MINUTES

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT
SPECIAL MEETING HELD ON DECEMBER 19, 2018 AT THE HEART OF THE VALLEY MSD, 801 THILMANY ROAD, KAUKAUNA WI 54130

Members Present: Dave Casper - President
Bruce Siebers - Vice President
Pat Hennessey - Secretary
John Sundelius - Commissioner
Kevin Coffey - Commissioner

Absent: None

Also Present: Brian Helminger, District Director HOVMSD
Kevin Skogman, Director of Operations & Maintenance HOVMSD
Scott Schramm, Strategic Municipal Services
Tony Penterman, City of Kaukauna

1. 6:00 PM. Call to Order – Roll Call

President Casper called the meeting to order at 6:00 PM.

2. Interceptor Action Plan

a) Action Items

Scott Schramm reviewed the agenda and action items from the previous planning meeting. Siphon operational changes were made to increase flow velocities and reduce deposition and septicity in the siphons. HOVMSD staff deployed the Odolog sensors in downstream manholes #16, #38, and #17.

Representative daily data was shown for each manhole with manhole #16 being subject to the highest H2S concentrations. The average concentration was 6.3 ppm with a peak reading of 35 ppm. Manhole #16 is a drop manhole creating turbulence and releasing H2S from the sewage flows.

b) Sulfides Continued/Mitigation Alternatives

The action options were listed in the hand-out prepared for the meeting by SMS. The options focused on changing the waste stream or the atmospheres in the interceptor.

The first option was quickly determined not to be an option and that was to do nothing. The most recent interceptor cleaning and televising, although now a

couple years old, shows a definitive increase in MIC attacking the concrete surfaces of the interceptor concrete piping.

The second option discussed was the addition of a basic chemical to increase the pH in the flow stream creating conditions in the interceptor that will reduce MIC. This is a proven method that does have limitations. A major challenge is that a higher pH in the influent sewage will upset the Actiflo process at the treatment plant. The Actiflo process conditions the influent by adding ferric sulfate and polymer to create a floc that is settled out and removed. The process benefits from a lower pH putting it at odds with this mitigation option. It was decided this option was not a good fit for HOVMSD to pursue.

A second mitigation option discussed was the addition of beneficial bacteria that out compete Thio bacillus in the interceptor. The bacteria are purchased in dry form and added to the sewerage flows and become activated within 20 minutes. Once active they out compete and interrupt the acid forming bacteria that cause MIC. Dosing locations and estimate costs were discussed based on a product cost of $450 dollars per pail used to treat 100,000 gallons of daily flow for one month. It was decided this could be a viable option and has been kept on the table for further discussion and review.

The concept of increasing dissolved oxygen levels to lower sulfide levels in the waste stream was next discussed. Maintaining greater than 1 mg/L dissolved oxygen creates conditions that discourages MIC in sewer systems.

Scott supplied diagrams of the ECO2 system made by Eco Oxygen Technologies in Indiana. The equipment would require a fairly large foot print along with 3 phase power and needs a portion of the sewerage flows to supersaturate with oxygen before discharging back to the interceptor. The rough estimate of just the equipment costs is $450,000 and after its location is sited would require additional O&M costs to keep in continuous service. Suitable location(s) where were not discussed as further study would be needed to identify the H2S origins to maximize the benefits of this technology.

The hand-out Scott provided also contained a representative photo of a vortex structure that can be installed in drop manholes that introduces air by means of the sewage creating a vortex. This application is limited to very specific locations in a collection system but requires no mechanical equipment and no electrical service or external power consumption. After review and discussion, this option was found to merit further consideration.

A final option for controlling airborne H2S concentrations in the interceptor is the install and utilization of an ozone generator. The generator would be set up for worst case H2S conditions and would not ramp up or down based on conditions. It was noted that a positive to this option is that it does not require the addition of any chemicals to the waste stream. Ozone is a strong oxidizer and it was noted this technology is very effective when used in drinking water disinfection applications. This option would need to be sited and requires a foundation and structure to house the equipment along with ongoing equipment maintenance and power consumption. One location is estimated to cost up wards of $1.0M for the equipment alone and additionally needs a structure to house it.

Two chemical options presented were dosing with calcium nitrate or a product called BioKAT. Chemical storage tanks and metering pumps would be used to deliver the chemical into the waste stream. Specific locations were not discussed as those would be identified by monitoring the interceptor and finding locations with elevated H2S levels. It was noted these options have shown to be quite expensive and may be more applicable to sewers with lower flow volumes and in long residence time force mains. Both chemicals have a proven track record for use in similar applications.

The last discussion point was the rehabilitation project that would install CIPP liners and H2S resistant costings to protect the infrastructure. The Commission directed staff to purchase and commence further monitoring with the Odologs in the HOVMSD system. Each meter station will be monitored individually and at the same time in an effort to identify any H2S hot spots. Scott was directed to reach out to Great Lakes TV and Seal for a quote to clean and televise select sections of the sewers to provide up to date images for project planning. The areas to be televised would be select lines that are proposed to be relined with CIPP. The televising along with physical inspections is hoped to provide the best possible information in order to move the project from concepts and ideas to action based with the newest and best information possible.

c) Introduction to Public Finance & Rates

Due to the time spent on previous items, this item was not discussed and will be held over for the agenda of a future meeting.

3. General Old or New Business

There was nothing to report under General Old or New Business. A successor special meeting for the interceptor was not scheduled at this time.

4. Adjournment

With no further business before the Commission, a motion was made by Commissioner Sundelius and seconded by Commissioner Coffey to adjourn the meeting at 7:29 PM. Motion carried.

SIGNED _____

Patrick E. Hennessey, Secretary