

Mykawa Lift Stations

2/2/17
 To: Mayor and City Council members
 Moving the Mykawa lift stations out of way and upgrading is going to take a little different path and schedule. Clay



Scope: Retirement of Orange-Mykawa Lift Station and installation of new 12-inch gravity sewer line along Mykawa from Orange to Walnut for approximately 3,400 lf; abandonment of Shank Street Lift Station; replacement of Mykawa-Scott Lift Station, installation of new 12-inch force main for approximately 2,500 lf from Mykawa to SH35, and new 8-12-inch gravity line approximately 3,450 lf along Mykawa from Scott to Shank. Project will be coordinated with Mykawa Road construction.

Justification: Orange-Mykawa Lift Station will require a major rehabilitation within the next five years and is poorly located for servicing the area. This project will eliminate an existing inverted siphon in a gravity line. In addition, the project will eliminate the Shank Street Lift Station and relocate the Scott Street Lift Station presently in conflict with the future Mykawa Road Widening.

Project Manager: Susan Johnson

Designer: 5Engineering, LLC

Contractor: N/A

Budget Info:



	<i>Budget</i>	<i>Encumbered</i>	<i>Change Orders</i>	<i>Balance</i>
<i>Prelim. Eng.</i>	\$300,000.00	\$93,712.00		\$206,288.00
<i>Land</i>	\$300,000.00			\$300,000.00
<i>Engineering</i>	\$596,300.00	\$481,878.00		\$114,422.00
<i>Construction</i>	\$4,318,600.00			\$4,318,600.00
<i>FF&E</i>				\$0.00
<i>Contingency</i>	\$823,020.00			\$823,020.00
Total	\$6,337,920.00	\$575,590.00	\$0.00	\$5,762,330.00

Schedule Info:

	<i>Base Line</i>	<i>Current</i>
<i>Design Start</i>	May-16	May-16
<i>Proposed Bid Start</i>	August-17	December-17
<i>Proposed Construction Start</i>	February-18	
<i>Proposed Construction Completion</i>	October-18	

Highlights:

- The scope of the Preliminary Engineering Report (PER) was to evaluate alternatives for the relocation of the Mykawa-Scott Lift Station, and, if possible, the abandonment of the Orange-Mykawa Lift Station and the Shank Street Lift Station, and to identify the size and route for gravity and force mains as necessary.
- The PER recommendation focused on several items of concern such as lowest capital cost, minimal impact to existing development, minimal easement acquisition, and the ability to meet project goals of consolidating lift stations to reduce operating and maintenance costs.
- Based on the findings in the PER, the project requires the construction of a new Orange-Mykawa Lift Station north of Town Ditch, relocation and reconstruction of the Mykawa-Scott Lift Station, and abandonment of the Shank Street Lift Station. The previous assumption that a gravity system could replace the Orange-Mykawa Lift Station was determined to be unfeasible. Therefore, an amendment to the engineer's contract is required to design a replacement lift station on City property east of the Mykawa right-of-way just north of Town Ditch.
- Staff negotiated an amendment to the engineer's contract in the amount of \$71,435.00 for the design of the new lift station at Orange and Mykawa. This includes final civil, structural, and electrical design, as well as easement survey for an additional 12 parcels.
- Bid start and construction Notice to Proceed have been delayed due to time needed to negotiate and approve terms of this amendment. Construction duration is increased from 6 months to 9 months to accommodate the additional lift station.
- This amendment will be presented to City Council for consideration of approval at its meeting of February 13, 2017.

Previous Memos: 4/28/2016

Proposed Orange-Mykawa Lift Station Site





**CITY OF PEARLAND
PROJECTS DEPARTMENT**

3519 Liberty Drive, Suite 300
Pearland, TX 77581
www.cityofpearland.com/projects

Professional Services Contract Amendment

Mykawa Lift Station

Date of Issuance: 01/17/2017
Consultant: 5Engineering, LLC

Amendment No.: 1
CoP Project No.: WW1601-Design
P.O. No.: 2016-00000821

Explanation:

This change order encompasses the following: Additional scope required as a result of the preliminary engineering report finding that the lift station at Mykawa & Orange can not be decommissioned without replacing it with another at a nearby location outside of the Mykawa right-of-way. This lift station was originally slated to be abandoned and replaced with a manhole, along with the Shank Lift Station, in advance of the Mykawa Road Expansion. It has now been determined that, due to the length and depth of the new sewer gravity line to be installed along Mykawa, a lift station is still warranted at a new location just north of Town Ditch.

Description of Work

<u>Description of Work</u>	<u>Cost</u>	<u>Time</u>
1 Revise the quantity from 1 to 1.085974 on Item No. 3 3 Design Phase Services	\$ 35,795.00	120 Days
2 Revise the quantity from 1 to 3.75 on Item No. 6 6 Additional Services	\$ 35,640.00	0 Days

Please attach back-up documentation.

Cost & Time Change Summary

	<u>Cost</u>	<u>Time</u>
Original Contract:	\$ 575,590.00	0 Days
Previous Amendment(s):	\$ 0.00	0 Days
Contract prior to this Amendment:	\$ 575,590.00	0 Days
Net increase (decrease) from this Amendment:	\$ 71,435.00	120 Days
Revised Contract:	\$ 647,025.00	120 Days

Finance Approval: Reelie Walker Date 01/20/2017

ACCEPTED*:

By: Elizabeth Parant Date 01/19/2017
Consultant

APPROVED:

By: [Signature] Date 01/19/2017
Project Manager

By: [Signature] Date 01/19/2017
Owner

*Consultant agrees to perform change(s) included in the Contract Amendment for the price and time indicated. The prices for changes included all costs associated with this Contract Amendment.

No work is to be done until this Amendment is executed. No payment to the Consultant shall be made for work included in the Amendment until this Amendment is executed.

Upon execution by all parties, the following changes identifies for the contract value and/or contract time shown, are made part of the



10200 Grogan's Mill Rd #238, The Woodlands, TX 77380 | 832-800-3483 | Amendment No. 1
Letter_Pearland_Rev 3

January 19, 2017

Susan Johnson
Project Manager
City of Pearland
3519 Liberty Drive
Pearland, Texas 77581

Re: Mykawa Lift Stations Proposal Amendment No. 1 – Revised January 19, 2017

Dear Ms. Johnson:

5engineering, llc (**5e**) has prepared Amendment No. 1 to the Mykawa Lift Stations Proposal dated April 19, 2106. The amendment addresses the changes to the project scoped based on the selection of Alternative No. 3 from the Preliminary Engineering Report. The following tasks have been revised in the Level of Effort.

BASIC SCOPE OF SERVICES

Task Three – Design Phase Services includes preparation of 30%, 60%, 90%, and final construction package submittals and construction cost estimates. The selected alternative includes two lift stations, instead of the previously proposed plan which only had one lift station. The original proposal for Task 3 was in the amount of \$416,348.52. The amended fee for performing the above scope of services is \$452,143.52, an increase of \$35,795.00.

The following is a breakdown of the revisions to each component of **Task 3**:

Description/Task	Original Fee	Revised Fee	Amendment Amt.
Construction Drawings, Contract Documents, and Technical Specifications	\$132,980.00	\$162,560.52	\$29,580.00
Construction Cost Estimates	\$6,760.00	\$6,760.00	No Change.
Coordinate with External Regulatory and Permitting Agencies	\$10,125.00	\$10,125.00	No Change.
Traffic Control Plan and SWP3	\$17,100.00	\$17,970.00	\$870.00

Description/Task	Original Fee	Revised Fee	Amendment Amt.
Submit Final Construction Documents for City Signature	\$4,500.00	\$4,500.00	No Change.
Prepare Bid Set for Distribution	\$1,500.00	\$1,500.00	No Change.
Surveying (including 1 boundary survey)*	\$112,082.40	\$108,209.00	-\$3,873.40
Geotechnical	\$74,520.00	\$70,466.00	-\$4,054.00
Environmental	\$5,211.12	\$6,658.00	\$1,446.88
Structural	\$36,450.00	\$45,576.00	\$9,126.00
Electrical	\$15,120.00	\$17,820.00	\$2,700.00
TOTAL TASK 3	\$416,348.52	\$452,143.52	\$35,795.00

ADDITIONAL SCOPE OF SERVICES (OPTIONAL)

Task Six – Additional Services to include boundary surveying for up to fifteen easements.

The original proposal for Task 6 was in the amount of \$12,960.00 and the amended fee for performing the above scope of services is \$48,600.00. The tasks will be invoiced monthly during the project. Payment is expected 30 days of the invoice date.

The following is a breakdown of the revisions to each component of **Task 6**:

Description/Task	Original Fee	Revised Fee	Amendment Amt.
Boundary Surveying for Easements (up to 3)*	\$12,960.00	\$48,600.00	\$35,640.00
TOTAL TASK 6	\$12,960.00	\$48,600.00	\$35,640.00

*This was revised from 3 easements to 15 easements and one easement was removed from surveying in Task 3 for inclusion in Task 6.

The total amendment amount increase was **\$71,435.00** for a total contract amount of **\$647,025.00**.

Exclusions:

1. The proposal does not include a sanitary sewer model of the lift station service areas, sub-utility excavation (SUE), or an archeological study if requested by the Texas Archeological Commission.
2. The proposal fee shall be considered in their entirety for the Scope of Services. Should you wish to contract only a portion of the work, we reserve the right to negotiate individual scope items on their own merit.

3. The proposal is valid for 60 days from this date and may be extended upon approval from our office.

Please feel free to call at 832-800-3483 (Ext. 102) or email me at liz@5engineering.com with any comments or questions. We look forward to working with you on this endeavor.

Sincerely,



Elizabeth O. Parent, P.E.
Principal

EXHIBIT A



UTILITIES SCOPE OF SERVICES

FOR

MYKAWA LIFT STATIONS
AMENDMENT NO. 1

5engineering, llc

PROJECT LOCATION: Mykawa-Scott Lift Station (Relocation), Mykawa-Orange Lift Station (Relocation), and Mykawa-Shank Lift Station (Retirement)

BASIC SERVICES: The project consists of the preparation of a Preliminary Engineering Report (PER) evaluating the alternatives for the relocation and retirement of the referenced lift stations, recommendations for gravity sanitary sewer route alternatives, sizing of Mykawa-Scott force main, design phase services for selected alternatives, bid phase services, and construction phase services.

Amendment No. 1 revises the post PER scope of services based on the following route, which was identified as Alternative No. 3 in the final PER.

Mykawa – Scott - Shank

The gravity sanitary sewer alternative for the Mykawa-Scott and Mykawa-Shank lift stations is projected in this scope as the following: 1) sanitary sewer line beginning north of H100-00-00 to proposed Mykawa-Scott lift station and 2) the Mykawa-Shank lift station will be replaced by a sanitary sewer line south of H100-00-00 to the proposed Mykawa-Orange lift station. The proposed gravity sanitary sewer lines will be 12-inches in diameter.

Mykawa - Orange

The gravity sanitary sewer alternative for the Mykawa-Orange lift station projected in this scope is as follows: 1) replace the existing Mykawa-Orange lift station northeast of the Mykawa-Orange intersection and 2) the proposed 8-inch force main will begin at the lift station and extend along Mykawa Road to West Orange Street within the right-of-way to discharge at an existing manhole on Hatfield 1050' from the intersection of Orange and Hatfield.

The proposal does not include a sanitary sewer model of the lift station service areas, sub-utility excavation (SUE), or an archeological study if requested by the Texas Archeological Commission. The Consultant shall render the following professional engineering services to the OWNER in connection with the construction of the Project.

Amendment No. 1 revises the following professional engineering services.

Design Phase Services

1. Prepare Construction Plans and Specifications as follows:
 - i. Submit for review construction plans at 30% consisting of Plan & Profile Topographic Survey with parcel data based on agreed alternatives from PER and overall for new submersible lift stations at Mykawa-Scott and Mykawa-Orange. The new submersible lift station will include a generator quick connect and manual transfer switch. The plans will be prepared as 24"x36" drawings per City guidelines. **The plans will not include odor control or an on-site generator.**
 - ii. Submit for review detailed construction plans at 60% & 90% (along with specifications form at 60% - include bid form & completed "front end documents" at 90%) for gravity alternative for Mykawa-Shank, force main alternative for Mykawa-Scott and Mykawa-Orange, and new submersible lift stations at Mykawa-Scott and Mykawa-Orange. The design and technical specifications will be prepared for utilization by the City as "City Standards". The front end documents will be provided by the City for revision and inclusion at the 90% submittal.
 - iii. Submit 60% & 90% plans to Utility companies and coordinate work for relocation or service changes, if required.
2. Prepare two lift station design reports for submittal at the 90% phase.
3. Prepare Construction Cost Estimates at the 30%, 60%, and 90% submittals.

4. Coordinate with external regulatory and permitting agencies, including but not limited to TCEQ, TXDOT, Brazoria DD #4, USACE (US Army Corp of Engineers), Burlington Northern and Santa Fe Railway (BNSF), various pipeline companies, and coordination with the Mykawa Road widening design consultant.
5. Provide Traffic Control plan and SWP3 plans and specifications, if required.
6. Submit plans for City Engineer's signature.
7. Prepare bid sets for distribution via the City's e-bid system.
8. Survey proposal for selected routes is attached, including topographic survey and preparation of easement documents for an estimate of fifteen (15) parcels.
9. Geotechnical data proposal is attached with a map of proposed boring locations and depths.
10. Environmental proposal is attached for a Phase I Environmental Site Assessment for the future Mykawa-Scott and Mykawa-Orange lift station sites which are estimated to be 70'x70'.
11. Structural proposal is attached for lift station design, bid phase services, and construction phase services. The structural engineering services include: structural engineering/design for abandonment of lift stations that may have roadway constructed over them, structural engineering/design of a new lift station for the Preliminary Engineering Report Phase (Including preliminary structural drawings to show necessary plan, section, and details structural specifications required for a new lift station based on Division 03, coordination during the design phase, responses to City's comments on City software, review of construction submittals, responses to RFIs and RFPs and change orders related to the structural engineering scope of work, and finalize structural design and production of construction drawings.
12. Electrical proposal is attached for lift station design, bid phase services, and construction phase services. The electrical engineering services include, assistance in creating a lift station design standard and/or technical specifications for electrical work, attendance at one (1) coordination

meeting, preparation of construction drawings and technical specifications, assistance with the Preliminary Engineering Report (including sizing the electrical service, selecting the voltage for the service, and including a manual transfer switch with a generator quick connect for emergency power via a city-owned or rented portable generator), and assistance during the procurement phase, and construction phase.

Additional Services

1. Survey proposal for selected routes is attached, including preparation of easement documents for an estimate of fifteen (15) parcels.

Definition:

- 1) As-Builts “redlines”: Contractor’s record of field changes to the work in line, grade & elevation
- 2) Record Drawings: Engineer’s incorporation of contractor’s As-Builts

Item	Description / Task	Estimated Manhours										Subtotal (hrs)	Subtotal (cost \$)	Subs (cost)	Subs (cost+8%)	Other Direct Costs	Total Fee
		Engineering					Subconsultants										
		Project Mgr. (hrs)	Project Egr. (hrs)	Graduate Egr. (hrs)	CADD (hrs)	Admin. (hrs)	Baird & Gilroy Electrical	Bec-Lin Structural	Aviles Geotechnical	Aviles Environmental	Kuo & Associates Survey						
	Raw Salary	\$ 63.33	\$ 50.00	\$ 35.00	\$ 25.00	\$ 25.00											
	Raw Salary Multiplier (3.00)	\$ 190.00	\$ 150.00	\$ 105.00	\$ 75.00	\$ 75.00											
Task 1:																	
Project Management																	
1.	Project Kick-Off Meeting with the City	3	3									6	\$ 1,020.00	\$ -	\$ -	\$ -	\$ 1,020.00
2.	Project Schedule	1	8									9	\$ 1,390.00	\$ -	\$ -	\$ -	\$ 1,390.00
3.	Manage and Coordinate Project Efforts	30	44			12						86	\$ 13,200.00	\$ -	\$ -	\$ -	\$ 13,200.00
4.	Quality Control/Quality Assurance	12										12	\$ 2,280.00	\$ -	\$ -	\$ -	\$ 2,280.00
5.	Periodic Progress Meetings	8	16									24	\$ 3,920.00	\$ -	\$ -	\$ -	\$ 3,920.00
	Subtotal Project Management	54	71	0	0	12	\$ -	\$ -	\$ -	\$ -	\$ -	137	\$ 21,810.00	\$ -	\$ -	\$ -	\$ 21,810.00
Task 2:																	
Preliminary Engineering Report																	
1.	Data Collection		26	40								66	\$ 8,100.00	\$ -	\$ -	\$ -	\$ 8,100.00
2.	Prepare and Submit Preliminary Engineering Report	16	220	60	60							356	\$ 46,840.00	\$ -	\$ -	\$ -	\$ 46,840.00
3.	Preliminary Surveying									\$ 35,900.00			\$ 35,900.00	\$ 38,772.00	\$ -	\$ -	\$ 38,772.00
	Subtotal Preliminary Engineering Report	16	246	100	60	0	\$ -	\$ -	\$ -	\$ -	\$ 35,900.00	422	\$ 54,940.00	\$ 35,900.00	\$ 38,772.00	\$ -	\$ 93,712.00
Task 3:																	
Design Phase Services																	
1.	Construction Drawings, Contract Documents, and Technical Specifications											0	\$ -	\$ -	\$ -	\$ -	\$ -
a.	30% Plan and Profile of Selected Alternative	12	100	70	150							332	\$ 35,880.00	\$ -	\$ -	\$ -	\$ 35,880.00
b.	60% Construction Plans including Specifications	20	280	100	350							750	\$ 82,550.52	\$ -	\$ -	\$ -	\$ 82,550.52
c.	90% Construction Plans including Specifications, Bid Form, and Front End Documents	12	170	70	120							372	\$ 44,130.00	\$ -	\$ -	\$ -	\$ 44,130.00
2.	Construction Cost Estimates	4	40									44	\$ 6,760.00	\$ -	\$ -	\$ -	\$ 6,760.00
3.	Coordinate with External Regulatory and Permitting Agencies		50	25								75	\$ 10,125.00	\$ -	\$ -	\$ -	\$ 10,125.00
4.	Traffic Control Plan and SWP3		80	24	46							150	\$ 17,970.00	\$ -	\$ -	\$ -	\$ 17,970.00
5.	Submit Final Construction Documents for City Signature		20		20							40	\$ 4,500.00	\$ -	\$ -	\$ -	\$ 4,500.00
6.	Prepare Bid Set for Distribution		10									10	\$ 1,500.00	\$ -	\$ -	\$ -	\$ 1,500.00
7.	Surveying (including 1 boundary survey)									\$ 100,193.00			\$ -	\$ 100,193.00	\$ 108,209.00	\$ -	\$ 108,209.00
8.	Geotechnical							\$ 65,246.00					\$ -	\$ 65,246.00	\$ 70,466.00	\$ -	\$ 70,466.00
9.	Environmental								\$ 6,164.00				\$ -	\$ 6,164.00	\$ 6,658.00	\$ -	\$ 6,658.00
10.	Structural							\$ 42,200.00					\$ -	\$ 42,200.00	\$ 45,576.00	\$ -	\$ 45,576.00
11.	Electrical							\$ 16,500.00					\$ -	\$ 16,500.00	\$ 17,820.00	\$ -	\$ 17,820.00
	Subtotal Final Design	48	750	289	686	0	\$ 16,500.00	\$ 42,200.00	\$ 65,246.00	\$ 6,164.00	\$ 100,193.00	1773	\$ 203,414.52	\$ 230,303.00	\$ 248,729.00	\$ -	\$ 452,143.52
Task 4:																	
Bid Phase Services																	
1.	Bid Phase Services		20	10								30	\$ 4,050.00	\$ -	\$ -	\$ -	\$ 4,050.00
2.	Attend City Council Meeting	4	4									8	\$ 1,360.00	\$ -	\$ -	\$ -	\$ 1,360.00
3.	Produce and Transmit Five Copies of Construction Documents to Contractor			10								10	\$ 1,050.00	\$ -	\$ -	\$ -	\$ 1,050.00
	Subtotal Bid Phase Services	4	24	20	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	48	\$ 6,460.00	\$ -	\$ -	\$ -	\$ 6,460.00
Task 5:																	
Construction Phase Services																	
1.	Construction Phase Services		120	60								180	\$ 24,300.00	\$ -	\$ -	\$ -	\$ 24,300.00
	Subtotal Construction Phase Services	0	120	60	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	180	\$ 24,300.00	\$ -	\$ -	\$ -	\$ 24,300.00
Task 6:																	
Additional Services																	
1.	Boundary Surveying for Easements (up to 15)											0	\$ -	\$ 45,000.00	\$ 48,600.00	\$ -	\$ 48,600.00
	Subtotal Additional Services	0	0	0	0	0	\$ -	\$ -	\$ -	\$ -	\$ -	0	\$ -	\$ 45,000.00	\$ 48,600.00	\$ -	\$ 48,600.00
TOTAL HOURS																	
		122	1211	469	746	12						2560	\$ 310,924.52	\$ 311,203.00	\$ 336,101.00	\$ -	\$ 598,425.52
TOTAL COST		\$ 23,180.00	\$ 181,650.00	\$ 49,245.00	\$ 55,950.00	\$ 899.48	\$ 16,500.00	\$ 42,200.00	\$ 65,246.00	\$ 6,164.00	\$ 136,093.00		\$ 310,924.52	\$ 311,203.00	\$ 336,101.00	\$ -	\$ 598,425.52
													Basic Services Total		\$ 598,425.52		
													Additional Services Total		\$ 48,600.00		
													Grand Total		\$ 647,025.00		