



February 21, 2018

Mr. Greg Nichols
CIP Project Manager
City of Sugar Land
2700 Town Center Blvd North
Sugar Land, TX 77479

Re: Proposal for Engineering Design and Construction Phase Services for Oyster Creek
Siphon Replacement
City of Sugar Land CIP WW1804

Dear Mr. Nichols:

As requested, ARKK Engineers, LLC (ARKK) is pleased to submit this proposal for performing engineering design and construction phase services related to the replacement of an existing siphon at Highway 59/Oyster Creek Crossing (between Williams Trace Blvd. & Highway 6). This proposal is based on our understanding of the project as discussed in our previous meetings and conversations.

The City of Sugar Land's wastewater collection system includes approximately 1.7 million linear feet of sanitary sewer pipe, over 100 lift stations, approximately 10,300 sanitary sewer manholes, and two (2) wastewater treatment plants, the North Wastewater Treatment Plant (North WWTP), and the South Wastewater Treatment Plant (South WWTP). The flows to the two treatment plants are conveyed by gravity sewer mains, force mains, lift stations, and gravity interceptor mains.

This project involves providing design and construction phase services for the installation of a new 24-inch siphon to replace an abandoned 18-inch siphon that crosses Oyster Creek at HWY 59 (within TxDOT ROW). The flows from the north wastewater collection system are conveyed through the east interceptor that crosses Oyster Creek at Highway 59 (between Williams Trace Blvd. & State Highway 6) via a dual 24"/18" siphon and conveys wastewater to the North Wastewater Treatment Plant. Currently, the existing 24-inch siphon (rehabilitated recently by the City) is in service, but the adjacent parallel 18-inch siphon segment was abandoned and grouted in place due to its deteriorated condition. It is City's desire that a new 24-inch siphon be installed and placed in service to replace the 18-inch siphon. This siphon is a critical component of the City's wastewater collection system and needs to be addressed to provide a backup for the east interceptor wastewater collection system to convey wastewater to the North Wastewater Treatment Plant.

This proposal addresses the engineering services ARKK will provide the City of Sugar Land during the design and construction phase, as well as associated Geotechnical Engineering and other services necessary to support this project. This proposal does not include performing any Environmental Assessment studies permitting for the project. This proposal is separated into Basic Services (expected normal engineering design services) and Special Services (Geotechnical Engineering, Surveying, Special Tasks, etc.).

SCOPE OF SERVICES

I. DESIGN PHASE

A. Basic Services - Design Phase

- Research and gather existing relevant data on the project such as existing utility information, pipeline crossings, as available.
- Coordinate with private utility companies, and other entities that may be involved to obtain information on their existing facilities and requirements that may impact this project.
- Plot survey data of the proposed alignment.
- Review the existing design information performed by the City.
- Obtain any available record drawings from the City.
- Coordinate with other governmental entities, which may be impacted by the project.
- Prepare project specifications, drawings, bid documents and construction drawings based on anticipated improvements.
- Coordinate with the City during the design phase. Provide three (3) draft sets of plans and specifications for review and comments at the 30%, 60%, and 90% completion milestones.
- Incorporate appropriate comments from pertinent entities into the final bid documents.
- Complete coordination with other governmental entities or utility agencies in regard to the project. Assist the City in obtaining and/or securing approvals required by all governmental authorities with jurisdiction over the design and/or the operation of the project and all public and private utilities including pipeline transmission

companies affected by this project. This assistance will involve the usual expected coordination and approval process. When the process involves work beyond the expected, such as special submittals, designs, appearances at special meetings, coordination of utility/pipeline excavation efforts, permitting applications, etc., such work would be considered under the Special Services portion of this proposal.

- Prepare a final cost estimate for the project.
- Furnish three (3) sets of construction documents to the City.

B. Special Services - Design Phase

1. Survey Services

- Utilize a surveying sub-consultant mutually agreeable to ARKK and City.
- Perform topographic survey of the project alignment.
- A budget for easement documentation preparation is included if required. This item will be utilized after obtaining approval from the City.

2. Geotechnical Services

- Utilize a geotechnical sub-consultant mutually agreeable to ARKK and City.
- Provide a geotechnical investigation of the project area. A budget for 100 V.F. (2 – 50 foot bores) of soil borings is included in this proposal.
 - Perform soil mechanics laboratory tests and prepare engineering report, geotechnical design and construction recommendations.

3. Structural Engineering Design Support Services

- Utilize a structural engineer sub-consultant to aid with the design. The structural engineer will review the box structures and prepare the required tie-in details.

4. Reproduction

- Costs for reproduction will be charged under special services for reproduction of plans, specifications and reports to the City.

- Reproduction for review sets, submittals to the City, governmental agencies, and utility companies will be included in the cost for reproduction.

II. BID PHASE SERVICES

- Assist the City in obtaining bids for the project. The City of Sugar Land will advertise the project and will absorb all related advertising costs. ARKK will coordinate with the City and will assist in developing the wording of the advertisement.
- Dispense construction documents from ARKK's office to potential bidders.
- Notify local contractors specializing in trenchless sanitary sewer rehabilitation of the project.
- Conduct a pre-bid conference for potential bidders. Prepare meeting agenda and minutes summary.
- During the bidding process, provide information to and answer questions from potential bidders concerning the Project's construction documents.
- Prepare addendums as necessary.
- Prepare bid tabulation for this project. Check the bids for mathematical errors and/or bid irregularities.
- Evaluate the bids and the qualifications of the apparent low bidders and advise the City as to the acceptability of the apparent low bidder.
- Prepare of letter of recommendation for award of construction contract.

III. CONSTRUCTION ADMINISTRATION SERVICES

- Prepare contract documents for execution by the successful bidder.
- Prepare an agenda for the pre-construction conference.
- Conduct a pre-construction conference for the project.
- Prepare a summary of meeting minutes for the pre-construction conference and distribute to all attendees.

- Review and respond accordingly to all submittals as required by the contract specifications.
- Review and respond to RFI's to the Contractor.
- Provide assistance to City with coordination with utility and pipeline companies during construction.
- Provide engineering and technical office personnel support during construction. These office personnel, consisting of Professional Engineers and design staff, provide support to address contractor's questions, concerns and any conflicts uncovered in the field.
- Perform a site visit monthly during construction (150 calendar days construction duration) 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. Full time site representation is not included as part of the Construction Administration tasks. The City of Sugar Land will be providing a site representative to observe the daily progress of construction activities.
- 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.
- Coordinate with the City and Contractor for construction scheduling, notifications, and complaints. City staff will prepare and maintain daily reports summarizing the work performed by the Contractor.
- Utilize City's construction daily reports to verify quantities installed for use in monthly pay estimates. City's site representative will maintain daily reports summarizing the work performed by the Contractor and approve pay estimates.
- Review City approved Contractor's pay estimates and monitor project costs. Utilize City's construction daily reports to verify quantities.
- Prepare change orders as necessitated by field conditions.

- Coordinate with the Contractor and setup preliminary and final walkthrough for the project.
- Assist the City in the performance of a final inspection, and the preparation of a punch list for the project.
- Coordinate with the Contractor on the punch list items identified from the final inspection.
- Coordinate with the City and assist with subsequent follow up inspections.
- Coordinate with the Contractor on the project close-out documentation submittals.
- Assist in reviewing the final pay estimate and close-out documents provided by the Contractor.
- Prepare one set of reproducible record plans based on data provided by the contractor

FEE

The fee for the services is outlined below.

1. DESIGN PHASE

Design Phase Services: not to exceed amount of	\$79,325.00
Topographic Surveying: Subcontractor's Cost plus 10%	\$10,000.00
Easement Document Preparation: Subcontractor's Cost plus 10%	\$7,500.00
Geotechnical Investigation: Subcontractor's Cost plus 10%	\$7,425.00
Structural engineering design: not to exceed amount of:	\$5,000.00
Reproduction: Not to exceed amount of:	<u>\$1,000.00</u>
Design Phase Fee (Not to Exceed):	\$110,250.00

2. CONSTRUCTION PHASE

Bid and Award Phase Services: not to exceed amount of:	\$ 4,750.00
Construction Administration Phase, the not-to-exceed amount of:	\$19,750.00
Budget for Miscellaneous Services, hourly, not to exceed amount of:	<u>\$5,000.00</u>
Construction Phase Fee:	\$29,500.00
Total All Services (Not to Exceed):	\$139,750.00

ARKK Engineers, LLC will submit monthly progress invoices for all work completed to invoice date. Hourly charges for office personnel shall be charged based on a raw labor rates times a multiplier of 2.99. Reimbursable expenses and subcontracted services will be charged at cost plus 10%. Mileage will be charged at the current IRS prevailing rate. Additional services beyond those described in the Scope of Services will be invoiced on the basis of direct labor costs times a factor of 2.99 and direct cost plus 10% upon approval from the City. No additional services will be performed or invoiced without prior authorization from the City of Sugar Land.

SCHEDULE

The following milestones are proposed:

- 30% project drawings complete: **June, 2018**
 - Deliverables: Plotted surveyor drawings, and design drawings showing the plan view siphon alignment; construction cost estimate update.
- 60% project drawings, and technical specifications complete: **August, 2018**
 - Deliverables: Design drawings showing the plan view siphon alignment; updated construction cost estimate update; specifications table of contents; any special specifications;
- 90% project drawings, and technical specifications complete: **September, 2018**
 - Deliverables: Draft plans and specifications of the proposed siphon; Draft contract documents and technical specifications; updated construction cost estimate.
- 100% project drawings complete: **October 2018**
 - Deliverables: Bid-ready plans and specifications.

ARKK Engineers, LLC appreciates the opportunity to submit this proposal and we look forward to continuing our work with the City of Sugar Land.

Sincerely,

ARKK ENGINEERS, LLC.



Madhu Kilambi, P.E.

Sr. Project Manager/Principal