

EXHIBIT "A"

GENERAL OVERVIEW & SCOPE OF SERVICES

General Overview

This proposal is based on our understanding of the project as discussed in our previous meetings and conversations. This proposal consists of providing engineering design and construction phase services associated with the replacement of existing water lines in Newport subdivision of the City. Following is a summary of work proposed for the project:

2017 Water Line Replacement Project

This project includes the replacement of water distribution lines located in the Newport subdivision in the City of League City. The water lines needing replacement were identified by City staff based on lines deemed a high priority for replacement or upgrades, aged and deteriorated water lines, small diameter water lines, on-going maintenance issues, fire protection needs, and pipe material types.

The total footage of water lines in Newport subdivision is 29,200 L.F. Based on preliminary cost estimates performed by ARKK, the estimated construction cost for performing the replacements is \$2.5 million. The estimated budget available to perform the water line replacements is \$1.8 million. Based on the available budget, approximately 20,000 L.F. of water lines can be replaced as part of this project. The remaining footage of waterlines in the subdivision that cannot be included in this bid package will be included in future bid packages.

The City of League City will provide a project site representative to observe the progress of construction. Therefore, construction inspection services by ARKK Engineers personnel are not part of the scope of this project. However, a budget for increased project support to assist and aid the City's project site representative during construction is included in this proposal. This proposal does not include performing any Environmental Studies in the project area. Construction material testing is also not included and the City will contract directly with a material testing firm during construction.

This proposal addresses the engineering services ARKK Engineers will provide the City during the Design and Construction Phases, as well as Surveying, Geotechnical, Reproduction and Miscellaneous services required for the replacement of water lines in Newport subdivision. This proposal is separated into Basic Services (expected normal engineering services) and Special Services.

SCOPE OF SERVICES

I. DESIGN PHASE

A. Design Services

- Obtain utility information (gas, electric, cable, pipelines, etc.) for the water lines designated for replacement.
- Obtain available record drawings on water lines designated for replacement from the City.
- Meet with City Staff to discuss and finalize water line segments for this project.
- Obtain any available maintenance data from the City on the selected water lines. Modeling of the water system is not part of the scope for this project.
- Coordinate with the surveying subcontractor and authorize topographic survey on the water lines designated for replacement.
- Prepare base mapping of the water line project areas.
- Coordinate with the City during the design phase.
- Prepare 30% Preliminary Engineering Plans and meet with City staff at the 30% Design Phase.
- Proceed with the final engineering design based on input/direction from the City during the 30% Design Meeting.
- Provide two (2) draft sets of 60% plan drawings and specifications for the 2016 Waterline Replacement Project for review and comments.
- Coordinate and submit plan drawings to the utility companies for review and comments.
- Incorporate comments from the City and the utility companies into the bid documents.
- Provide two (2) draft sets of 90% plan drawings and specifications for the 2016 Waterline Replacement Project for review and comments.

- Incorporate comments from various entities into the final bid documents. Finalize a bid document package comprising of plan drawings and specifications for the replacement of water lines.
- Prepare a final cost estimate for the project.
- Furnish three (3) sets of plans and specifications to the City.

B. Special Services

1. Topographic Survey Services

- Utilize a survey sub-consultant mutually agreeable to the City and ARKK.
- Conduct approximately 21,000 linear feet of topographic survey for the waterline replacement areas.

2. Geotechnical Services

- Obtain soil borings and geotechnical information and recommendations on the appropriate water line sections in the design package.
- Due to the trenchless nature (limited excavation) of the proposed water line replacement (augered construction), individual borings at each improvement location will not be obtained. Instead soil borings will be taken across the project area at some locations to provide an overall estimated representation of project's geotechnical conditions. It must be understood that such representation may change throughout the project locations. A budget for performing 7 borings at an average depth of 10 feet per bore (total vertical footage is 70 V.F.) is included in this proposal.
- Utilize a subcontract geotechnical firm mutually agreeable to the City and ARKK.

3. Reproduction

- Costs for reproduction i.e., reproduction of plans, specifications will be invoiced under this item.
- Reproduction for review sets, submittals to the City, governmental agencies, and utility companies will be included in the cost for reproduction.

4. **Permitting**

- Coordinate with Texas Department of Transportation for improvements performed in their right-of-ways (FM 518) and to obtain approval for improvements within their right of way.
- Furnish documentation to TxDOT for their review. Please note that this is a preliminary permit. The construction contractor will submit pertinent documentation during the construction phase and obtain approval to proceed with construction.

5. **Miscellaneous Services**

- Due to the nature of work and the magnitude of this project, it is recommended that a budget for miscellaneous services be allocated by the city. This item will not be utilized unless approved by the City of League City staff. This item will cover any additional design services for emergency waterline replacements or additional services that may be determined to be necessary during the design or the construction phase.

II. BID & CONSTRUCTION PHASE SERVICES

1. Bid Phase Services

- Assist the City in obtaining bids for the project. The City will advertise the projects and will absorb all related advertising costs. ARKK will assist the City in developing the wording of the advertisements.
- Notify local contractors specializing in the work of the project.
- Dispense construction documents via the CivCast online plan room (by Amtek USA) to prospective bidders.
- Conduct a pre-bid conference for potential bidders. Prepare meeting agenda and minutes summary.
- During the bidding phase for the project, provide information to and answer questions from prospective bidders regarding the Project's construction documents.
- Prepare project addendums as necessary for the project.
- Attend bid opening for this project.

- Evaluate the bids and the qualifications of the apparent low bidder and advise the City as to the acceptability of the apparent low bidder for the project.
- Prepare bid tabulation for this project. Check the bids for mathematical errors and/or bid irregularities.
- Prepare of letter of recommendation for award of construction contract.

Construction Administration Services:

- Conduct a pre-construction conference for the project.
- Act as the City's Project representative during the construction phase.
- Review and respond accordingly to all submittals as required by the specifications.
- Prepare change orders as necessitated by field conditions.
- Review the contractor's pay estimates and make payment recommendations to the City based on input from City of League City's site representative.
- Visit the site at intervals appropriate to the various stages of construction to observe the progress and quality of executed work and to determine in general if such work is proceeding in accordance with the Contract Documents. The City will be providing a site representative to observe the progress of work during construction.
- ARKK will not be responsible for the means, methods, techniques, sequences or procedures of construction selected by the Contractor(s) or the safety precautions and programs incident to the work of the Contractor(s). ARKK's effort will be directed toward providing a greater degree of confidence for the City that the completed work of Contractor(s) will conform to the Contract Documents, but ARKK will not be responsible for the failure of Contractor(s) to perform the work in accordance with the Contract Documents. During site visits and on the basis of on-site observations ARKK shall keep the City informed of the progress of the work, shall endeavor to guard the City against defects and deficiencies in such work and may disapprove or reject work failing to conform to the Contract Documents.
- Conduct a final inspection of the Project and make a recommendation for Final Payment on the project.

- Engineer shall provide one set of reproducible record plans based on the record drawings provided by the Contractor.

B. Special Services

Increased Project Support:

- Provide increased site support to the City's project site representative during the construction phase. Conduct periodic progress meetings as necessary. Meet with City staff to site specific issues in the field as necessary.
- Provide engineering and technical office personnel support during construction. These office personnel, consisting of Professional Engineers and design staff, provide on-site support to address contractor's questions, resident's concerns and any conflicts uncovered in the field.

EXHIBIT 'B' - FEE

The fee is as follows:

Design Services: Lump Sum amount of:	\$127,625.00
*Surveying Services: Cost plus 10%	\$ 67,250.00
*Geotechnical Services: Cost plus 10%	\$ 7,500.00
TxDOT Permitting: The lump Sum amount of:	\$ 1,500.00
*Reproduction: Cost plus 10%	\$ 1,500.00
*Miscellaneous Services: Hourly and cost plus 10%	\$ 7,500.00
Bid Phase Services: Lump Sum amount of:	\$ 2,500.00
Construction Administration: Lump Sum amount of:	\$ 20,425.00
*Construction Phase Support: Hourly:	<u>\$ 18,750.00</u>
TOTAL FEE	\$254,550.00

*At this time the magnitude of these tasks are not known. Therefore budgetary amounts are provided. These figures may increase or decrease depending upon actual work required. If an increase becomes necessary it can be accomplished by utilizing available funds from other line items that have an under run, or funds from the miscellaneous services line item or by contract amendment.

Fee Calculation

Basic Services Fee (Design Services fee plus Construction Administration fee) is based on an estimated construction cost of \$1,800,000.

Fee percentage from-Harris County Engineering Fee Curves = 8.97%

Therefore, Basic Services Fee should be = $\$8.97\% \times \$1,800,000 = \$161,460$

Basic Services Fee for this Project is: $\$127,625 + \$2,500 + \$20,425 = \$150,550$

EXHIBIT 'C'

RATE SCHEDULE

<u>Employee Classification</u>	<u>Billing Rate per hr</u>
Principal	\$175.00
Project Manager	\$125.00 – \$160.00
Project Engineer	\$100.00 – \$125.00
CADD Operator	\$ 75.00 – \$100.00
Site Representative/Construction Administrator	\$ 75.00 – \$95.00
Clerical	\$ 45.00 – \$75.00

Hourly billed services will be invoiced based on direct labor cost times a multiplier of 2.99. Reimbursable Expenses will be charged at cost plus 10%. Mileage will be charged at the prevailing federal rate.

EXHIBIT 'D'
SUBMITTAL SCHEDULE

The following is a submittal schedule estimate for each design milestone:

Preliminary Engineering Letter Report - 30% Design Milestone

- 150 days to complete from Notice to Proceed Date. Topographic survey for the waterline project will be authorized and is expected to take 90 days of this total 150 day schedule.

60% Design Milestone

- 60 Days to complete from approval of 30% submittal

90% Design Milestone

- 60 Days to complete from the approval of 60% submittal

100% Design Milestone

- 30 Days to complete from the approval of 90% submittal