

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

March 11, 2019

Approval for Electrical Upgrade at the Wildwood Well

Synopsis

The Board is being requested to approve the Electrical Upgrade proposed by staff for the Wildwood well.

Background

Wildwood is one of Metro Main's 26 active wells that is supplying service to District customers. In January, staff completed the well maintenance cycle on the Wildwood well. The well maintenance included pulling of the well equipment, cleaning the well casing, and replacing the pump and motor. Before staff pulls any well for maintenance, tests are conducted to check the flow rate, water pumping levels, and electrical currents. These tests help determine the pump settings and the equipment to be reinstalled. Based on the tests conducted, the Amp draw on the motor was slightly above recommended full load Amps. The higher amperage can lead to premature failure of a motor if not addressed. In Wildwood's case, staff had been reducing the flow of the well by slightly closing a valve. With the lower flow the amperage is also reduced.

Issues

With the new well equipment, the high amperage could be addressed in one of two ways: put a smaller pump in the well at less gallons per minute or increase the motor horse power. As the Wildwood well is one of the wells that is used to blend with the Shannon water to reduce the 1-4, Dioxane, the lower flow rate would not be advantageous. Staff elected to increase the motor horsepower on the well motor so the pump could operate at full capacity and still be under the Amp rating of the motor.

The well's electrical system is currently able to operate safely with the increased horse power; however, the site electrical equipment does not have the additional buffer size that would be recommended to overcome surges that would lead to tripping of the breakers or fuses. Staff is recommending that the site disconnect and electrical meter service be upsized and a softstart be installed on the well motor to reduce the in-rush current at start-up.

The increased equipment sizes will prevent nuisance tripping of the well and the softstart will provide a longer service life of the well motor. The softstart also reduces the load on the electric utility, who also recommends a softstart.

The upgrade to the electrical would be performed by District staff. The only purchases that would need to be made is for the equipment being installed. Staff received one initial vendor project cost quote of \$16,000 and will continue to obtain quotes with multiple vendors utilizing the District's standard procurement process. The requested amount is not to exceed \$17,500, which will cover the project cost as well as any unforeseen additional costs that may arise. The cost of materials will exceed the Electrical Supplies line item in the budget; however, other related line items such as the Emergency Electrical Services and the Materials and Supplies can offset these costs, as they are not expected to be fully utilized.

Staff Recommendation

Staff is recommending that the Board approve the Electrical Upgrade for the Wildwood well in the not to exceed amount of \$17,500.

Suggested Motion

I move to approve the Electrical Upgrade for the Wildwood well in the not to exceed amount of \$17,500.

Respectfully submitted,

Steven D. Shepard
Utility Superintendent

I concur with the above-noted recommendation.

Respectfully submitted,

Joseph Olsen, P.E.
General Manager