

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

February 8, 2021

**Authorizing Pumping and Water Quality Analysis for Recovery Well AVRW-01
Northwest Recharge, Recovery and Delivery System (NWRD)**

Synopsis

The Board of Directors is requested to authorize the General Manager to execute a water quality investigation of the AVRW-01 well utilizing current District contracts with Smyth Industries and Turner Laboratories. The investigation includes water quality analysis at various pumping depths in well AVRW-01 for the Northwest Recharge, Recovery, and Delivery System (NWRD). Costs for Smyth Industries services is \$54,200 and Turner Labs services is \$19,245.95. Estimated District staff costs are \$3,922.00. Total cost for the investigation will be \$77,367.95. This total cost will be evenly split per Memorandum of Agreement 20010-00 between the Town of Oro Valley and the District at \$38,683.98, respectively.

Background

Metro Water District (District), the Town of Marana (Marana), and the Town of Oro Valley (Oro Valley) store water underground or utilize groundwater savings facilities in the north Marana area. To use this water, the three entities (Partners) have entered into an intergovernmental agreement (IGA) to construct the NWRD infrastructure, to transport water from north Marana to meet current and future water demands in the north area of the Tucson Basin.

During the NWRD Package 2 recovery well installation project, water quality results from recovery well AVRW-01 indicated the presence of PFAS compounds and 1,4-dioxane in concentrations that could complicate the long-term operations of NWRD. To further investigate the potential for alternate pump installation and pumping rates, an investigation is proposed that can provide a better understanding of water quality stratification in the aquifer surrounding the recovery well field.

The investigation is designed to install a pump at three separate depths in AVRW-01's screen interval. Each pump depth will be pumped at three different rates for 8 to 10 hours. At the end of each pumping depth and rate test, water quality samples will be collected for analysis. Standard water quality parameters, PFAS, 1,4-dioxane and stable isotopes of hydrogen and oxygen will be analyzed.

The investigation will provide District staff with information as to whether alternate pump installation depth and pumping rates can reduce the composite concentrations of water quality constituents that could otherwise require more costly remedies to facilitate the long-term use of the AVRW-01.

Smyth industries will install and operate the pumping equipment at the District's direction. Turner Labs will perform the water quality analyses. District staff will direct, oversee and perform field documentation and water quality sample collection.

Issues

Concentrations of PFAS and 1,4-dioxane observed in the composite samples collected from recovery well AVRW-01 have implications for how the well would be used during normal NWRD operations. Having to implement a blending or treatment strategy to utilize the recovery well has implications for potential installation and treatment costs.

The desired result of further water quality investigations of recovery well AVRW-01 is to identify a permanent pump design and installation that mitigates the long-term water quality impacts to NWRD operations.

Recommendation

It is recommended that the Board of Directors authorize the General Manager to execute a water quality investigation for recovery well AVRW-01 in the amount of \$77,367.95.

Suggested Motion

I move to authorize the General Manager to execute a water quality investigation for the Northwest Recharge, Recovery, and Delivery System recovery well AVRW-01 with Smyth Industries and Turner Labs in the total amount of \$77,367.95.

Respectfully submitted,

Wally R Wilson
Water Resources Manager

I concur with the above-noted recommendation.

Respectfully submitted,

Joseph Olsen, P.E.
General Manager