

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

January 8, 2024

**Agreement with Arizona Department of Environmental Quality
to Fund the District's Operation and Maintenance
of the South Shannon Well Treatment System**

Synopsis

The Board of Directors is requested to authorize the General Manager to enter into an agreement with the Arizona Department of Environmental Quality (ADEQ) to provide funding for the operation of the Advanced Oxidation Process (AOP) treatment facility installed at the South Shannon well.

Background

In 2013, detections of 1,4-dioxane began in water samples collected after the treatment system at the South Shannon well. Concentrations increased until they exceeded the Health Advisory Level (HAL) set by the U.S Environmental Protection Agency. To keep the well operating and providing treatment for TCE and PCE, water from South Shannon had to be blended with water from the Wildwood and DeConcini wells. However, as the 1,4-dioxane levels increased in South Shannon, the discharge rate had to be reduced to keep the blended water below the HAL. This resulted in less efficient capture of other contaminants in the South Shannon/Camino del Cerro groundwater plume. Detections of TCE and 1,4-Dioxane began at the DeConcini well in 2020.

To address the continued expansion of the contaminant plume into other wells, District staff worked with ADEQ to include AOP treatment at South Shannon as part of the Preferred Remedial Action Plan (PRAP) for the Water Quality Assurance Revolving Fund (WQARF) site. Design and construction of the AOP treatment train began 2022 and construction was completed in December 2023. Operation of the new treatment train is anticipated to begin in January 2024.

Issues

Since its construction, the granular activated carbon (GAC) treatment system constructed at the South Shannon well site has been operated by the District. Costs for personnel, water quality sampling, electricity, GAC change outs and other maintenance needs for the system have been reimbursed by ADEQ. A series of 5-year agreements have been in place between the District and ADEQ detailing the operational responsibilities and reimbursement requirements. The new AOP system will have additional operating costs that are not covered by the current agreement; therefore, a new agreement needs to be executed to cover the overall O&M costs of operating the new South Shannon treatment system.

The terms of the new agreement are as follows:

- The District will perform regular O&M on the treatment system consisting of gauge and meter readings, reporting, water sampling, power bill payments, refilling the H2O2 tank and other activities to ensure operation of the treatment system.
- The District will perform irregular O&M on the treatment system consisting of ultraviolet bulb replacement, granular activated charcoal changeouts, replacement parts and installation and other activities to ensure operation of the treatment system.
- The District will maintain as large a volumetric flow rate from the well as reasonably possible without putting any equipment at undue risk of failure.
- The District will invoice ADEQ monthly for costs incurred while conducting the previous activities and produce an annual summary report in July.
- ADEQ has set a preliminary budget as follows for the remainder of Fiscal Year 2024 and four more years afterward as follows:

FY2024	\$93,202.97
FY2025	\$159,776.51
FY2026	\$162,173.16
FY2027	\$164,605.76
FY2028	\$167,074.85

Recommendation

It is recommended to authorize the General Manager to enter into a funding agreement with ADEQ to operate the South Shannon Well Advanced Oxidation Process treatment system.

Suggested Motion

I move to authorize the General Manager to enter into a funding agreement with Arizona Department of Environmental Quality to operate the South Shannon Well Advanced Oxidation Process treatment system.

Respectfully submitted,

I concur with staff's recommendation
Respectfully submitted,

Wally Wilson
Water Resources Manager

Joseph Olsen, P.E.
General Manager