



Staff Report

TO: City Council
FROM: Kristine Day, Assistant City Manager
DATE: June 16, 2020
SUBJECT: **Award Change Order 16 for the WWTP Expansion and Renovation Project for the Pump Station at the EQ Basin in an Amount Not to Exceed \$667,487.82**

Background and Analysis:

In May 2019, City Council authorized City staff to evaluate some owner-initiated modifications to the sewer plant. City staff then worked with the design team to complete final designs and develop cost estimates. One change that was authorized was the addition of a pump station to the EQ basin. This enhancement will mitigate the potential of a sewer overflow as well as increase operational efficiencies.

The original design was adequate to meet operational requirements; however, the design has some potential failure scenarios:

1. Pump failure of the influent pump station due to power failure,
2. Backup power generator fails to start, and
3. Control valve releasing flow from the EQ basin back to the influent pump station failure in the open position (default failure is in the closed position).

Any of these scenarios could lead to a significant sewer overflow event. Installing a new EQ pump station will allow flow directly from the EQ basin to the fine screens, rather than back to the influent pump stations. In effect, influent can be held in the EQ basin until the plant is ready to accept the flow. Consequently, sewage would remain in the EQ basin in the event of a system failure.

The preliminary cost estimate was approximately \$500,000. Final pricing for the change order is \$667,482.82 due to the fact that there were several ancillary modifications required as well as the addition of item 2 below:

1. One side wall (130 LF x 2.33 ft thick) had to be raised by 1 ft,
2. A shade structure was added over the pump station,
3. An additional penetration into the fine screen structure,

4. An additional 4-ft diameter manhole to drain the fine screen structure back to the plant drain system, and
5. Modifications to the planned electrical motor control center in the solids handling building.

Even though the final change order price is significantly higher than expected, staff and the consultants believe this modification to the original design and operation will provide a superior operation with less risk of spills. In addition, the long-term operating costs (pumping) will be decreased due to the flow from the EQ basin remaining at a higher elevation before being delivered to the fine screen facility.

Wastewater Treatment Plant Change Order Summary:

CO No.	Description	Reason for Change	Amount
1	MBR System Improvements	Enhance the performance of MBR System	\$149,741.00
2	RO System Electrical Modifications & Storm Drain System Material Change	Design & Material Updates	(\$245.00)
3	New Aeration Basin 1 through 3 Excavation	Conflict with Existing Utilities	\$19,998.00
4	Structural and Mechanical Modifications	Pre-Selected Submittals	\$57,450.64
5	Vactor Truck Dump Station Modifications	Conflict with Construction	NTE \$15,000.00
6	EDI/Fine Coarse Bubble Diffuser Equipment	Design Change	\$24,298.00
7	Various Changes – MBR/RO Structural, Site Civil & Headworks SCADA Design Modifications	Design Changes	\$59,167.49
8	Various Changes - Demolition, Piping Realignment, Material Change, and Electric Actuated Valve Voltage Change	Unforeseen Conditions and Value Engineering	\$6,067.00

9	Various Changes - Solids Handling Bldg. Conveyor Capacity Increase, Electrical Yard Vault Cover Changes, Additional Pothole Investigation and Existing Duct Bank Removal, and Yard Utilities	Design Changes, Conflict with Construction, Owner Requested Changes	\$138,531.73
10	MBR Chemical Area Changes & Other Misc. Changes and Inclement Weather Impact Nov-18 to May-19	Owner Requested Changes & Inclement Weather	\$596,031.05
11	Frontier Internet Provider Duct Bank Modifications, 30-inch MBR & 20-inch Plant Effluent Pipeline Elevation and Alignment Modifications, Additional Safety Required Handrail at Retaining Wall and Generator	Design Changes, & Conflict with Construction	\$81,128.29
12	RO-Sulfuric Acid Chemical Piping Material Change, Solids Feed Pump TR/TSH Thermocouple Elements, Solids Handling Bldg. Changes	Design Changes, Owner Requested Changes	\$91,417.26
13	Plant Effluent Chemical Area Changes	Owner Requested Changes	\$404,821.33
14	ADA Compliance Men's – Women's Restroom Modifications & SCE Required Additional 4/0 Ground Cable	Design Changes & SCE Requirements	\$12,311.12
15	Aeration Basin 24" Air Piping Block-outs and Pipe Seals, Modifications to HACH Instrumentation Communications Protocol, MBR Module Lifting Safety Device, RO CIP-Skid Discharge Orifice Plate Addition	Design Changes, Owner Requested Changes	\$79,713.39

16	Pump station at the EQ Basin	Owner Requested Changes	NTE \$667,487.82
WWTP Contingency	Budget Amount	Change Orders 1-15	Remaining
	\$4,000,000.00	\$2,402,919.12	\$1,597,080.88

Fiscal Impact:

The cost of the change order is a not to exceed \$667,487.82. This will be covered by contingency dollars in the project.

WWTP	Budget Amount	Paid to Date	Remaining
Design	\$2,709,798.23	\$2,556,828.66	\$152,969.57
Construction Management	\$5,308,585.72	\$3,674,066.61	\$1,634,519.11
Equipment	\$252,906.00	\$253,362.91	(\$456.91)
Permits	\$324,776.76	\$92,765.29	\$232,011.47
Construction	\$53,912,177.00	\$33,100,013.72	\$20,812,163.28
Contingency	\$4,000,000.00	\$1,054,290.93	\$2,945,709.07
Total	\$66,508,243.71	\$40,731,328.12	\$25,776,915.59

Recommended Action:

Approve Change Order 16 for the WWTP Expansion and Renovation Project in a not to exceed amount of \$667,487.82.

Attachments:

- A. WWTP Expansion and Renovation Project Change Order 16