

Tyrone Property Owners Association (TPOA) is responsible for the operation and maintenance of the community sanitary sewer system that was initially constructed as a passive gravity settling pond system in the late 1960s. The existing system involving a lift station was constructed in 2012 and began experiencing significant operational issues in early 2020. The sewage from the community is transported to the lift station approximately 1 mile east of the townsite via gravity lines. A receiving basin collects the waste, and a screening basket separates most of the solids prior to the liquid entering the middle or pump basin. This system has been plagued with the discharge of disposable wipes into the system and those wipes have been identified as not degrading.

The original pump system constructed in 2012, was composed of three Vogelsang macerators (grinders) that fed three Vogelsang pumps. The pumps are programmed to operate in a sequential manner and normally the pumps operate with two pumps as primary and one as a reserve.

The pumps discharge the liquids into a third basin where the discharges from the three pumps are manifolded together resulting in one discharge pipe.

The liquids are transported under pressure through a buried six-inch HDPE line approximately 1.5 miles to a manhole owned by The Town of Silver City, New Mexico.

According to the operations guide that was provided to TPOA by the project engineers upon the completion of the lift station construction, there are daily and weekly inspections and procedures that need to be documented to ensure proper operation and maintenance of the system. During one of the lift station daily inspections, the operator identified that one of the pumps was not operating within its operational parameters. The operator for the TPOA is either the Town Manager or a contract water/wastewater certified operator.

At some point, in July Of 2020 the last fully operational Vogelsang pump failed, the second pump was only pumping 15 gallons per minute and the third was away to see if it could be repaired again. as these pumps were needing continued repairs and maintenance, and an emergency work around had to be implemented by the TPOA and J&S Plumbing, a local contractor. Rain for Rent, a supplier of high-volume portable pumps and mobile reservoirs, (commonly referred to as Baker Tanks by the industry) was contracted to pump the effluent into the output branch of the system.

On July 17, 2020 the TPOA operator and J&S Plumbing determined that the Vogelsang pumps should be replaced by Moyno pumps. Due to the configuration of the middle basin, only two Moyno pumps could be accommodated in the second pit. The Moyno pumps operated successfully from December 2020 through March 2021 and a replacement pump component had to be installed by J&S Plumbing with support by Dement Electric.

During this period, it was evident that the sanitary sewer system was receiving an inordinate amount of additional wastewater that also contained high levels of insoluble grease. The COVID -19 restrictions at the time resulted in more people being home in Tyrone and it is believed that the additional grease load was the result of more meals being prepared at home. Also, in July of 2020 a restaurant opened in the old Standard Oil gas station at the corner of Highway 90 and Copper Drive in Tyrone. This facility also contributed to the grease load. To manage the accumulation of grease in the first basin as it was pumped to the Silver City manhole, solvents were added to break up the grease so it could be processed through the system. Greasezilla, the brand of solvent supplied by a local plumbing supply company, costs approximately \$2,000 for one 55-gallon drum.

In March 2021 a discharge line failed catastrophically, and the effluent filled the pump pit.

In May 2021, Capital Pump and Equipment was contracted to supply three-20,000 Baker tanks and a high-volume suction pump. This equipment was installed to receive the sewage from the first basin and store it temporarily onsite while the pump basin was repaired. Approximately \$97,000 has been spent on the temporary Capital Pump and Equipment system through February 2022.ater

Humphrey Enterprises Incorporated (HEI), a Silver City, NM based wastewater transporter, was contracted to haul the waste temporarily stored in the Baker tanks to either the Silver City manhole or to Deming's Wastewater facility.

41,400 gallons of raw sewage was transported by HEI from May 2021 to November 2022. The sewage was transported to Deming, NM because of a capacity issue at the Silver City treatment facility.

During the month of March 2021, one of the three discharge lines from the pump basin to the discharge basin failed. Presently, there is only one intact line between the pump basin and the discharge basin.

On October 28, 2021, one of the Moyno pumps in the pump basin failed and the pump was shipped to Mesa Equipment in Albuquerque NM for evaluation and a needed repair. The pump was returned to Tyrone on January 11, 2022.

TPOA has contracted with Stantec Engineering, 3400 Highway 180 East, Suite A, Silver City, NM to design a system that will replace the damaged pipe between pit two and pit three. The cost estimate for the modified pumping system is included in this submittal. HEI, J&S Plumbing, Capital Pump & Equipment, and Stantec Engineering will install the second pump and replumb the system for the interim. This repair project is not intended to be a permanent solution.

TPOA, now the Tyrone Water & Wastewater Association (TWWA), has been operating the discharge system with only one pump for four months. Because there is no redundancy in pumping capacity, TWWA has opted to maintain the Capital Pump and Equipment Baker tanks and suction pump until the upcoming construction project has been completed. The lift station is adjacent and up gradient from an ephemeral wash and any release to this feature would have catastrophic environmental consequences.