

**Metropolitan Domestic Water Improvement District
Board of Directors Meeting**

May 15, 2023

**Approval of Bids for Granular Activated Carbon (GAC)
Replacement at the South Shannon Facility**

Synopsis

The Board of Directors is requested to approve the bid submitted by Carbon Activated Corporation for the replacement of the Granular Activated Carbon (GAC) at the South Shannon facility in Fiscal Year 2024.

Background

The District, in conjunction with the Arizona Department of Environmental Quality (ADEQ), constructed a GAC treatment system at the South Shannon facility to remove volatile organic compounds (VOCs) from the groundwater. The GAC system is comprised of two vessels set in series. Each vessel contains 20,000 pounds of burnt coconut shell GAC. The well pushes water through the carbon bed from the top down. As the water flows through the bed, the VOCs attach to the GAC. The GAC in the lead vessel adsorbs as much of the VOCs as it can before breakthrough occurs. Breakthrough is when small amounts of the constituent being treated start to be detected after the lead treatment vessel. The levels will increase as more of the GAC is used to the point where the VOC will pass through as if there was no treatment in place.

As of August 2017, ADEQ requested that the operation methodology of the GAC system be modified so that a GAC change out does not occur until a regulated VOC is detected at 50 percent of the published maximum contaminant level (MCL). Since the two vessels are in series, the lag vessel will continue to remove the majority of the VOCs. Not all VOCs respond to GAC treatment the same way allowing some to pass through the treatment faster than others. Operating the treatment system using the 50 percent criteria does allow some VOCs (well below the MCL) to be delivered.

Issues

It is anticipated that there will be one to two carbon change outs during Fiscal Year 2024; however, the number of change outs will vary depending on the gallons treated and the VOC levels in the raw water. The number of changes outs will also depend on the construction timing of the new Advanced Oxidation Process (AOP) equipment at Shannon. The AOP will reduce the number of GAC change outs per year and possibly over multiple years. ADEQ reimburses the District for the GAC change outs. In order to expedite the process, without having the system shut down for extended periods of time, the District requested quotes that would be valid from July 1, 2023 thru June 30, 2024.

Board of Director's Meeting

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Page 2

A request for sealed bids was sent to the District's current supplier and a public notice was also placed in the Daily Territorial on March 27, 2023 and ran for four consecutive publications. Sealed bids were due on April 20, 2023.

All bids were received by email. Bidders were asked to put "GAC Bid" in the subject line of their email. Emails were not opened until 2:00 p.m. on the bid opening date. Staff established a GoToMeeting session to allow remote access to the bid opening. The only vendor submitted a bid this year and that was Carbon Activated Corporation. Carbon Activated Corporation's bid price was \$1.95 per pound or \$39,000 per change out.

Recommendation

It is recommended that the Board of Directors approve the bid submitted by Carbon Activated Corporation for the GAC replacements.

Suggested Motion

I move to approve the bid submitted by Carbon Activated Corporation for the GAC replacements.

Respectfully Submitted,

Steven D. Shepard
Utility Superintendent

I concur with the above recommendation.
Respectfully submitted,

Joseph Olsen, P.E.
General Manager