



MEMORANDUM

TO: Jim Ferree
FROM: Chris Lehrman, PE 
DATE: June 16, 2016
SUBJECT: Lariat Lift Station – Project Costs

The purpose of this memo is to provide supporting calculations for the cost increase of the Lariat Lift Station project as a result of hiring Anson Excavating to complete the project.

This section will break out the project cost if the City were to have continued with Mueller Construction. Change Order (CO) 1 is the cost to replace the existing gravity clay sewer pipe that was determined not adequate to keep in service after inspection. This change order is required. CO 2 is for the additional dewatering cost the City incurred by the presence of groundwater. The Gormann Rupp pump system was purchased directly by the City for schedule considerations. SGM's fees include all engineering, surveying and permitting up to this point:

Mueller Construction's total project cost:

- Original bid:	\$298,394.00
o CO 1	\$23,079.00
o CO 2	\$3,200.00
- Gorman Rupp Pump system:	\$80,000.00
- SGM Engineering/permitting:	\$69,490.58
o <u>Total Cost =</u>	<u>\$474,163.58</u>

This section breaks out the costs with Mueller Construction providing all the materials and work completed up until this point with Anson Excavating completing the project. This is the current complete project cost. "Anson portion" is their revised cost to finish the project. Anson CO 1 is for repair of the gravity sewer line that is required and added value to the City. Anson CO 2 is the cost of removing the first wet well storage tank that was set by Mueller. This cost is an addition because Anson's construction method is different than Mueller's to complete the project and the wet well was originally set off level.

Revised Project Cost with Anson Excavating:

- Mueller portion:	\$163,950.59
- Gorman Rupp Pump system:	\$80,000.00
- SGM Engineering/permitting:	\$69,490.58

- Anson portion: \$189,904.73
- Anson CO 1 \$15,000.00
- Anson CO 2 \$12,000.00
 - o Revised Contract Cost = \$530,345.90

The difference in cost in having Mueller Construction complete the project versus having Anson Excavating complete the project is broken out below. The line item for Anson Mobilization covers Anson's fixed cost that includes equipment delivery, fuel, administrative staff, etc. This cost is in addition to Mueller's and is an extra cost. The final line item is the original bid difference between Anson and Mueller's bid was \$22,182.00. Anson's cost to construct the project was higher.

Difference in cost broken out:

- Anson CO 1 \$15,000.00
- Anson CO 2 \$12,000.00
- Anson Mobilization \$7,000.00
- Original Bid Difference \$22,182.00
 - o Contract Additions: \$56,182.32

The actual increase of cost to the City for this project if Anson Excavating would have been hired from the start is detailed below. These costs are the added costs of changing contractors during the project.

Project Cost Increase to City:

- Mueller Dewatering \$3,200.00
- Anson CO 2 \$12,000.00
- Anson Mobilization \$7,000.00
 - o Total cost increase: \$22,200.00

Cost Summary:

In summary, the City's added cost to switch contractors during the project is \$22,200.00. The City and SGM acting as a team elected to save money on the front end of the project by not hiring a geotechnical engineer to investigate the construction site for soils and groundwater.

The decision to not hire a geotech was based on previous history of a water line repair in Texas Ave and not experiencing groundwater at that time. City Staff acknowledged the presence of groundwater in other areas of Craig but SGM recommended not assuming groundwater for bid purposes because it would be both difficult and expensive to determine the quantity. City Staff and SGM discussed the option of geotechnical services prior to the bid to mitigate groundwater but ultimately came to the conclusion that regardless of what the investigation determined the City will still end up paying for dewatering if there was groundwater so the decision was made to simply deal with groundwater if it was present and save the money towards the geotechnical investigation and also reduce bids for the project by not making the contractor assume the risk of groundwater.

In addition, for the geotechnical investigation to be useful and accurate the investigative boring would have had to be completed at this exact same time of year to be affective as groundwater levels are seasonal. Last year at this time, the lift station influent flows were being studied so SGM had the proper information to design the lift station with. The lift

station was not designed until the fall of 2015 and the exact layout was unknown until winter of 2015.

If the City would have chosen to perform geotechnical investigations prior to construction, the geotechnical engineering fees would have been in the \$10,000 - \$20,000 range to drill holes, discover groundwater and perform pumping tests to determine the flow rate of the groundwater. In addition to those fees, if the City would have bid the project with information on the groundwater, the bids would have come in anywhere from \$20,000 - \$50,000 higher for the contractor to deal with the groundwater.

The City is saving money or breaking even at worst by not performing geotechnical investigations prior to constructing the project.

Mueller Performance Bonding:

City Council has indicated the desire to explore using Mueller Construction's performance bonding to complete the project. The project was bid with the understanding, in the contract agreements, that there was no groundwater present. When groundwater was discovered in this project, the City teamed with Mueller Construction to dewater the excavation. The City dictated the means and methods of how to dewater. Mueller Construction was not familiar with the City's method and preferred a different method; because of this the City was not satisfied with Mueller's progress and elected to hire Anson Excavating because they were familiar with using the City's preferred method for dewatering.

Mueller Construction did not fail to perform the agreed upon scope of work because the agreed upon scope of work did not assume groundwater. If the City were to pursue Mueller Construction's performance bonding, the project would be required to be stopped immediately until the City and the performance bonding company could reach an agreement which usually happens through litigation. There is no estimated time it would take for this to be completed.

SGM has worked closely with City staff to keep the project moving forward and on schedule which is in the City's best interest. SGM does not recommend pursuing Mueller's performance bonds because of all of the reasons listed above.

If you have any questions please contact me.

Cc e-mail: Carl Ray
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