



Staff Report

TO: City Council

FROM: Kristine Day, Assistant City Manager

DATE: December 15, 2020

SUBJECT: **City Council Approval of Change Order No. 18 for the Wastewater Treatment Plant Upgrade /Expansion in the Amount Not to Exceed \$1,624,252.52 for the Installation of a New UV system; and Contract Amendment No. 2 with Albert A. Webb Associates for the Design Services Related to the UV System in an Amount Not to Exceed \$164,316**

Background and Analysis:

Wastewater Treatment Plant Change Order No. 18:

Construction of the City's new wastewater treatment plant (Plant) began in October 2018. Phase I of construction has been completed and the contractor (WM Lyles) is making good progress on Phase II. As part of the original design, it was decided by the City and design team to keep the existing UV disinfection system in service and make upgrades as opposed to a full replacement. This was primarily a financial decision based upon concerns regarding the overall budget and the ability to include UV replacement in the available funding. It was always understood that eventually the UV system would require replacement or significant upgrades to meet future demands and reliability. During the course of construction, Trojan Technologies (UV Manufacturer) notified its customers that support for the UV 3000 systems will be phased out in 2021. The decision by Trojan to no longer offer technical support and replacement parts for this system has necessitated a change in timeline for replacing the existing UV system at the Plant.

The City has worked closely with the design team and the contractor to develop a plan to replace the existing UV system as part of the current Plant construction project. The attached change order/contract amendment for the design team and contractor represent the work and equipment required to:

- Design the system,
- Construct the facilities,
- Purchase the new UV System,
- Install and commission the new UV System,

- Perform construction services such as submittal reviews, coordination during construction and start up, and
- Assistance with permitting of the new system.

The design and engineering services during construction change order totals \$164,316 (see attached) and the construction change order totals \$1,624,252 (see attached). The new UV system will include the following:

- Two new concrete channels where the UV system will be installed,
- New Trojan Signa UV system capable of treating 13.2 MGD peak flow with all banks in service and 8.8 MGD peak flow with one bank in each channel off,
- A new awning covering the UV system to provide protection from the sun and other natural elements,
- New channel coverings to prevent debris and contaminants from entering the channels,
- Bioassay testing to verify the capacity of the new system (required for Title 22 permitting), and
- Piping, grading, demolition, and electrical required for the successful installation of the new system.

Some of the benefits of completing this work as part of the construction project include:

- Contractor already being mobilized on-site and thereby eliminating additional mobilizations;
- Shorter timeframe for the work because it can be completed concurrently with other work rather than waiting for WM Lyles to complete their work in August and then beginning a new project;
- Provide additional treatment capacity to cover the new plant capacity of 6.0-mgd and is easily expandable in the new channels to meet the ultimate capacity of 8.0-mgd; and
- Construction completed by WM Lyles who is intimately familiar with the existing Plant, operations, and field conditions.

Summary of Change Order No. 18 Costs:

The cumulative costs associated with this change is in the amount not to exceed \$1,788,568.52. The costs are as summarized below.

Item	Cost
Item #1 - Construction Cost of UV System	\$ 1,624,252.52
Item #2 - Increment Weather Time Extension	\$164,316.00
Total:	\$1,788,568.52

Fiscal Impact:

Due to the magnitude of the Plant and brineline construction the City withheld approximately \$4 million of available project funds on an unallocated status in the event additional work or modifications would be needed or desired. This change, if approved, will require the funds to be moved from the unallocated balance to the appropriate category of design and contingency.

WWTP	Budget Amount	Paid to Date	Remaining
Design	\$2,697,942.63	\$2,556,828.66	\$141,113.97
Construction Management	\$5,082,475.75	\$4,905,144.68	\$177,331.07
Equipment	\$252,906.00	\$256,216.13	\$(3,310.13)
Permits	\$324,776.76	\$117,566.12	\$207,210.64
Construction	\$53,910,737.00	\$39,224,465.26	\$14,686,271.74
Contingency	\$4,000,000.00	\$1,571,627.37	\$2,428,372.63
Unallocated	\$4,065,594.24	\$0.00	\$4,065,594.24
Total	\$70,334,432.38	\$48,631,848.22	\$21,702,584.16

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	Design Changes, Owner Requested Changes	NTE \$667,487.82
17	RW FUTURE PUMP STATION, Weather Time Extension, Valve Modifications, MBR Feed Pump Seal Water Control Changes	Design Changes, Owner Requested Changes, Unforeseen Conditions	NTE \$159,442.86
WWTP	Budget Amount	Change Orders 1-15	Remaining
Contingency	\$4,000,000.00	\$2,562,361.98	\$1,437,638.02

Recommended Action:

Approval of Change Order No. 18 for the Wastewater Treatment Plant Upgrade/Expansion for the installation of a new UV system in the amount not to exceed \$1,624,252.52 and approve the Contract Amendment No. 2 for Albert A. Webb Associates for the design services related in an amount not to exceed \$164,316.

Attachments:

- A. WM Lyles Cost Proposal
- B. Contract Amendment No. 2 for Albert A Webb Associates