

Memorandum

May 26, 2015

TO: Stan Gryczko, Assistant Public Works Director/Operations

FROM: Gary Wells, Water Division Manager

SUBJECT: North Davis Meadows (County Service Area #10)

The North Davis Meadows County Service Area (CSA) has contracted with the City of Davis since 1988 to “operate and maintain” their public water system. This agreement was enacted on March 22nd 1988.

The CSA has been investigating alternative water supply options since it was placed under a “Do Not Drink the Water” notice in 2009. Regardless of the ultimate decision regarding the future water supply the City recommends the CSA implement the following improvements immediately in order to ensure system reliability:

1. Upgrade from the Legacy OPTO® SCADA system to the new Inductive Automation Ignition® software platform. The OPTO® system will be phased out once Surface water project is completed. The result of decommissioning the OPTO® system is that we will no longer have alarm notification or operational control of either North Davis Meadows well sites.
2. Our electrical staff recommends that the electrical panel be replaced and that VFD (variable frequency drives) be installed on all the booster pumps. The recommendation is to replace all the wire and conduits too. The site has settled over time and many of the conduits have separated. This separation allows moisture to enter and will eventually result in the wire being pulled apart. The electrical MCC panel (as is all of the equipment) is approaching 30 years of age. The relays, switches, timers etc... have all reached the end of their useful life.

In addition to the immediate needs listed above, the sites have other critical needs that will have to be addressed within the next year:

1. Well #1 produces an unacceptable quantity of sand. The tank was recently underwent its triennial cleaning. Approximately 135 cubic feet of sand was removed.
2. The North Davis #1 well equipment has been in service for close to 30 years and has reached the end of its useful life. The electrical controls, chlorination system and ancillary equipment are all in need of replacement.
3. The perimeter fence is also approaching 30 years of age and is in need of replacement.
4. The storage tank and emergency generator appear to be in good condition, but they are both 30 years old too and should be evaluated to determine condition and whether they will fit into the CSA's future plans for the system.

The North Davis Meadows system operates at capacity during the summer months. Installing water meters would more than likely reduce demand, but until water meters are installed the system will continue to operate without a reserve capacity. A few of the challenges we face when operating a system with no reserve capacity are:

1. We do not have the ability to take either well off line for needed repairs and maintenance.
2. We are not able to absorb any additional demand without a resulting loss of pressure.
3. If the Fire Department connects to a system fire hydrant it may result in negative system pressure. This scenario may produce water quality problems and possibly dangerous cross connections.
4. The equipment's longevity is affected because it is necessary to run the booster pumps and motors continuously to meet demand.