

# Clifton Works to Improve Sewer System



Adam Rogge operates the vacuum trailer to remove the final water and debris from the lift station after the flow had been stopped by use of the inflatable plugs.

In the fall of 2019, I assisted the city of Clifton's Superintendent, Gary Bouley, and Operator Adam Rogge with smoke testing several areas to determine if the sewer lines were leaking. The concern was for any breaks that might be due to sink holes. The smoke testing project was not successful because of excessive rainfall. We did however find several service line issues that the city could correct. Gary and Adam had found a broken tap, which they quickly repaired. I recommended that they hire a contractor to televise the sewer system in selected areas. Most systems, as all should, have a collection system maintenance program to clean the sewer mains on a regular basis. Such a maintenance program usually involves one-third of the system every year with some televising as well. I recommend

that systems have the entire collection system cleaned and televised over the same period rather than just cleaning as part of the maintenance program. Doing that will allow the operators and governing body to make more informed decisions on the needed repairs or replacement of the sanitary collection system in a timely manner.

As part of their recent street improvements, the City of Clifton raised several manhole rings and covers so the manholes would be accessible for cleaning and maintenance. Having the manhole lids and covers at surface saves valuable time in case of a sewer back up. It saves time from having to locate and remove the covering materials.

Earlier this spring, I made a follow-up visit to the Clifton staff. At the time, KRWA Technical Assistant Greg Metz

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was there working to exercise water distribution system valves with KRWA's valve exerciser and vacuum trailer. I mentioned they should also remember to exercise the valves in the sewer system, such as at lift stations and at the sewer treatment facility. They had just completed exercising a waterline valve near a lift station and decided to then exercise the valve on the wastewater system since it was close by.

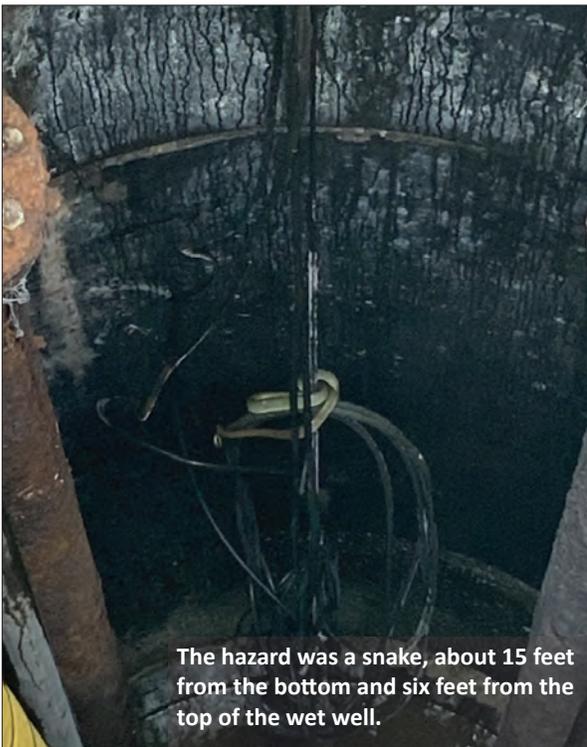
The exercise of the valve near the lift station was not as successful as most, as the valve broke in the 'off' position during the process and had to be replaced. Emergency locates were called in and while waiting for the locates, parts for replacement were gathered for what hopefully would be a quick replacement. Just as it can happen in Kansas, the warm spring day breeze shifted and became a quite cold north wind by the time the locates were completed so excavation could begin. The city had all the necessary parts for the replacement including the valve, pipe fittings and couplings/repair clamps. Having adequate repairs should be a part of



Gary Bouley, Clifton City Superintendent, with harness, 4 gas monitor, and fall protection prepares to enter the wet well to place plugs.

every system's asset management program. Some systems are close to resources such as suppliers or larger communities that are well-stocked. A local utility cannot always count on the neighboring system to have the parts a neighbor may need. It took a several hours to complete the project, from calling in locates, then to dig and replace the valve. Another concern was the lift station may fill too quickly and cause backups into homes. This was a smaller lift station serving a few homes and so that was not a major concern. Had this been the main lift station it would

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The hazard was a snake, about 15 feet from the bottom and six feet from the top of the wet well.

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Clifton staff Gary Bouley and Adam Rogge and KRWA Technical Assistant Greg Metz work to clear debris from the valve box so the valve can be exercised on this lift station.



Clifton raised several manhole rings and lids to make them accessible. This photo shows one example.



have been a major concern and a larger septic hauler would have been needed.

As we were completing the valve replacement at the lift station, Gary asked if we knew of anyone who had confined space equipment that could replace a lift station pump. The new pump was larger diameter than the original, and the wet well had to have a part of the slope removed for the pump to set in correctly. KRWA has a tripod, harness, blower, and 4 gas monitor for

confined space entry and I offered to assist them. They eagerly accepted the offer and we scheduled the work for the following week.

Upon arrival, we began by using the ventilation fan to add fresh air to remove any hazardous air from the lift station. Then while waiting to properly ventilate we looked into the wet well and another hazard was seen on the float and pump wires. There was a snake, entwined on the pump. The

snake was removed and relocated a good distance from the lift station.

KRWA also provided inflatable plugs to stop the flow into the lift station while the work was being completed. Wastewater flow and gases are hazardous to personnel entering and working in a confined space.

I provided Superintendent Bouley with some final instructions, with a reminder of how the 4 gas monitor operates before he entered the wet well to install the plugs. This is part of the lock out/tag out procedures. Lock out/tag out is not only just for electrical; it can be used for situations to stop flowing wastewater or other materials. The air in a confined space should first be checked by lowering the

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Wastewater Tech Schwindamann assists Clifton Superintendent Gary Bouley harnessing up to ensure it was properly secured.

**The air in a confined space should first be checked by lowering the 4 gas monitor into the space, such as on a rope, to check the air at different levels before any entry by personnel.**

4 gas monitor into the space, such as on a rope, to check the air at different levels before any entry by personnel.

KRWA Tech Greg Metz assisted with providing KRWA's valve turning/vac trailer to remove the last of the wastewater in the wet well.

The wiring of the pump and control changes were completed later by the city's staff. The controls, such as capacitors and relays, needed to be changed as they were incompatible with the new pump. Even new pumps of the same size and capacity may need new controls to operate properly. Those issues should be discussed with the supplier.

Preparing the wet well and the pump installation took almost four hours to complete.

This is just one example of the type of technical assistance KRWA provides. Give KRWA a call if your water or wastewater system is in need of any assistance, or if you just want to discuss the operations or improvements that may be considered.

*Charlie Schwindamann has been Wastewater Tech at KRWA since September 1999. Charlie holds Class II Water and Class I Wastewater Operator certification. He has also served as a member of the Marysville, Kansas city council.*



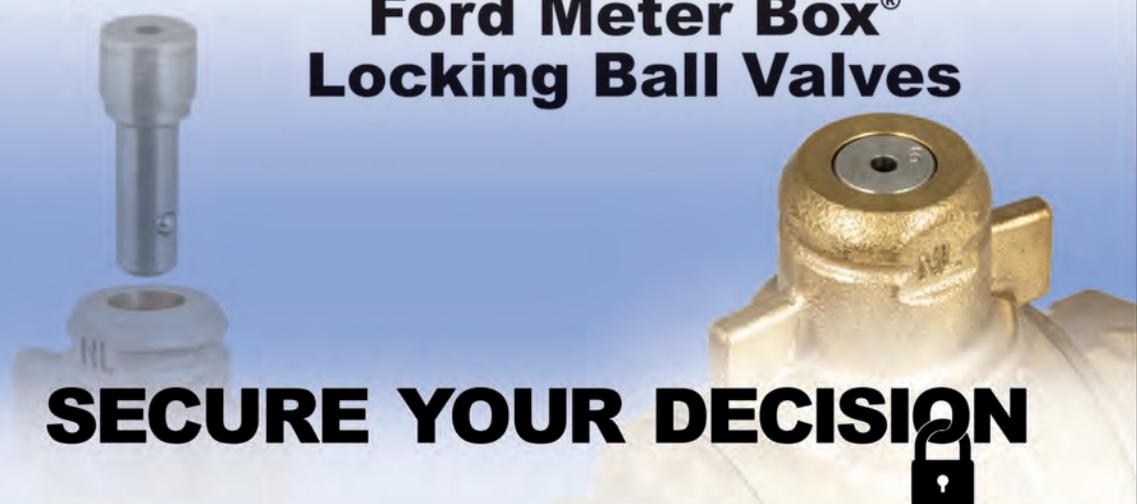


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