



## Staff Report

**TO:** Mayor, and City Council Members  
**FROM:** Kristine Day, Assistant City Manager  
**DATE:** January 7, 2020  
**SUBJECT:** City Council Approval of Change Order No. 12 for the Wastewater Treatment Plant Upgrade/Expansion in the Amount Not to Exceed \$91,417.26

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### **Background and Analysis:**

#### **Wastewater Treatment Plant Change Order No. 12:**

##### **Item #1 - RO-Sulfuric Acid Chemical Piping Material Change:**

The sulfuric acid piping at the Tank Farm #1 was designed and specified to be PVDF pipe anticipating a certain level of chemical concentration. After further discussions with staff, it was determined for operational peak performance and cost savings a higher chemical concentration would be better suited. Alloy 20 piping was evaluated as an alternative to PVDF piping which provides a higher degree of service reliability for the chemical concentration to be used. As a result, staff recommended making this change. Due to potential delay costs of \$3,000 per day, staff presented this change order item to the Mayor for approval on December 17, 2017.

The cost for this work is \$1,514.16.

##### **Item #2 - Solids Feed Pump TE/TSH Thermocouple Elements:**

Thermocouple temperature elements are safety features on the motors in the event a motor runs dry. The electrical plans called out for these devices but the pump plan did not. As a result, staff recommends adding these in order to protect the motors.

The cost for this work is \$2,354.10.

**Item #3 - Solids Handling Bldg. Changes:**

The chemical storage equipment in the solids handling building is proposed to be modified from smaller storage totes to bulk tanks. This was part of the owner initiated change order which was presented to the City Council on May 7, 2019. The original bid called for three chemical tote stands which would each hold a 250 gallon tote. The new design is for a single bulk storage tank (6,500 gallon capacity) with an original estimate on May 7, 2019 of \$75,000. During the design process, a pump system was added as well as modifications to the floor drain system and one of the radiant heaters. This change will significantly reduce operator time spent changing out chemical totes and will reduce the cost of chemicals due to buying in bulk. Additionally, this change will improve operator safety due to not having to change out totes using a forklift and minimizing spillage of polymer.

The cost for this work is \$87,549.00.

**Summary of Change Order No. 12 Costs:**

The cumulative costs associated with this change order is in the amount not to exceed \$91,417.26 and will not impact the project schedule. The costs for the change order are as summarized below:

Item	Cost
Item #1 - RO-Sulfuric Acid Chemical Piping Material Change	\$1,514.16
Item #2 - Solids Feed Pump TE/TSH Thermocouple Elements	\$2,354.10
Item #3 - Solids Handling Bldg. Changes	\$87,549.00
<b>Total:</b>	<b>\$91,417.26</b>

**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	\$7,942.00
9	Various Changes - Solids Handling Bldg. Conveyor Capacity Increase, Electrical Yard Vaults 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 TE/TSH Thermocouple Elements, Solids Handling Bldg. Changes	Design Changes, Owner Requested Changes	\$91,417.26

<b>WWTP Contingency</b>	<b>Budget Amount</b>	<b>Change Orders 1-12</b>	<b>Remaining</b>
	<b>\$4,000,000.00</b>	<b>\$1,240,460.46</b>	<b>\$2,759,539.54</b>

**Fiscal Impact:**

Wastewater Treatment Plant Expansion/Renovation:

The project accounting below represents the status of funds should the change order be approved by City Council. A contingency balance of \$2,759,539.54 would remain should City Council approve this item.

<b>WWTP</b>	<b>Budget Amount</b>	<b>Paid to Date</b>	<b>Remaining</b>
Design	\$2,709,798.23	\$2,556,828.66	\$152,969.57
Construction Management	\$5,308,585.72	\$2,620,177.77	\$2,688,407.95
Equipment	\$252,906.00	\$253,293.50	(\$387.50)
Permits	\$324,776.76	\$79,058.64	\$245,718.12
Construction	\$53,910,737.00	\$26,788,463.64	\$27,122,273.36
Contingency	\$4,000,000.00	\$418,810.11	\$3,581,189.89
<b>Total</b>	<b>\$66,506,803.71</b>	<b>\$32,716,632.32</b>	<b>\$33,790,171.39</b>

**Recommended Action:**

Approval of Change Order No. 12 for the Wastewater Treatment Plant Upgrade/Expansion in the amount not to exceed \$91,417.26.

**Attachments:**

- A. Change Order No. 12 - Lyles