



Memo

To: Clay Pearson, City Manager
From: Skipper Jones, Assistant Director - Projects
CC: Trent Epperson, Deputy City Manager
Robert D. Upton, PE, Director of Engineering and Public Works

Date: April 14, 2022

Re: SWTP Update and Pre-Award to DataVox for Audio-Visual Equipment

Executive Summary

This memo provides information about the progress on the Surface Water Plant project's current status and the forthcoming proposed award of a contract for the plant audio-visual equipment for the Control, Conference, Break and Training/ Meeting Rooms. This equipment is a key component of the human-machine interface for operation of the plant and distribution of the operating data to plant operations Staff. The contract includes the purchase and installation of forward-facing information-technology and behind-the-scenes data processing and communications distribution hardware that makes this functional. Funding for this contract will come from the existing project Furniture, Fixtures and Equipment, (FF&E) budget. Staff are proposing to award the contract to DataVox in the Amount of \$172,617.92 on the April 25 Agenda. The project remains within budget, and the expected completion date (Water into the System) is June 2023.

Background

The project entails the design and construction of a 10 million gallon per day (MGD) surface water treatment plant to supplement the City's drinking water supply to meet the demands of current and future population growth. The work includes the construction of a transmission line system to bring water from the plant north along Kingsley (CR48) to Broadway and from there to the Kirby Water Plant to the east and FM521 Water Plant on the west end of town. The work also includes the extension of the City's fiber network to provide a second City-wide Data Center to be housed in the Plant Operations building. This project is being delivered through a Construction Manager At Risk (CMAR) contract with PLW Waterworks for a total construction cost of \$135,997,681.

In March 2022, Council received a project and budget status update presentation prior to approving Change Order #8 that provided funding for three Owner Directed Work Change Directives (WCD1, 2 and 3). These Owner directed changes to the project allowed the project to take advantage of immediate capital and long-term O&M savings. The work of Change Order #8 is now fully underway.

Current Status:

Although material and equipment delivery schedules continue to suffer delays, the CMAR and its sub-contractors are constantly exploring scheduling "work-arounds". The schedule remains the primary issue of concern.

Schedule Update:

As of April 12, the Main Electrical Switch Gear has been delayed a fourth time, now into mid-May. The Original ship date was late February, that was delayed to late March due to parts unavailability. In mid-March the electrician received notice that the equipment would not make the March ship date and that the new ship date was April 22nd. On April 8th the Construction Team (City Staff, Ardurra, & CMAR) received notice that because internal components had not arrived at the point of assembly (Mexico City) that the metal clad enclosures (cabinets that contain the electrical distribution breakers) had been removed from the assembly line. The Team was able to convince the factory to return the part to the assembly line, complete the cabinets and “short ship” the enclosures only if internal components were still unavailable. It was agreed that internal components could ship separately once available and be installed in the field. In a follow up meeting Monday, April 11, the Team was told that because the enclosures had been removed from the assembly line they would not be ready to ship until May 17.

The Electrician cannot pull the main power distribution cabling into the system without the enclosures. The electrician’s schedule is dependent on the cabinets being installed by the end of April. If the project can receive the enclosures the electrician can pull the main distribution cable allowing work to proceed for the next several weeks. The May 17 ship date sets this schedule back nearly four weeks prior to pulling cable.

Although it is now clear that that electrical equipment will not be complete when it arrives, the ability to pull in cable allows the electrician to perform three weeks of cabling, testing and termination while waiting on the missing components. The phased approach would allow CenterPoint to set their transformers but not perform their connection until the balance of the internal equipment arrives and is installed. The late delivery of these internal components will delay the planned performance testing for Texas Commission on Environmental Quality (TCEQ) but allow the electrician to keep working and pulling wire.

At this time, the Team is unable to assess the exact impact to the “Water into the System”. In last month’s Workshop with Council that date was projected to be June 2023.

Budget Update:

There are no pending Change Orders or Owner Directed Changes on the horizon.

The contract for the AV equipment was budgeted in the Furniture Fixtures and Equipment budget with a current balance of \$369,188. The cost of the AV equipment is a fixed price of \$172,617.92 leaving a balance of \$196,570 for any miscellaneous outstanding items.

Contract Award:

The pricing and availability for audio-visual equipment was procured through the City’s ability to participate in the cooperative purchasing agreements per Chapter 252, 252.022 Sub-Chapter B General Exemptions of the Local Government Code. For technology purchases the City participates in and utilizes The Interlocal Purchasing System (TIPS) to avail itself of nationally negotiated prices for such technology. DataVox is a registered vendor within the TIPS purchasing system that the City has turned to in previous projects for this equipment and its installation. While these components will work in unison with those of the SCADA they are not part of the SCADA system. This is the human interface with the data that the SCADA system provides and the interface with operational control of the plant.

The equipment includes wall monitors for the Control Room, Conference Room, Break Room in Operations and the Training Room and Lobby are of the Administration building as “front office” equipment. The “back office” equipment consists of data drivers, ether net equipment, cabling, mounting boxes and devices to allow

the monitors to receive and process video signals from multiple sources. This allows the system to display data from the plant to the control room, pictures from the constant scanning security cameras, weather data and video conferencing. The contract is a supply and install all under a proven vendor. Pricing is broken down by building and Staff has reviewed the information with the vendor and vetted it for function as well as pricing. The cost breaks down as follows:

- Operations Building
 - Control Room \$62,566.25
 - Conference Room \$36,920.57
 - Break Room \$2,545.62
- High Service Pump and Administration Building
 - Multi-purpose Training Room \$49,122.16
 - Lobby Information \$2,959.16
- Design, Shipping, Installation, Commissioning and Training \$18,504.16

Due to the long lead time required for portions of this purchase and the need to begin installation of in-wall conduit and equipment enclosures prior to wall close-up this equipment purchase needs to move forward at this time. Monitors, computers, switches and other sensitive equipment will be delayed until the buildings are environmentally controlled and server racks are installed. Installation of the conduit, boxes and cabling will allow the project to move forward with interior finishes without delay

Next Steps:

Operations and Administration buildings both have interior finishes that are underway. As the project progresses the CMAR will begin to remove portions of the temporary offices and material storage facilities. To complete the potable water line, encircling the plant itself and make the tie in between transmission lines and High Service Pumps, all of these temporary facilities will need to be moved or removed. At this point project staff will move into the permanent buildings and make use of those facilities. This plan has the added benefit of lowering the CMAR’s general conditions costs early. This is a standard practice and the use of the buildings by the CMAR and Construction Team will not relieve the contractor of any of the requirements for acceptance.

Budget Info:

Funding Sources	Series	To Date	Future	Total Budget
W/S Revenue Bonds	2017B	6,012,500		6,012,500
Impact Fee - Debt	2017B	6,012,500		6,012,500
W/S Revenue Bonds	2018A	4,325,000		4,325,000
Impact Fee - Debt	2018A	4,325,000		4,325,000
W/S Revenue Bonds	2019A	10,500,000		10,500,000
Impact Fee - Debt	2019A	10,500,000		10,500,000
W/S Revenue Bonds	2020A	53,800,000		53,800,000
Impact Fee - Debt	2020A	53,800,000		53,800,000
W/S Revenue Bonds	TBS 2022	10,490,000		10,490,000
Impact Fee - Debt	TBS 2022	10,490,000		10,490,000
W/S Revenue Bonds			2,622,500	2,622,500
Impact Fee - Debt			2,622,500	2,622,500
Cash				-
Other Funding Sources				-

Total Funding Sources	170,255,000	5,245,000	175,500,000
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Expenditures	To Date	Future	Total
PER	8,773,058		8,773,058
Land	173,394		173,394
Design	16,338,003	300,000	16,638,003
Construction	136,146,231	1,500,000	137,646,231
Construction Management/Inspection	4,100,474		4,100,474
Construction Materials Testing	462,860		462,860
FF&E	1,130,812	369,188	1,500,000
Total Expenditures	167,124,832	2,169,188	169,294,020

Project Contingency	3.5%	6,205,980
Project Balance		0

Schedule Info:

	Base Line	Current
Design Start - Package 1	August-19	September-19
Design Start - Package 2	February-19	March-19
Design Start - Package 3	August-19	September-19
Bid Start	March-20	January-19
Construction Start	May-20	June-20
Construction Completion	December-22	June-23

Recommendation:

On the April 25th Agenda Staff will recommend that Council award the contract to DataVox and authorize the City Manager to execute the agreement on behalf of the City.

Previous Memos:

6/16/16, 2/2/17, 3/9/17, 4/13/17, 3/29/18, 4/19/18, 1/10/19, 2/21/19, 3/28/19, 8/1/19, 8/8/19, 1/23/20, 3/05/20, 4/16/20, 9/17/20, 3/4/21, 6/10/21, 7/29/21, 11/4/21, 3/10/22,

Project Photos:



Front of the High Service Pump Bldg. public's view of the plant



North side of Administration Bldg. with High Service in background



Overhead of Operations Bldg.



Back side, (west) of Operations Bldg.



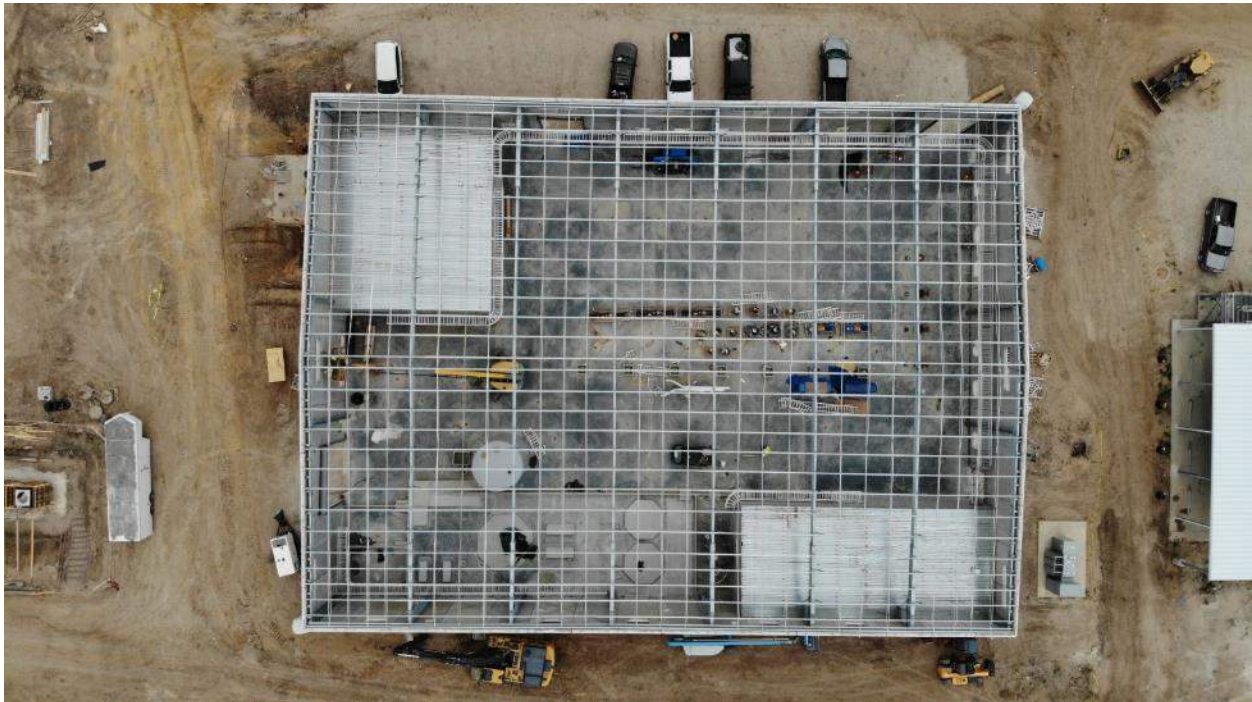
Chlorine DiOxide Bldg.



Backside of Chlorine DiOxide Bldg., note roofing materials in foreground



Membrane Bldg., preparing to begin receiving Membrane equipment



Direct overhead view into the Membrane Bldg. showing internal preparations



Raw Water Lift Station and Canal Bank slope paving with debris strainer



Direct overhead view of Raw Water Lift Station showing Debris Vertical Rakes and pump wells



Overall Site View from southeast. Note CMAR's temporary offices and material storage that will be removed to complete installation of finished water transmission line and Plant Service Water ring. CMAR & City Staff will move into Admin and Operations for this installation.