File #: 22-0880

REQUEST FOR CITY COUNCIL AND CORONA UTILITY AUTHORITY ACTION

DATE: 11/16/2022

TO: Honorable Mayor and City Council Members
Honorable President and Board Members

FROM: Utilities Department

SUBJECT:
Issuance of a Purchase Order to Ovivo USA LLC for Water Reclamation Facility 1 Digester No. 2 Dome Cover Replacement.

EXECUTIVE SUMMARY:
This staff report asks the Council to authorize the issuance of a purchase order to Ovivo USA LLC (Ovivo) in the amount of $293,341 for the purchase of an anaerobic digester steel dome cover for Water Reclamation Facility No. 1 (WRF1). WRF1 is located at 2205 Railroad Street and can treat up to 11.5 million gallons of raw sewage per day. The treatment process includes anaerobic digestion in three digesters and sludge dewatering before hauling to a composting site or processing in the dryer. Digester No. 2's traveling dome cover has reached the end of its useful life; therefore, Staff is recommending the dome cover be replaced.

RECOMMENDED ACTION:
That the:

a. City Council authorize an appropriation for $274,115 from the Sewer Utility Fund (572) to the Capital Improvement Project No. 77230, titled Water Reclamation Facility 1 Digester Dome Replacement Project.

b. City Council authorize the Purchasing Manager to issue a purchase order for $293,341 to Ovivo for purchase of Ovivo fixed steel dome cover equipment for Water Reclamation Facility 1 Digester Replacement Project No 77230.

c. City Council authorize the City Manager, or his designee, to negotiate and execute non-substantive extensions, change orders and amendments up to 10% of total contract cost or $29,334 as authorized by Corona Municipal Code Section 3.08.060(J).

d. Corona Utility Authority review, ratify, and to the extent necessary, direct the City Council to take the above actions.

BACKGROUND & HISTORY:
Digesters are an essential part of the water reclamation process. The digestion process helps break down the organic matter and waste products in the sludge removed from the sewage treated at the plant. This process is accomplished by using naturally occurring microorganisms to break down organic materials into methane and carbon dioxide. The material left after the anaerobic digestion process is called "digestate." Digestate is a wet mixture that is usually separated into a solid and a liquid. Digestate is rich in nutrients and can be used as fertilizer.

The existing steel dome cover for Digester No. 2 was installed in 1999 as part of a repair and upgrade project. After 23 years of service, the existing steel dome cover due to age and corrosion over the years, is at the end of its useful life with no practical options for repair and is in need of replacement.

ANALYSIS:
A new dome cover for Digester No. 2 is needed to maintain WRF1's ability to treat sewage. Staff employed one of the City's contracted engineering firms, Webb & Associates (Webb), to evaluate the replacement of the existing dome cover. As part of the evaluation, a concrete dome cover design was explored to match the other two existing digesters. The concrete dome cover, however, would cause a major retrofit to the existing concrete tank due to the extra weight of a concrete dome cover. The existing steel dome cover weighs approximately 40,000 pounds. A new dome cover exceeding this weight will require a seismic retrofit to thicken the walls and tank floor and extend the wall's footing. These requirements are not viable based on the impact to the surrounding facilities and the existing digester walls and foundation.

Webb determined that a concrete dome cover is not viable; therefore, they suggested a fixed steel dome cover as the next best option. A steel dome cover is lighter than a concrete lid and will not require major seismic retrofits to the existing concrete tank and tank foundation. Currently, WRF1 is processing sludge in Digester Nos. 1 and 3; Digester No. 2 has been decommissioned due to corrosion that has compromised the structural integrity and due to a methane gas leak. These digesters process sludge from WRF1, WRF2 and WRF3. Having one digester out of service has impacts on sludge processing capacity. Staff notified the Santa Ana Regional Water Quality Control Board of impacted sludge processing. Webb/Aqua Engineering performed bidding services on behalf of the City, having the expertise to prepare the scope of work and assist the City with specialized services. The project was bid as a Request for Proposal (RFP) using following evaluation criteria: 1. Equipment Weight; 2. Installed Capital Cost; 3. Experience; 4. Lead Time, and 5. Warranties.

There are only three reputable digester dome equipment manufacturers and all three were solicited through a formal RFP process and asked to provide proposals for their fixed steel dome covers.

WesTech and Ovivo submitted their bids on time with their standard designs for fixed dome covers. OTI submitted their bid after the bid due date. Unfortunately, the standard fixed dome cover with steel skirt proposed by each manufacturer exceeded 40,000 pounds. According to Webb's structural engineer, any dome design that exceeded Digester No. 2's existing dome weight of 40,000 pounds would require seismic retrofit to the Digester's walls. Knowing the challenging weight limitation, the original proposal from Ovivo included an optional bid for a membrane skirt design for a fixed steel dome cover weighing less than 40,000 pounds.

Manufacturer	Sealing Type	Submittal Duration	Fabrication Duration	Cover Weight	Cost/unit
WesTech	12' Skirt	6 to 8 Weeks	24 to 26 Weeks	51,300 lbs	$361,784
Ovivo (Base)	12' Skirt	6 Weeks	24 Weeks	56,000 lbs	$315,540
Ovivo (Alt Bid 1)	Membrane Seal	6 Weeks	22 Weeks	34,000 lbs	$293,341
Ovivo (Alt Bid 2)	Membrane Seal	6 Weeks	20 Weeks	8,000 lbs	$300,239
OTI	12' Skirt	3 to 5 Weeks	14 to 20 Weeks	52,000 lbs	$224,670

Webb's design engineers reviewed the proposed alternative bid option and found it to be most viable option. Webb has compared the pricing and operational capability with other proposals received from the manufacturers for their standard design. Their analysis shows the price is favorable compared to other steel dome cover designs.

The quote received from Ovivo includes the cost for equipment, freight, and technical support services that includes onsite startup, training and assistance in automation startup. The cost for submittals and manufacturer shop drawings is $15,172. The cost for equipment is $278,169. The manufacturer will provide a 36-month warranty.

Acquisition of the dome cover has a relatively long manufacturing and delivery lead time of 6 weeks for submittals to the engineer and 22 weeks for fabrication upon submittal approval.

Following City Council approval and issuance of the purchase order, Ovivo will start design and manufacturing of the steel dome cover. At the same time, work will begin on completing the installation bid documents while the steel dome cover is fabricated. Once the plans and specifications are complete, the project will be bid for installation of the equipment in accordance with the Corona Municipal Code (CMC) Section 3.08.110. Staff and Webb will coordinate the bidding and construction efforts with Ovivo and the delivery schedule to complete the project on time. Award of the construction contract will be presented to the City Council for consideration of approval after completing the public project bidding process in accordance with CMC.

Staff is requesting an appropriation of $274,115 from the Sewer Utility Fund (572) to the Capital Improvement Project No. 77230, titled Water Reclamation Facility 1 Digester Dome Replacement and authorize the Purchasing Manager to issue a purchase order for $293,341 to Ovivo for purchase of Ovivo fixed steel dome cover equipment for the above mentioned project.

FINANCIAL IMPACT:
Partial funding for the recommended action is currently available in the Fiscal Year 2023 Capital Improvement Project No. 77230. UD requests an additional appropriation of $274,115 from the Sewer Utility Fund (572) to the Water Reclamation Facility 1 Digester Dome Replacement Project (77230). There is sufficient working capital in the Sewer Utility Fund (572) for the recommended actions.

Current Project Budget

Design, plans and specification	$201,440
Project management/administration	$70,000
Estimated staff time	$30,000
Fixed Steel Dome Cover/shipping/startup	$293,341
Contingency	$29,334
Total	**$624,115**
Available Funds in CIP 77230	$350,000
Requested Funds	**$274,115**

The installation funding request will be presented to the City Council for approval at a future Council meeting.

ENVIRONMENTAL ANALYSIS:
This action is categorically exempt pursuant to Section 15301 of the Guidelines for the California Environmental Quality Act (CEQA), which states that operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the CEQA determination, and is therefore exempt from CEQA. This action involves digester dome cover replacement within the existing water reclamation systems. Therefore, no environmental analysis is required.

PREPARED BY: AFTAB HUSSAIN, MAINTENANCE MANAGER

REVIEWED BY: TOM MOODY, DIRECTOR OF UTILITIES

Attachment:
1. Exhibit 1 - Ovivo Proposal