location Specialist Utility Location Specialist \$185 Per Hour \$100 Per Hour \$100 Per Hour	·				Per Hour
3-Person Field Crew w/Equipment** 4-Person Field Crew w/Equipment** \$200 Per Hour Flagger \$40 Abstractor (Property Deed Research) \$85 Per Hour Subsurface Utility Engineering (SUE) SUE Project Manager SUE Engineer SUE Engineer Sr. Utility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$180 Per Hour Per Hour Per Hour \$185 Per Hour \$160 Per Hour \$100 Per Hour	, , ,	\$160			Per Hour
4-Person Field Crew w/Equipment** Flagger Abstractor (Property Deed Research) Subsurface Utility Engineering (SUE) SUE Project Manager SUE Engineer SUE Engineer Sr. Utility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip for QL-A **** 4-Person Per Hour Per		\$180			Per Hour
Flagger Abstractor (Property Deed Research) Subsurface Utility Engineering (SUE) SUE Project Manager SUE Engineer SUE Engineer Sr. Utility Location Specialist Utility Location Specialist SPER Hour SPER HO		\$200			Per Hour
Abstractor (Property Deed Research) \$85 Per Hour Subsurface Utility Engineering (SUE) SUE Project Manager \$185 Per Hour SUE Engineer \$160 Per Hour Sr. Utility Location Specialist \$100 Per Hour Utility Location Specialist \$85 Per Hour 1-Person Designator Crew w/Equipment*** \$120 Per Hour 2-Person Designator Crew w/Equipment*** \$145 Per Hour 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$450 Per Hour (4 hr. min.)	, , ,	\$40			Per Hour
SUE Project Manager SUE Engineer SUE Engineer Sr. Utility Location Specialist Utility Location Specialist Second Sec					Per Hour
SUE Engineer Sr. Utility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$160 Per Hour \$100 Per Hour \$85 Per Hour \$120 Per Hour \$145 Per Hour \$250 Per Hour (4 hr. min.) \$450 Per Hour (4 hr. min.)	Subsurface Utility Engineering (SUE)				
SUE Engineer Sr. Utility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$160 Per Hour \$100 Per Hour \$85 Per Hour \$120 Per Hour \$145 Per Hour \$250 Per Hour (4 hr. min.) \$450 Per Hour (4 hr. min.)	SUE Project Manager				\$185 Per Hour
Sr. Utility Location Specialist Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$100 Per Hour \$120 Per Hour \$145 Per Hour \$250 Per Hour (4 hr. min.) \$450 Per Hour (4 hr. min.)	· · · · · · · · · · · · · · · · · · ·				\$160 Per Hour
Utility Location Specialist 1-Person Designator Crew w/Equipment*** 2-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$ 85 Per Hour \$ 120 Per Hour \$ 145 Per Hour \$ 250 Per Hour (4 hr. min.) \$ 450 Per Hour (4 hr. min.)	· ·				\$100 Per Hour
2-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$145 Per Hour (4 hr. min.) \$450 Per Hour (4 hr. min.)	Utility Location Specialist				\$ 85 Per Hour
2-Person Designator Crew w/Equipment*** 2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$145 Per Hour (4 hr. min.) \$450 Per Hour (4 hr. min.)	1-Person Designator Crew w/Equipment***				\$120 Per Hour
2-Person Vac Excavator Crew w/Equip (Exposing Utility Only) 2-Person Vac Excavator Crew w/Equip for QL-A **** \$450 Per Hour (4 hr. min.)					\$145 Per Hour
2-Person Vac Excavator Crew w/Equip for QL-A **** \$450 Per Hour (4 hr. min.)	2-Person Vac Excavator Crew w/Equip (Exposing Utility Only)				\$250 Per Hour (4 hr. min.)
					\$450 Per Hour (4 hr. min.)
					\$750 Per Day

All subcontracted and outsourced services shall be billed at rates comparable to TNP's billing rates above or cost times a multiplier of 1.10.

^{*} Rates shown are for calendar year 2019 and are subject to change in subsequent years.

^{**} Survey equipment may include truck, ATV, Robotic Total Station, GPS Units and Digital Level.

^{***} Includes crew labor, vehicle costs, and field supplies.

^{****} Rate applies to Quality Level A (QL-A) test holes on utilities that were designated by TNP as QL-B.

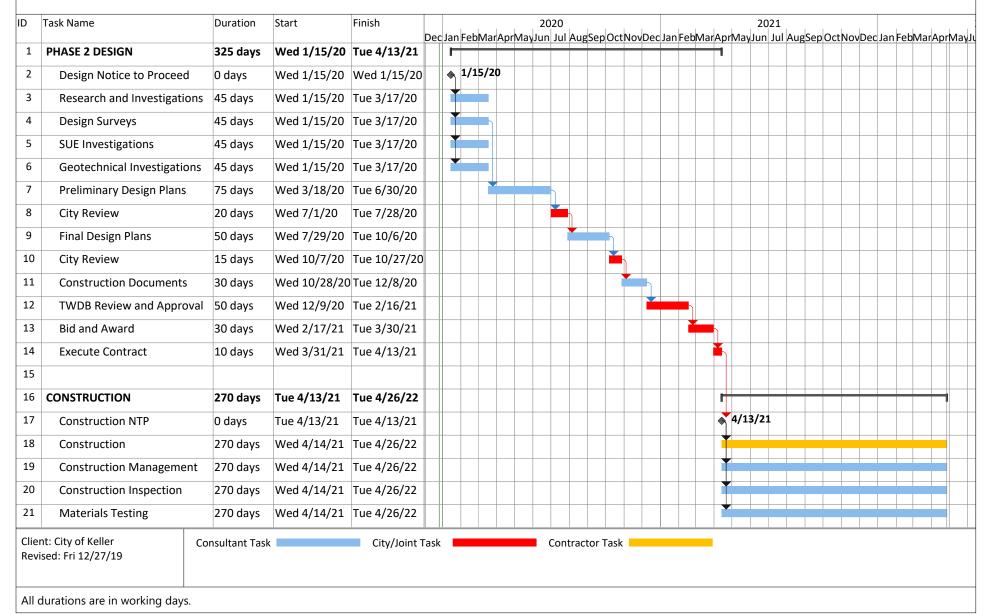
☆tnp

ATTACHMENT 'C' CONCEPTUAL PROJECT SCHEDULE

for

WATER SYSTEM CAPITAL IMPROVEMENT PLAN - PHASE 2







Attachment 'D' Key Project Personnel

